

# Colorado State Teachers College BULLETIN

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## Hand Book OF THE Extension Service



GREELEY, COLORADO

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### **Important Notice**

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All correspondence should be addressed to

**EXTENSION DEPARTMENT  
COLORADO TEACHERS COLLEGE  
GREELEY, COLORADO**

The Director of the Extension Service is frequently out of the city and mail addressed to him must wait for his return.

APPLICATION FOR CORRESPONDENCE STUDY

To the Director of Extension Service  
Greeley, Colorado

Date.....

Name .....

Post Office Address.....

Present Occupation.....

High School Attendance:

School ..... City ..... State.....

School ..... City ..... State.....

I attended..... Years..... Months.....

I earned.....units.

I graduated in the month of..... Year.....

I can furnish certified credentials, answer, yes or no.....

College Attendance:

School Attended..... Years..... Months.....

School Attended..... Years..... Months.....

School Attended..... Years..... Months.....

Graduated from..... Year..... Month.....

Can furnish certified credentials.....

Subject desired by correspondence.....

Be sure to give both name and catalog number.

**Note One:** Read carefully what this Hand Book has to say about limitations on extension study (see page 14). Students are held responsible for all statements of fact contained in said limitations. Note that no enrollment can be made without payment of fees.

**Note Two:** All persons who desire to take extension courses with Teachers College are required to matriculate with the College (this involves no additional fee), and to establish by means of certified credentials their educational status.

**Note Three:** Colorado Teachers College has provided for individuals with broken educational careers, and teachers who have not completed their High School work, high school extension courses. If interested write to the Extension Department of Colorado Teachers College for High School Extension Bulletin.

Cut on this Line and Send in Application Sheet



# EXTENSION DEPARTMENT

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President of the College

JOHN RANDOLPH BELL, Ph.B., A.M., Litt.D.  
Director of Extension Department

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Leverett Allen Adams, Ph.D.	Professor of Biology
Mrs. Lela Aultman, Pd.M.	Training Teacher, First Grade
Grace Baker	Professor of Fine and Applied Arts
George A. Barker, M.S.	Professor of Geology, Geography, and Climatology
W. G. Bowers, A.M.	Professor of Chemistry
Ambrose Colvin, B.C.S.	Professor of Commercial Arts Education
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Hulda A. Dilling, B.E.	Training School, Fourth Grade
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John Clark Kendel, A.B.	Director of the Conservatory of Music
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Gurdon Ransom Miller, Ph.D., Dean of the Senior College,	Professor of Sociology and Economics
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Margaret Roudebush, A.B.	Director of Home Economics
Frieda B. Rohr, A.B.	Training Teacher, Fifth Grade
Mark Burrows, A.B.	Professor of Rural Education
Mrs. Bella Bruce Sibley, A.M.	Training Teacher, Second Grade
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Frances Tobey, A.B., Dean of the Junior College,	Professor of Oral English and Dramatic Interpretation
Jennie L. Tressel, A.B.	High School Training Courses*
Grace Wilson, A.B.	Assistant to the Dean of Women
Frank L. Wright, A.M.	Professor of Education

\* On leave of absence.

## Summary of The Extension Department and Its Work

"The chief item of cost in a college education is the expense of living away from home. The Extension Department takes the College to your home."

### ARE YOU A TEACHER?

1. Do you have to teach a subject that **worries** you? If so, increase your margin of knowledge and get an "easy" mind. Seek help from some one who likes the subject. Try one of our mail courses in it.
2. Do you have to teach a **new** subject this year? Why not **enjoy** it? Should you like to take a course in it and have a college teacher to put your questions to? Try one of our mail courses in it.
3. Are you **ready** for promotion? That means more than **being willing to be promoted**. Perhaps we can help you to be **ready**. Study our lists of department offerings and see if what you need is not there.
4. Are you "in deep water"? Let us help you. It is good for us to study your problems, and we shall try to make our effort good for you.

### ARE YOU A SCHOOL SUPERINTENDENT?

1. When you classify the results of your supervision of teaching do you find that a score of your teachers need instruction in a score of subjects? Do they know that they can remove their limitations by studying a college course in the subject in which they are weak?
2. Should you like to take a complete educational inventory of your school so as to be sure that your educational program is focusing upon the most pressing matters? The Extension Department offers help in this.

### ARE YOU A CLUB WOMAN, A CITIZEN

Interested in modern problems, a MOTHER interested in the growth and development of her children? See whether the College cannot advance your personal interests through its Extension service. We give courses for clubs—by lecture or by mail. We have many courses upon modern problems—see pages 28-35. We give courses for mothers—see pages 16, 31. We know the best material available upon modern problems. Let us help you to master the literature bearing upon your particular problem.

ARE YOU DISAPPOINTED IN WHAT WE OFFER? ASK US FOR WHAT YOU WANT. ADDRESS:

*Extension Department*  
**STATE TEACHERS COLLEGE**  
*Greeley, Colorado*

# INTRODUCTION

## PURPOSES OF EXTENSION WORK

The purpose of an Extension Department in a Teachers College may be expressed from several points of view.

### CO-OPERATION WITH SUPERINTENDENTS

Primarily, it is a standing offer of the College's resources to public school leaders for the purpose of promoting their plants for public school improvement.

### TRAINING DURING SERVICE

As a result of constant supervision of the work of teachers, city and county superintendents of schools gather a valuable fund of information concerning the deficiencies of teachers and their need of special study and training. On the basis of such classified information about recurring needs superintendents frame their general programs for the cumulative improvement of the work of their teachers. At this point the College through the Extension Department offers its services to superintendents. In consultation with the superintendent the College offers courses of instruction designed to meet the ascertained needs of the teachers, and provides an instructor to meet the teachers regularly in their own town. From this point of view the Extension Department exists to co-operate with superintendents in the work of giving training during service.

### DISCOVERING THE NEEDS OF SCHOOLS

As a result of the tendency to adopt scientific methods of working on the problems of Education, public school leaders are applying to their schools a familiar practice of the business world—the inventory. In Education this practice is called the survey. It consists in taking stock of the entire educational situation as a means of discovering the phases of the work which especially need attention. Through the Extension Department the College offers its services to superintendents who wish, as the starting point of their campaign of improvement, the complete perspective which an educational survey provides. From this point of view also, the Extension Department exists for the purpose of co-operating with school superintendents in the task of giving training in service—because the survey discloses, among other things, the specific needs of training for teachers.

### THE PERSONAL GROWTH OF TEACHERS

Secondarily, the Extension Department is a standing offer of the resources of the College to ambitious teachers who cannot at the time attend College.

### MEETING THE NEEDS OF TEACHERS

The thoughtful teacher discovers his needs by the difficulties he meets in his daily work, by the suggestions of his superintendent, by comparison of his work with that of other teachers, and the like. The teacher with scholarly tendencies craves opportunity to follow up some interesting subject for the study of which he needs the direction of a specialist. The teacher with a penchant for research work in his field finds he needs help in blocking out

his problem and devising fruitful lines of attack, and so on. Or the teacher in line for promotion feels that he needs to be ready to teach a new subject next year.

To all such teachers the College offers through the Extension Department a wide variety of courses in many fields of culture, and as much counsel upon specific problems as may be desired.

### THE WARRANT FOR EXTENSION SERVICE

In short, the Extension Department of the Teachers College is organized to co-operate with public school leaders in their effort to give training during service; and to provide timely help to individual teachers in improving their mastery of their craft. It is the College's practical recognition of the fact that no vocational school can anticipate in its resident curricula all the problems that will arise in the work of its graduates under their varied conditions of life in the world of affairs. Schools of medicine and nursing, schools of philanthropy, schools of commerce and agriculture cannot do it. Neither can schools for teachers. The period of school life is too short; the initial equipment of students is too uneven; and the social and economic conditions of the communities to which graduates go are too unequal to admit of more than partial success, even, in the attempt to equip students to meet the characteristic responsibilities of their occupation. Consequently, for the teacher as for the doctor, the nurse, the social worker, the business man, and the farmer, the progressive higher school must provide an extra school service directed at the exigencies that arise in practice. Beyond this the Extension Department is the College's recognition of the fact that teaching is an occupation which may in many communities be entered with very slender initial preparation, and which oftentimes must be pursued with but little timely help.

### THE DUTY OF TRAINING DURING SERVICE

Consequently, as a result of both sets of conditions, training during service properly and inevitably constitutes a very important part of the program of both superintendents and teacher-training schools. The courses described in this bulletin, and the special courses asked for by superintendents and given in various towns under the group plan of instruction (see below) are a part of this College's contribution to the solution of the superintendents' problem of giving training during service.

### THE ORGANIZATION OF EXTENSION SERVICE

Since Extension service is in the interest of teachers in the field its organization must be co-operative with reference to all agencies that are directed at the same ends.

Extension service from any college is properly directed in the interest of the same occupational groups as its residence work. In so far as this is the controlling motive the higher schools engaged in it will be impelled to adopt co-operative rather than competitive methods. Accordingly the State Teachers College, the State Normal School, and the State University have pooled their efforts to aid teachers on the Western Slope under a common representative with the title of District Superintendent of Extension Service, whose headquarters are at Grand Junction. The work is under the direction of a Joint Extension Board representing the three schools, and successfully eliminates all duplication of service. Similar co-operative plans are being formulated for the Eastern Slope, with every promise of better service for teachers in the field.

### HOW EXTENSION WORK IS CONDUCTED

There are two general schemes of Extension instruction. In the following paragraphs each is described:



## THE GROUP PLAN OF INSTRUCTION

1. **Instruction by Members of the College Faculty**—In centers close enough to the College to make such procedure possible, members of the College faculty will conduct courses for teachers. Realizing that the superintendent of schools is in a position to know better than anybody else the characteristic needs of his teachers, the College prefers for the superintendent to take the initiative in determining what courses ought to be offered at any given time in his town. Ordinarily, such classes meet once a week in town within one hundred miles of Greeley. In towns farther away than this fortnightly meetings are usually necessary unless the class be exceptionally large. Under the best of circumstances, however, each such class involves a substantial deficit to the College, which must be provided for in the budget. So, instruction under this plan is restricted to groups of fifteen or over.

A fee of five dollars is charged each individual who enrolls in any particular group. Service is the motive. It is not intended that there shall be any profit, but hotel bills and railroad rates mount up so rapidly that any lesser charge than that specified would mean serious financial loss to the College.

Courses under the **group plan** are conducted as nearly as possible in the way in which they would be conducted in residence at the College. The periods are, of course, longer, and the meetings are necessarily less frequent—important variations which require definite adjustment from the instructor, both for the sake of the students and in the interest of the College's standards of work.

2. **Instruction by Local Representatives of the College**—In centers too remote from the College to admit of sending members of the faculty for regular class-work, it is frequently feasible to appoint a resident of the community to represent the College for a particular line of instruction. A person, usually a school-man, who possesses at least the degree of A.B., or its substantial equivalent, and who has had professional training and experience that would justify his appointment as a member of the College faculty may, with the full approval of the President, the Dean, and the College department involved, be appointed an Extension Instructor. Under the general direction of the head of the Department involved and under the supervision of the Director of Extension instruction he gives the course agreed upon with the Extension Department, observing the same regulations as govern the group instruction conducted by members of the College faculty. He assumes full responsibility for the organization of the class, applying the necessary tests, keeping the necessary records, transmitting initial and final reports to the Extension Department, and the like. In all cases he is provided with a syllabus of the course by the College department concerned. He transmits to the Extension Department the total fees collected from his class, and receives from the College for his services a percentage of these fees. Courses given under this plan are announced at the beginning of each semester in the town where they are offered, and enrollment is accomplished as in the classes conducted by members of the faculty.

## ENROLLMENT FOR GROUP INSTRUCTION

Group-work is advertised in the towns in which such instruction is to be given; and upon the date set for the first meeting those who wish to take the work meet at the appointed place, enroll, receive full instructions for their initial study, and are acquainted with the regulations governing credit work, etc. A secretary is appointed who receives the fees, transmits them to the instructor, keeps the necessary record of the class, and makes the required reports to the College.

## REGULATIONS GOVERNING GROUP-INSTRUCTION

With perfect co-operation between Extension Instructors and Superintendents the effect of Extension study should be to **lighten** the teachers' daily work—because under such conditions the courses chosen would deal with the

matters upon which the superintendents or supervisors were bringing daily pressure to bear. Such a situation, however, is Utopian and can only be approximated. Extension service is complicated by numerous conditions such as the teachers' desire for credit, and even here and there and now and then by a superintendent's lack of an educational program—so that extension service for credit must be somewhat guarded by general regulations as well as by supervision. The following have been agreed upon:

- a. Sixteen 100 minute meetings constitute a three-hour course. All credit courses are to be reckoned on this time basis.
- b. A syllabus of the course to be given shall be provided by the Department having educational supervision of the course for (1) the files of the Extension Department, (2) for use by local instructors who are authorized to give group instruction.
- c. All classes must be systematically checked up by some plan which will enable the instructor to distinguish early between superior, mediocre, and inferior students well enough to apply the grading system used in residence work in the College. The plan adopted in any class must have the full approval of the Department having educational supervision of the course; and a general statement of the essential features of the plan adopted must be provided for the Extension Department at the beginning of the course.
- d. All courses are to be concluded by an examination planned to reveal the extent to which the courses have attained their objectives. The nature of such examinations shall be determined by the Department having educational supervision of the course.

#### THE INDIVIDUAL OR CORRESPONDENCE PLAN OF INSTRUCTION

The long and successful experience of Chicago University in conducting College courses for credit by correspondence is quite sufficient warrant and recommendation for this phase of Extension service. It is feasible for teachers to carry on their study for College credit no matter how remote the region in which they work may be from the College. It requires only **ambition and energy**—but it requires both these, because the correspondence student will lack the stimulus of face to face relations with the instructor and the challenge of class-mates. These losses are serious in **proportion as the student lacks initiative and independence**. They can to a considerable degree be offset by an instructor of insight, through painstaking study directions, suggestive questions, illustrations, explanations, and the like. **EVERY CORRESPONDENCE STUDENT IS INVITED TO WRITE TO THE EXTENSION DEPARTMENT IN REGARD TO ANY DIFFICULTIES MET IN CORRESPONDENCE STUDY.** The experience of this College with many hundreds of correspondence students has made it certain that there are many teachers who possess the fiber necessary to do College work independently, and that sympathetic college teachers trained in psychology can do a great deal of effective teaching through mail courses. Those who enroll for correspondence courses and faithfully carry their work through are thereby marked as people of superior quality. To offset the possible danger of dawdling the student is required to **COMPLETE THE COURSE WITHIN SIX MONTHS** from the date of enrollment. For sufficient reason an **EXTENSION of THREE MONTHS** may be granted, however, upon application to the Director of the Extension Department.

#### HOW TO ENROLL

The process of enrollment for correspondence study is simple. The student chooses from this Handbook the course which he wishes to study. If it is a credit course, he notes how many hours of credit it carries. He reads the sections on **Fees and Books from the College Library**. He then writes to the **Extension Department, State Teachers College, Greeley, Colorado**, enclosing

a check, draft, or money order for the fees, stating clearly what course he wishes to take, explaining what his previous training and experience have been, and mentioning the work he is now doing. Correspondence study may be begun at any time, but under a regulation of the business office of the College, **NO ENROLLMENT CAN BE MADE UNTIL THE NECESSARY FEES HAVE BEEN PAID.**

Upon receipt of the fees the secretary of the Extension Department enrolls the student for the course chosen and sends him the material he needs. The following sections explain more in detail.

### THE NATURE OF CORRESPONDENCE COURSES

Each Correspondence Course consists of (1) a set of "study units" containing questions such as might be asked in class, assignments such as might be made in residence study, and explanatory sections corresponding to the explanations which instructors often make in class. (2) a "materials sheet" which informs the student fully in regard to all the books and other materials needed for the course, with what study units each book will be needed, what material the College Library will provide, and so on; and (3) a sheet of "general directions" for preparing recitation papers. (See section on General Directions in this Introduction.)

### HOW CORRESPONDENCE COURSES ARE CONDUCTED

The Extension Department sends the student the first three study units of the course he has chosen and the book needed with them. He studies the book as directed and works out his first recitation paper—covering the work outlined in the first study unit. He mails this to the Extension Department as soon as it is finished—and waits for its return before sending in his second recitation paper, so that he may have the advantage of the teacher's suggestions. The date on which the paper is received in the Extension Department is recorded on the student's enrollment card and the paper is passed to the instructor in charge at once. When the instructor has read, commented on, and graded the paper he returns it to the Extension Department, where the date of its return and the grade given it are recorded on the enrollment card. The first recitation paper is then returned to the student with the fourth study unit, after which the student may mail to the Extension Department his second recitation paper together with any additions required by the instructor to his first recitation paper. The second paper passes through the same process and is mailed back to the student with the fifth study unit, and so on till the course is completed.

### DISCONTINUED COURSES

Money will not be refunded for courses after the first three recitation papers have been read and graded by the instructor; or in any event after the expiration of nine months from the date of enrollment.

### WHO MAY TAKE EXTENSION COURSES

The courses described in this bulletin and the courses offered through group instruction in Colorado are open

1. To all teachers in active service.

But within reasonable limits the advantages of such study under direction and supervision are open also

2. To clubs and societies, and to isolated individuals who desire to carry on systematic study for the sake of personal growth.

### EXTENSION COURSES FOR CREDIT

All WHO ARE ENTITLED TO COLLEGE ENTRANCE may enroll in and study for credit the CREDIT courses described in this bulletin and such other CREDIT courses as are offered under the group plan. This covers roughly "all who can present to the College a certificate of graduation showing the completion of fifteen or more units of work in an acceptable high school." Through its **ADVANCED STANDING** and **ENTRANCE COMMITTEES** the College makes full provision for adjusting equitably the claims for entrance of the occasional teacher who by virtue of actual achievement may in spite of a broken high school career be entitled to entrance—either full or conditional.

### NON-CREDIT EXTENSION STUDY

All courses described in this Handbook, and the additional courses offered each year under the group plan of instruction in various towns of Colorado may be taken without credit, if desired—and students following this plan are freed from study-regulations which are otherwise applied. But courses designated as **NON-CREDIT COURSES** may **NOT BE TAKEN FOR CREDIT**.

Non-credit study is provided as a special aid for teachers who are dealing with subjects or phases of a subject that **cannot on the whole be satisfactorily taught by mail**; and also for teachers dealing with subject-matter that cannot be credited toward a degree. Only a few such courses are described in this Handbook. Others will be added as fast as there is a call for them. Write to the **Director of College Extension, State Teachers College, Greeley**, stating the course you want. You will be promptly informed in regard to it.

### EMERGENCY HELP FOR TEACHERS

As a part of its service to teachers, the College has always provided special help for teachers who found themselves in unexpected need. This has always been done gratis. Rural school teachers have had aid in the teaching of difficult topics in most of the elementary school subjects; and in answering perplexing questions arising in the course of their work. Outlines have been provided, references and sources of free pamphlet material have been suggested; plans and suggestions for the teaching of difficult topics have been furnished; topics for discussion have been supplied for regular teachers' meetings; sample examination questions have been framed for many subjects, and so on. The College will continue this service.

### OTHER PHASES OF EXTENSION SERVICE

In addition to co-operating with superintendents and individual teachers, the College seeks to assist the State Superintendent of Education in developing those special agencies for training during service which were first created in response to the general lack of professional training on the part of "beginning" teachers. A description of these follows.

### INSTITUTE WORK

After consultation with the State Superintendent of Public Instruction a plan was put into operation last year whereby the College paid the expenses of the Institute Teachers of History and Civics to a conference at Greeley with the Head of the Department of Political Science and History. The benefits of this conference were so apparent that the State Superintendent of Education and the College decided to continue the practice.

### LECTURE SERVICE FOR ASSOCIATIONS AND CLUBS

So far as possible the College responds to calls for speakers to contribute to the programs of teachers' meetings, inter-county and sectional.

### BOOKS FROM THE COLLEGE LIBRARY

The College prefers for students to provide their own books for all these courses, either by purchase or through the local city library. Certainly in many cases this should be done. Teachers must have professional libraries. But in view of the frequently inadequate salaries of young teachers and the not uncommon isolation from a useful public library, and also in view of its own interest in assisting ambitious teachers to get ahead, the College has made provision for supplying most of the books necessary for the courses described in this bulletin. The following are necessary conditions of the library service, however:

1. A postage fee of ten cents per credit hour must be paid at the time of enrollment whether for one or ten books. In all cases return postage must be paid by the student; where for any reason books are sent to a student a second time, the student must pay extra postage.
2. In all cases where one book is used throughout the course the student will be permitted to retain the book for **three months**. After this period a rental fee of five cents a week must be paid to the College library. It is obviously usually wise for the student to purchase the book. Second-hand books may be purchased from the College Book-room at substantial reductions in price.
3. In courses making use of several books in sequence the College library will furnish the books as needed, each in turn rent free for one month. After this period in each case a rental fee of five cents a week will be charged by the library. **ALL BOOKS MUST BE RETURNED AND ALL RENTAL FEES PAID BEFORE CREDIT FOR A COURSE IS RECORDED.**
4. State Reading Circle books will not be furnished by the College library. It was the intention of the State Superintendent that these books should be in the teacher's professional library.
5. The Librarian endeavors to keep in stock a sufficient supply of books to accommodate all students. An unexpectedly large enrollment in a given course, however, occasionally exhausts the supply of a given book—especially where rare or foreign books are used, and where valuable books no longer published chance to be on the list. In such cases the student is notified of an inevitable delay.
6. **NO PAMPHLET MATERIAL IS PROVIDED BY THE LIBRARY.** Depreciation is too great.
7. **SUPPLEMENTARY** or **ILLUSTRATIVE** reading material is not provided by the College—e. g., the **SHORT STORIES** and **NOVELS** used in certain English courses.

### FEES

The extension Service of the Colorado State Teachers College, aspiring to make its courses in every way equivalent to residence work, and realizing the necessity of thorough standardization, has been compelled to increase its rates. The compensation to Faculty members for the preparation of study units and the careful grading of same was so meager that it did not remunerate them for high class work and painstaking effort. The department could not under these circumstances justly insist upon a number of highly desirable reforms in the service.

In order therefore that progress may not be impeded and that compensation may be just, the old rates were changed September 1, 1920, and the price now charged for extension courses is \$2 per quarter hour plus 10 cents per quarter hour for postage. This means that a 3-hour course would cost \$6.30 and a 4-hour course \$8.40.

These rates are effective for all registrations subsequent to September 1, 1920.

**GENERAL DIRECTIONS FOR PREPARING RECITATION PAPERS**

1. Each recitation paper must show clearly on the first page the following information:
  - a. The Student's Name and Address.
  - b. The Name and Number of the Course.
  - c. The Number of the Study Unit.
  - d. The grade of school work the student is teaching.
2. Leave a general margin on your paper for use by the instructor.
3. Always copy the number of the item or question or assignment with your answer; i. e., let your answer bear the same number as the question you are answering.
4. The student is expected to answer every question asked, or else when it is not possible to work out a fairly satisfactory answer independently, to ask questions of the instructor. The instructor expects to do as much teaching as the course requires.
5. Similarly the student is expected to work out all assignments (such as "list the factors—," or "Illustrate—," etc.) with deliberate care, or else to ask questions of the instructor.

**Limitations on Extension Study****ALL EXTENSION STUDENTS ARE HELD RESPONSIBLE FOR ALL FACTS STATED IN THE FOLLOWING RESTRICTIVE PARAGRAPHS**

1. No diploma or degree can be earned wholly by extension study. Three full quarters of residence work must be done by all who graduate from the Junior College; graduation from the Senior College requires at least two additional quarters of residence work; and graduation from the Graduate School requires three additional quarters of residence study. Group study done with members of the College Faculty may be counted to the extent of one quarters' residence work in the Junior College, and one in the Senior College.
2. Students in residence are not permitted to do correspondence work except as a means of completing a course which has been begun at least three months before the residence enrollment was made. In such cases the residence work must be correspondingly restricted and written permission of the Dean of the College must be presented to the Director of the Extension Department.
3. Not more than one-third as much work can be taken in any given school year by extension as in residence. The standard amount of residence work in any year at Colorado Teachers College is 48 quarter hours. Sixteen quarter hours is therefore the maximum amount of extension work allowed in any given school year. An additional 4 quarter hours may be taken in the summer quarter, provided the individual is not a residence student. Any group work must be included in the 16-hour limitation.
4. All extension courses must be completed within six months from the date of enrollment. For sufficient reasons an extension of three months may be granted by the Director of the Extension Department, upon the request of the student.
5. No enrollment can be made until the necessary fees have been paid. Note that the fees were increased September 1, 1920, to \$2 per quarter hour plus 10 cents per quarter hour for postage.
6. No enrollment can be made in any given course until the Instructor shall have prepared and presented to the Extension Department the study units required for the given course.
7. Only persons eligible to College entrance may enroll and study for College credit the credit courses described in this Bulletin and such other credit courses as are offered under the group plan.

8. All students enrolling in the Extension Department subsequent to September 1, 1920, must fill out a matriculation blank which will be furnished by the department, giving evidence that by training and experience they are prepared to do work of College grade.

9. In all cases the detailed instructions relative to **method of study** and preparation of manuscripts as outlined in the Hand Book of the Extension Department must be **strictly adhered to**.

10. Conference and seminary courses in residence are not given under direction of the Extension Department.

11. Courses begun in residence cannot be completed in non-residence and courses begun in non-residence cannot be completed in residence. The two types of work are entirely distinct.

12. After September 1, 1920, no credits will be given by Colorado State Teachers College for work done in the County Institutes of the State or for State or City Reading Circle Courses.

13. It is the prerogative of any Instructor to ask any student to drop a course for which the student is clearly not prepared.

14. The College provides in connection with the State High School of Industrial Arts, the High School department of State Teachers College, extension courses for individuals, especially teachers, who have not been able to complete their High School work and as a consequence are not eligible to regular College extension courses. A Bulletin will be forwarded upon request.

15. Students finishing graduation requirements by extension work must give one month's notice to the Dean of the College of their expectation of graduation.

16. Money will not be refunded for courses after the first three recitation papers have been read and graded by the instructor; or in any event after the expiration of nine months from the date of enrollment.

## THE DEPARTMENTS

### OUTLINE OF COURSES OF STUDY

#### Psychology and Child Study

JACOB DANIEL HELLMAN, Ph.D.  
MARVIN F. BEESON, Ph.D.

The general purpose of the courses in psychology is to improve the student's ability to care for, train, and educate the child by means of studying the child's nature, normal development, and modes of learning.

##### 1. Child Hygiene—First year. Five hours.

The main purposes of this course are: (a) to point out how the child's school progress and mental and physical development are arrested and how his health and behavior are impaired by the physical defects which are very prevalent among school children; and (b) to discuss the causes of defects, the methods of preventing them and of detecting them, and the measures required for effective amelioration or cure.

The following topics will be treated: Educational and economic values of health; the need for health conservation; deformities and faulty postures; air requirements; malnutrition and school feeding; hygiene of the mouth; enlarged adenoids and diseased tonsils; defective hearing; defective vision.

##### 108. Educational Tests and Measurements—Required in the fourth year. Four hours.

*Chief Purpose of the Course*—(a) to give the student a working knowledge of the best instruments for measuring the child's school progress and his performance level in the school subjects; (b) to discuss the methods of using the educational tests and tabulating the results, and (c) to point out their educational significance in all of its phases.

*Topics Treated*—Tests and standards of reading, writing, spelling, arithmetic, geography and of all the other elementary school subjects.

##### 110. General Psychology—Four hours.

*Purposes of the Course*—(a) to make the student acquainted with psychological theories and concepts; (b) to discuss the nature of mental processes; (c) to show what relations they bear to each other, to the nervous system, to the stimuli of the external world and to the various forms of physical behavior.

*Topics*—Those which are listed in the text books on general psychology such as the nervous system and its functions, sensations and images, attention, perception, memory, reasoning, instinct, feeling, emotion and volition.

#### Education

THOMAS C. McCracken, Ph.D.  
FRANK L. WRIGHT, A.M.  
SAMUEL MILO HADDEN, A.M.  
W. D. ARMENTROUT, A.M.  
MARK BURROWS, A.B.  
GRACE H. WILSON, A.B.

The work of this department, although having to do primarily with fundamental theory underlying the educative process, shows also how such theory is of practical value to the teacher. The teacher needs a theoretical background for her work and a broad acquaintance with all fields of educational activity. The purpose of the courses offered is to meet these needs.

#### COURSES PRIMARILY JUNIOR COLLEGE

##### 8. Educational Values—Three hours. Mr. Wright.

The purpose of this course is to give the student a critical attitude in regard to the educational value of the various subjects of the curriculum.



The first part of the course will be an enumeration of the aims of education, and the subjects in the curriculum by the study of which these aims or ends are realized. In the next few lessons the student will be expected to study the theory of educational value as set forth by Bagley in his "Educational Values."

The last part of the course will be given to a practical consideration of educational values. The student will make a detailed study of text-books in at least two fields, one of which may be a high school subject. If the student prefers to make both studies of high schools texts, he should communicate with the instructor in charge. These texts are to be studied from the standpoint of the relative value of (a) method of presentation of material, (b) order and sequence of the various topics, and (c) topics or parts of the text which should be eliminated entirely because of lack of evidence of their being of educational value.

A thesis on the relative value of the method of presentation of some subject as it was presented to the student, and as it is being presented in up-to-date schools at present, will also be expected.

This is a practical course for any teacher, as he will be made to criticize the material he presents and will perhaps be led to eliminate certain topics he now teaches.

**10. The Elementary School Curriculum—Three hours.** Required of all students, second year. Dr. McCracken.

This course will deal with the forces by which the various elementary school subjects became a part of the curriculum. Typical courses of study will be studied with a view to determining what material is usually presented in the schools and with the purpose of evaluating this material. Modern text books will be compared with older texts in the same subject so as to understand the place of the text book in present-day curricula. The student will then have the background for considering the problems of the modern teaching of the subject.

**12. Current Movements in Social Education—Three hours.** Dr. McCracken.

The purpose of this course and of 13 is to acquaint the student with some of the more recent movements in the field of education. This course will include a discussion of such subjects as the following: The school as a social center; open-air schools; school credit for industrial work in the home; and other subjects of current interest.

**13. Current Movements in Social Education—Three hours.** Dr. McCracken.

This course is in no way dependent upon Education 12. Either course may be taken without the other. It will include a discussion of vocational education, the school survey, the Junior High School, supervised study, the project method, and other subjects of current interest.

**15. Vocational Guidance—Three hours.** Dr. McCracken.

This course will deal with the place of vocational guidance in public school systems. Among other subjects it will treat of the need and value of the study of occupations, vocational analysis, opportunities for vocational education, opportunities for employment, the work of placement and vocational bureaus and various guidance agencies in this and other countries.

**24. School Administration—Three hours.** Mr. Wright.

This course deals more particularly with school and class management as it relates to the teacher and the school principal. A part of the course is given to the study of co-operation between teacher and principal in instruction, discipline, etc. There will be some time given also to a study of the recent school legislation in Colorado.

Other topics arising in the course are:

- (a) Some errors the new teacher often makes and some things she ought to know.
- (b) Nature, kinds, and development of conduct.
- (c) Teaching children to think.
- (d) Teaching children to execute.
- (e) School room government; fair play in the school room.

This is a good course for any teacher in the field who has not had courses in education. It is particularly good for the teacher of little or no experience.

**25. Administration of Rural and Village Schools—Three hours.** Mr. Burrows.

This course is a study of the history of rural school organization and administration in our country from primitive local needs to the present time. It aims to meet the needs of county superintendents, rural supervisors, and others interested in special problems of country life. It will include studies and special

researches in the various phases of reconstruction and enrichment of rural education, and a discussion of forward movements in legislation as they affect the education of rural children.

**26. County School Methods—Three hours. Mr. Burrows.**

Most of the methods found in books on teaching have been worked out for graded schools, but it is also true that most teachers are destined to begin their professional careers in country schools where conditions are different. The application of methods to a rural school, the organization of material, class-room management, and effective presentation will receive special emphasis. This course will aim to discover points of difference between the graded and ungraded school in respect to the utility of pertinent methods used in teaching the various branches of study in a rural and village school.

**32. The History of Education in Ancient, Mediaeval and Renaissance Times—Three hours. Mr. Wright.**

A general survey of the history of education up to and including the Renaissance will be made in this course, with special emphasis upon the Greek, the Roman, and the Renaissance periods. An effort will be made to show the influence of the various movements in these periods upon the education of our own times.

The course is especially beneficial to one majoring or especially interested in history.

**33. History of Modern Elementary Education—Three hours. Mr. Wright.**

Students who have not had Education 10 or its equivalent will be expected, in the first few lessons, to review the features of the Renaissance which influence materially the men and movements of modern education. While the entire field of modern education will be covered to a certain extent, the main part of the course will be devoted to the study of modern elementary education. Such subjects as the development of the vernacular schools, the early religious basis of elementary schools, and the transition to a secular basis, together with the work of such men as Comenius, Locke, Rousseau, Pestalozzi, Herbart and Froebel, will be emphasized.

**38. Vocations for Women—Two hours. Miss Wilson.**

A course designed for the study of vocations open to women, with the idea of preparing the teacher to guide her students in the choice of their life work. The course consists of a study of women in industry, agriculture, commercial work, the professions, such as nursing, library work, and medicine.

### COURSES PRIMARILY SENIOR COLLEGE

**111. Principles of Education—Required fourth year. Four hours. Dr. McCracken or Mr. Wright.**

This course is designed to set forth the theory of aims, values, and meaning of education; the place of a scientific basis in education; the relation of schools to other educational institutions; the social limitations upon the work of the schools; the types of schools necessary to meet the needs of society; and the processes of learning and teaching.

**113. Organization and Administration of the Junior High School—Three hours. Required of Grammar Grade Majors and in the Supervisor's Course. Mr. Wright or Mr. Armentrout.**

In this course the following points will be considered: Organization; standards for judging junior high schools; historical development; the program of studies; the daily schedule of classes; courses of study for the various subjects; the qualification of teachers, etc. After many representative junior high schools of the United States have been considered from the above mentioned stand-points, each student will arrange a program of studies, and a course in one subject for a junior high school in some designated community.

**116. The High School Curriculum—Four hours. Dr. McCracken.**

In this course an opportunity will be given to study the curricula of various high schools of this and other states. The student will be expected to study the schools the study of which will be most beneficial as a preparation for his own work. After a careful consideration of education values and the needs of typical communities, a program of studies and curricula will be outlined for some community, rural, village or city, utilizing the principles determined upon earlier in the course. This program of studies will include the work for both the junior and the senior high school.

**120. High School Administration—Four hours. Mr. Wright.**

This course will deal with the organization, management, and administration of the high school, a critical examination of one or more typical high schools, emphasizing courses, programs of study, daily schedule of classes, records and reports, equipment, training, qualification, and work of the teachers and other similar matters of high school administration. The student will be allowed to select topics in which he is especially interested, for study and research, under the direction of the instructor.

**123. Elementary School Supervision—Four hours. Mr. Armentrout.**

This is a course for principals, supervisors and superintendents. It is based upon the following factors: (1) Measuring the worth of teachers. (2) The values and relations of elementary school subjects. (3) The use and misuse of devices, interests, etc., by teachers. (4) Some results to be expected of teachers in the elementary schools. (5) Standards for judging class-room instruction. (6) The problems of training teachers during service.

**130. Rural Education—Three hours. Mr. Burrows.**

A course intended, primarily, to give a comprehensive grasp of American rural history, and a brief study of the rural educational systems of this and other countries. After the problem is considered in its historical and sociological aspects resulting from a long national evolution, the present as well as the best type of rural school will be studied as a factor in preparing for an efficient citizenship. The fundamental needs in rural education, the recent rural life movement, the redirection of the schools, its legitimate functions and revitalizing agencies will be correlated with existing conditions in Colorado and the West and with the social and historical development of the country.

**134. American Education—Four hours. Mr. Wright.**

A brief survey of conditions existing in Europe at the time of the settlement of the American Colonies will be considered with a view to explaining the various types of education found in Colonial times. A study will also be made of the growth of the public school idea, the spread of education from the East to the West, and the development of state control of education.

Other topics of American education emphasized in the course are:

- (1) National land and money grants to education.
- (2) Higher and professional education.
- (3) Higher education of women.
- (4) Normal schools and the training of teachers.
- (5) Education of defectives.
- (6) The growth of the kindergarten idea.
- (7) Modern movements in American Education.

These topics will be considered briefly historically, but more emphasis will be placed upon present-day tendencies in each of these lines.

The student will also select a topic from a list of some twenty subjects, on which he will write a thesis of from two to five thousand words. Among the topics are the following: (1) "Indian Education," (2) "Negro Education," (3) "Education of the Foreigner," (4) "The General Education Board," (5) "The Smithsonian Institution," (6) "The Carnegie Foundation for the Advancement of Teachers," (7) "Work of the Bureau of Education," and (8) "Modern Movements in Education."

This course is appropriate for principals and superintendents who are anxious to learn of progressive features in American Education.

**135. Educational Classics—Four hours. Mr. Wright.**

The purpose of this course is to study the various educational classics (a) as interpretations and criticisms of the educational practices of the various periods of history represented by them; (b) as to their influence upon the period and writers directly following; and (c) as presentations of theories and practices of present-day education.

Some of the classics to be studied are:

- Plato's "Republic."
- Quintillian's "Institute of Oratory."
- Comenius' "The Great Didactic."
- Rousseau's "Emile."
- Locke's "Thoughts Concerning Education."
- Pestalozzi's "Leonard and Gertrude."
- Spencer's "Education."

The latter part of the course will be given to a careful study of (a) what constitutes an educational classic, and (b) what twentieth century treatises on education are probably destined to become classics.

The course would probably appeal most to mature students in the Senior College or to mature second year people. It is recommended to English majors.

**142. Educational Administration—Three hours. Mr. Wright.**

In the first part of this course, the student will be given a general idea of the field of school administration by the study of Cubberley's "Public School Administration." Then he may, if he desires, select certain lines of school administration in which he is interested, for study and research. He may make a critical examination of his own city or village system; make a survey of conditions as they exist in his own state or county in organization, powers and duties of the Board of Education; also the qualifications, powers, duties, and opportunities of the superintendent and the principal.

Superintendents and principals will find this course helpful in the administration and critical examination of their own schools.

**143. The Federal Government in Education—Four hours. Dr. McCracken.**

This course treats of the efforts of the Federal Government to aid the states in education.

**147. Educational Surveys, a Preliminary Study—Four hours. Not ready until winter quarter. Mr. Wright.**

Open to students of Junior College upon permission of the instructor. There are conditions, both good and bad, in every school system which can and should be revealed by a survey, conducted by the administrative authorities in charge of each school system, aided by expert advice from outside the system. The Teachers College is under obligation to furnish this expert assistance. To this end a Survey Committee has been appointed and is ready to render service to any school community in Colorado. The Survey Committee is of the opinion that wherever the administrative authorities in any school community wish to undertake a co-operative survey of their schools a preliminary study of the underlying principles of educational and mental measurements together with a study of social problems, especially as these are related to educational problems, should be made by the teachers and those responsible for the work of the Public Schools in that community. This course is intended to give opportunity for such study. It may be given on the individual plan or by a member of the faculty of the College, or by the superintendent of schools in co-operation with the College. The results of the course should be that all who take it will have a fair grasp of the underlying principles of the subjects treated and some should become fairly proficient in giving the tests and making the observations and calculations involved in educational surveys.

**COURSES PRIMARILY GRADUATE COLLEGE****217. Vocational Education—Three hours. Mr. Hadden.**

This course has for its purpose the interpretation of the subject from the artistic, industrial, and commercial standpoints.

**223. Research in Education—Dr. McCracken.**

This course is intended for advanced students capable of doing research in educational problems. Each student may choose the problem of greatest interest to him, provided sufficient opportunity is at hand for original investigation. The results of such research are to be embodied in a thesis. Credit hours will be given in accordance to the amount of work done. A suggestive list of subjects follows: Federal aid to education; state aid to special types of education; vocational guidance; the continuation of the education of the adult; methods of school support; student government; vocational education for women; distribution of school funds; social needs of the child and the adolescent in education; differentiated programs of study for older children in elementary schools; certification of teachers; the Junior High School; the after-training of teachers; measurements of results in education.

**228. Comparative School Systems—Four hours. Mr. Wright.**

In this course one makes a rather comprehensive study of the school systems of England, France, and Germany, comparing each with the other and finally emphasizing the points to be found in each system which seem especially applicable to our own American system. Other countries which excel in any particular line are studied from that particular standpoint. For instance, Denmark is studied because of its recognized standing in rural education.

Early in the course, a number of thesis topics like the following will be presented, from which the student may select for the purpose of making comparisons of the various countries.

1. Compare the curricula for the secondary schools of the various countries.
2. Compare the countries as to teachers' preparation, term of office, salary, interest in their work, etc.
3. Compare the countries as to emphasis placed upon physical education.

In the last part of the course, a study of modern movements in Education in the various countries will be made.

This course is more easily taken by students who have access to some library facilities.

**229. Current Educational Thought—Four hours. Dr. McCracken.**

This course will consist of reviews and discussions of recent books in the various fields of education.

Note—Students wishing suggestions in regard to research study upon any educational problem are invited to consult with the College.

## Elementary Education and Teaching

W. D. ARMENTROUT, A.M., Director of the Training School

GENEVIEVE L. LYFORD, A.B.

MRS. LELA AULTMAN, Pd.M.

MRS. BELLA B. SIBLEY, A.B.

FRIEDA B. ROHR, A.B.

ELIZABETH HAYS KENDEL, A.B.

MISS BERNICE ORNDORFF, B.S.

MISS HULDA DILLING, B.E.

This department aims to give practical courses to teachers in the field, in order to increase their efficiency in teaching. We connect theory with practice. Too often the theory does not seem to be practical because the teacher does not understand how to put her theory into practice. In the following non-resident courses we aim to bring the teacher in contact with our elementary training and demonstration school as well as with the best elementary school practice in the United States and Europe.

**3a. Primary Methods—Four hours. Mrs. Aultman.**

This course will be valuable to both beginning and experienced teachers of primary grades. It will include a resume of methods and material for all subjects, giving the viewpoint of some of the best authorities. The value of the Montessori system in primary grades will be discussed. The play life of the child, story telling, the study of poems and nature study will receive special consideration. If the student is teaching we shall expect her to try some of these methods and report the result. A daily program and a brief course of study for any one of the primary grades, with reasons for the selection of subjects and arrangement of material, will be required. This should be based on information acquired in this course.

**3b. Primary Methods—Four hours. Mrs. Sibley.**

This course is based on the needs of the child between the ages of 7 and 8 years. This course leads up to the selection of subject-matter which functions in the child's life. To this end a brief comparison of courses of study in some of our larger city schools is made. The latest and most scientific articles on primary methods are read and discussed. Many devices for teaching beginning reading, phonics, rhythm, spelling, songs, as well as methods for dramatization of stories, multiplication table, and practice in blackboard illustrating are given.

**7. Third and Fourth Grade Methods. Junior College Elective. Four hours. Will not be ready until January, 1921. Miss Dilling.**

The course is based on the needs of the child between the ages of 10 and 12. It will consist of (1) a review of the most significant things in child study common to children of this period; (2) a comparison of courses of study for these grades; (3) the building of a course of study; (4) methods of presenting the material of the curriculum of the third and fourth grades.

**4b. Fifth and Sixth Grade Methods—Four hours. Miss Rohr.**

This course will consider the fundamental needs and characteristics of children in the pre-adolescent period with the purpose of applying such psychological principles as govern method and selection of subject-matter in these grades. Chief emphasis will be placed upon the practical side of the work with a view of arriving at the best means of securing initiative, accuracy (good habits of study) and retention. Teachers will be expected to show by reports of actual class work in their own schools how they have been able to apply these principles in order that their conclusions in theory may be tested in practice.

9. **Grammar Grade Methods**—Four hours. Will not be ready until January, 1921. Miss Kendall.

The pre-adolescent stage is the most critical of all stages of development. Most difficulties of high school pupils have their beginnings in the grammar grades. Grammar grade teachers should know how to avert them. The greater per cent of boys and girls leaving the eighth grade assume the responsibilities of citizenship without further formal instruction. Grammar grade teachers should therefore know how to make what they teach worth while to their pupils for these essential reasons: 1st, that those who must leave school will be better fitted for living. 2nd, that a greater number will feel that it is good for them to remain longer in school.

This course consists of practical problems which confront every teacher of grammar grade pupils and aims to aid the teacher in overcoming to some extent the difficulties suggested above in the grades in which she may teach.

Some of its specific aims are as follows:

1. To give a knowledge of grammar grade pupils, physically and in terms of their interests; and its application to certain problems of discipline and method.
2. To give understanding of the aims of the various school subjects in upper grades and methods of teaching.
3. To give a working knowledge of what constitutes a good curriculum for grammar grades in certain fundamental subjects, through study of model curricula.
4. To give the ability to adapt specific subject-matter to pupils of these grades.

51. **Story Telling in the Grades**—Three hours. Mrs. Aultman.

The following subjects will be considered in this course: 1. Why we tell stories. 2. The technique of story telling. 3. Adaptation of stories. 4. Fairy tales and folk tales. 5. Animal stories. 6. Nature stories. 7. Mother stories. 8. Stories of legendary heroes. 9. Stories of historical heroes. 10. Stories adopted from standard literature. 11. Holiday stories. 12. Humorous stories. 13. Ethical stories. 14. Biblical stories.

53. **Plays and Games for Kindergarten and Primary Children**—Three hours. Miss Lyford.

A study of the different theories of play, and the psychology of children's play, the development of games, different types of games, the value of play, characteristics of games for children of different ages, original games based upon rhymes and activities, simple rhythms and methods of presentation.

122. **Play Life of Children as a Basis for Education in the Kindergarten**—Three hours. Miss Lyford.

The meaning of educational play and its significance in the mental and moral development of the children of the kindergarten and primary grades, the growth of the new conception of play and in its influence upon the work in the kindergarten and primary grades. The difference between illustrative and purposive work for children. Means of establishing a closer relation between kindergarten and primary.

## Biological Sciences

LEVERETT ALLEN ADAMS, A.B., A.M., Ph.D.

**Biology 2a**—Four hours. Dr. Adams.

Biology 2a will remain on the five-hour basis until June 1, 1921.

This course may be substituted for Biology 2, which is required in the Junior College. It is a study of some of the fundamental facts and laws of Biology that may be valuable in teaching. It forms a basis for the intelligent study of other educational subjects. It considers the Evolution doctrine, cell life, problems of fertilization, maturation, and embryology, Mendel's Law, formation and organization of tissues.

## COURSES PRIMARILY SENIOR AND GRADUATE COLLEGE

**Biotics 102. Heredity (and its application to man)**—Four hours. Dr. Adams.

In these times when science is doing so much for the improvement of the world, man has come to the point where he is beginning to make a study of himself. Former studies in heredity were for the most part on animals and

plants. Recent years have shown great progress in man's study of himself and we now are able to show some results from the pioneer work of Galton, Pearson, Castle, Jennings, T. H. Morgan and Davenport. There are several centers in Europe and the United States that deal with this problem entirely in its relation to man. This course takes up (1) the pioneers in heredity and eugenics, (2) the fundamental laws of heredity as they are known at present, (3) inheritance of characters, traits, defective strains, feeble mindedness and other unfortunate conditions, (4) how these laws may be applied to man for his improvement, (5) some practical problems to be worked out in the student's community.

## Physical Sciences

FRANCIS LORENZO ABBOTT, B.S., A.M.

### COURSES PRIMARILY JUNIOR COLLEGE

#### 4. General Science—(Junior or Senior College.) Four hours. Mr. Abbott.

One of the main functions of any branch of science is to rationalize life—to free the mind from superstitions of whatever sort, thereby reducing human error and sufferings, much of which traces to false beliefs about things and phenomena. Science seeks to accomplish this end by various means—chiefly, however, by teaching a fruitful method of working on problems, or seeking to answer questions. The final result of science for those upon whom it produces the proper effect is a just sense of the KIND and AMOUNT of evidence that should precede the belief in anything.

This is an elementary study planned with the view of giving, as far as possible in such a brief course, an orderly, scientific understanding of the phenomena of every day environment, thereby increasing mastery of it.

Beyond this, the course should be of immediate use to teachers who must take the county examinations for a certificate to teach.

#### 6. Applied Physics. The Automobile—(Open also to Senior College.) Four hours. Mr. Abbott.

In this course the various types of cars, kinds of engines, springs, axles, clutches, differentials, feed systems, ignition systems, and car lubrication are discussed.

The purpose of the course is at least two-fold: (1) That persons who ride in, drive, or own a car may derive the greatest amount of satisfaction and pleasure from it by possessing an understanding of the mechanical principles underlying its operation; (2) That teachers taking the course may be well enough informed in the subject to disseminate a knowledge of the automobile physics correctly, thereby increasing scientific education.

#### 10. Household Physics—(Junior or Senior College.) Four hours. Mr. Abbott.

This is a first, or elementary, course in physics planned wholly from the point of view of the practical BEARINGS of physics. It is not restricted to the household, but uses freely the materials of the immediate surroundings of the home and school. It has been planned to meet the needs of several groups of people: (1) Students and teachers of domestic science and household economy; (2) Teachers of physics in small high schools; (3) Rural school and grade teachers.

The course deals with matters so fundamental that it should be of large use to the elementary school teacher in explaining many aspects of geography, agriculture, physiology and hygiene.

Beyond this it should be valuable to the house builder through those sections that explain the physics of ventilation, heating (water, hot air, steam), vacuum cleaning, etc. It is possible that teachers of physics in the larger high schools might find in this elementary course much practical material useful in stimulating pupils' interest in the subject.

#### 9. The Physical Aspects of Nature Study—(Junior College.) Three hours. Mr. Abbott.

Bacon said: "We must become as little children in order to enter the kingdom of Science." That means, I take it, that our minds must be free from preconceived notions, and superstitions; we must have an attitude of looking out, alert and ever ready to know why. For a long time I have asked the question, and am asking it with more emphasis than ever, why should we wait until we are old to enter into the "Kingdom of Science"? I believe little children should be allowed to enter this kingdom and be allowed to remain *always*, especially the so-called physical sciences, from which they have been almost wholly shut out. There is nothing more important than our physical surroundings, so far as health, comfort and life are concerned.

The first purpose of such a course as this should be to make nature and her ways seem *natural*. It matters nothing what we may call the course, the purpose should be to *lay* the foundation for an understanding of the Sciences by furnishing a basis of experiences. Nature Study as now taught emphasizes mostly botany or zoology, or at best the animated life part of nature. But the so-called inanimate nature is so closely linked up with the animate, that when we leave it out of account we only have a very imperfect or fragmentary understanding of the working of nature which we are trying to show the children.

"The Physical Sciences, and especially that designated as physics, is the most fundamental in its conceptions and the most practical in its applications of all the sciences." We must emphasize that the mere *book* teaching of science is of no value; it is injurious.

11. Household Physics—(Junior or Senior College.) Four hours. Mr. Abbott.

For a general statement giving the purpose of this course read the general statement of Course 10.

The subjects treated in this course are electricity, light and sound.

13. Theory of the Electron—(Junior or Senior College.) Three hours. Mr. Abbott.

It is impossible to read or study modern physics without understanding the Election Theory. The course is a very lucid explanation, in non-technical terms, of the Electron Theory of Matter.

### COURSES PRIMARILY SENIOR AND GRADUATE COLLEGE

105. Historical Physics—(Junior or Senior College.) Four hours. Mr. Abbott.

Probably the historical aspects of the school subjects offer the easiest insight into their relations to human life and problems. Physics, from the modern point of view and practice, is more than a set of laboratory experiences to be memorized. It is a history of *men facing baffling problems* and step by step finding a way to solve them. It is possible that this may be the best point of view from which to teach physics to any group of students, but its peculiar value for teachers of physics hardly needs to be emphasized.

This course is planned, primarily, for those teachers of physics who have a scholarly interest in the evolution of various aspects of their subject. Probably its chief service lies in its bringing together many classical experiments and indicating their influence on the development of physics, which is a matter of considerable difficulty, since there is no book written from this standpoint.

Beyond this, for the sake of humanizing physics, the course exhibits the circumstances and conditions under which various men first performed the classic experiments.

It is our belief that the teaching of college and high school physics may profit considerably from such a background study.

113. Alternating Currents Simplified—(Junior or Senior College.) Four hours. Mr. Abbott.

Practically all of the commercial electrical current is an alternating current and our high school text books give practically nothing of the subject of alternating currents. The aim of this course is to give a student or a teacher of physics such a clear understanding of the action of an ALTERNATING CURRENT as to form a safe and sure foundation for his work. The course is not a mere description of alternating machinery, but an explanation of PRINCIPLES in language so simple and clear that anyone with a very elementary knowledge of physics will have no difficulty in comprehending the course.



## Chemistry

W. G. BOWERS, A.B., A.M.

The following courses in Chemistry are intended to give the teacher and prospective teacher a better appreciation of this subject. The great world war has demonstrated in a very forceful manner the woeful lack of development of industrial chemistry in our own country. The realization of our utter dependence on European countries for many of the chemical necessities has given a great impetus not only to the manufacturing end of chemistry, but also to individual research and study. With our wonderful natural resources as a basis, and the lessons of the world war as a strong stimulus, we are looking into the future of a great chemical awakening in this country.

12. **New Theories of Chemistry**—(Junior or Senior College.) Three hours. Mr. Bowers.

The development of chemistry has taken place by leaps and bounds. There is a marked difference between the chemistry of a quarter of a century ago and that of today. The earlier chemistry was at first purely empirical, then it became more and more systematic and out of this condition has come a most fascinating modern science. The condition which has brought about this change has been the introduction of physical and mathematical methods into this science, and particularly is this true in the application of physical methods in the solution of the real fundamental problems of chemistry.

It is the purpose of this course in chemistry to review the chief new theories of this subject and to show how, through the collecting and co-ordinating of materials which form the foundation of a science, new substances have been discovered and a knowledge of their composition and properties has been derived. Special attention will be given to the works of Van't Hoff, Arrhenius, and Ostwald, who were the prime leaders in bringing about the transition from a mere system into a real science and who by discovering generalizations and making fertile suggestions and testing their accuracy have directed the trend of chemical work and chemical thought in its development up to the present day.

At least one year's work in general chemistry is a prerequisite for this course.

108. **Organic Chemistry**—(Junior or Senior College.) Four hours. Mr. Bowers.

A study of the methods of preparation and of the properties of the aliphatic series. At least one year of General Chemistry is a prerequisite for this course.

112. **Food Chemistry and Food Values**—(Junior or Senior College.) Four hours. Mr. Bowers.

This course takes up a thorough study of the four essentials of food, metabolism, digestibility, and assimilation of foods. Food lists and rations for various individuals under various conditions are calculated according to the most modern theories. A knowledge of organic chemistry is desired but not essential. General chemistry is a prerequisite.

### COURSES PRIMARILY SENIOR AND GRADUATE COLLEGE

213. **Chemistry as Applied to Problems of Civilization**—(Junior or Senior.) Three hours. Mr. Bowers.

Chemistry is not a subject to be appreciated only by those who have access to some sequestered laboratory, the doors of which are closed to the uninitiated, but is a great modern science which, in countless wonderful ways, is supplying the ordinary needs of contributing to the conveniences of modern life. There are many unexpected and marvelous ways in which chemical forces have been applied to solve the problems of civilization. Today there is more activity in chemical research than at any previous time, and out of what has seemed to be a hopeless confusion of chemical phenomena has come a veritable storehouse of simple and useful discoveries designed for the ultimate service of man.

It is the purpose of this course to see how the chemical forces which are at work all around us have been revealed for the use of man and how, through trustworthy and painstaking observation even of trifling occurrences, the scientist has contributed to the great romance of modern chemistry.

This course is a popular treatment of the subject, and requires no special knowledge of chemistry.

Note—Teachers of Chemistry are invited to make suggestions in regard to courses which should be offered in Extension; and information in regard

to the peculiar difficulties met in the teaching of Chemistry will be gratefully received.

## Geology and Geography

GEORGE A. BARKER, M.S.

The courses offered in non-resident work are in phases of the subject where laboratory and field work are not stressed. It is very difficult to do satisfactory work in a subject like mineralogy by non-resident work.

### Physical Geography—Four hours.

A course taking up the land form and climatic sides of the subject. Suggestions as to field and map work are included in this course. A course for students that have not had it in high school.

### 3. Climatology—Four hours.

A course taking up the principal factors controlling the atmosphere, as well as the effect of these in marking out on the earth's surface definite climatic provinces. An elementary course for those who have had little climatic work.

### 4. Geography of North America—Four hours.

A study of the physical geography of North America and the effect of these physiographic conditions upon the commercial and social geography. A course for teachers in service. Presupposes some knowledge of physical geography.

### Geography of Europe—Four hours.

The interaction of environment and race upon the development of the present European Nations. A course for teachers in service. Presupposes a knowledge of North American geography.

### 7. Commercial Geography—Four hours.

A study of products and commercial routes with the relationship to the underlying physiographic controls stressed. An elementary course in commercial geography.

### 22. Life Geography—Four hours.

The distribution of plants and animals emphasizing the main climatic and geologic controls of such distribution. An advanced course based on some knowledge of climatology.

### 113. Mathematical Geography—Four hours.

Covers subjects like earth as a sphere, tides, calendar.

### 175. Geology of Colorado—Four hours.

A map study of the outcrop of the various formations and their relation to the economic and cultural life of the state.

Note—Teachers in need of help in securing material or in organizing it for presentation are invited to write to the College for such help.

## Mathematics

GEORGE WILLIAM FINLEY, B.S.

Courses in mathematics are especially well suited to non-resident work by reason of their definiteness. The texts used in this work have been selected with special reference to their clearness of statement and logical arrangement of material. Anyone who has had the preparatory work may take up the courses outlined here with ease and profit.

All five-hour courses in mathematics change to four-hour basis June 1, 1921.

### COURSES PRIMARILY JUNIOR COLLEGE

#### 1a Solid Geometry—Four hours. Mr. Finley.

This course is designed to meet the needs of that large group of students who completed their plane geometry in high school, but did not take up solid geometry. A careful study of the main propositions and the solution of many of the originals is required.

2 and 3. Trigonometry—Six hours. Mr. Finley.

Anyone who has had at least one year of elementary algebra and a course in plane geometry is prepared to take up trigonometry. The course covers the solution of the right triangle, the development of general formulas, and the solution of the oblique triangle. Many problems of a practical nature are included in the work.

5. College Algebra—Five hours. Mr. Finley.

Anyone who has had at least one year of elementary algebra should be able to carry this work with ease. It takes up first a rapid review, with special attention given to the principles involved and continues with a study of functions and their graphs, quadratic equations, inequalities, and complex numbers.

6. College Algebra—Five hours. Mr. Finley.

A continuation of course 1. Deals with theory of equations, permutations, combinations, probabilities, determinants, partial fractions, logarithms, and infinite series.

7. Analytic Geometry—Five hours. Mr. Finley.

Practically all of the ordinary notions of analytic geometry are covered in this course. The student gains a good working knowledge of the elements of this powerful science, and is, at the same time, prepared to go into calculus.

9. The Teaching of Arithmetic—Five hours. Mr. Finley.

This course takes up the practical, everyday problems of the teaching of arithmetic rather than a more generalized study. It deals with the methods of presenting the various parts of the subject from primary arithmetic to eighth grade work. It is especially helpful to those actually engaged in teaching in the grades, as they are able to test in their classes the suggested methods.

### COURSES PRIMARILY SENIOR COLLEGE

100a. The Teaching of Secondary Mathematics—Five hours. Mr. Finley.

This work is planned for active or prospective teachers of high school mathematics. It takes up a careful study of the purpose and value of secondary mathematics and of the most recent movements in that field. It also includes a study of the fundamental principles of elementary algebra with a view to giving the teacher a clear understanding of the reasons involved in the various processes.

101. Differential Calculus—Five hours. Mr. Finley.

This course and the one that follows are designed for those who feel the need of a broader outlook upon the mathematical field. Needless to say every teacher of high school mathematics needs this work to enable him to understand to some extent the possibilities of the subject he is teaching. In this course the fundamental notion of the differential calculus is carefully developed and many practical applications are introduced.

102. Integral Calculus—Five hours. Mr. Finley.

The work in this course follows that of the preceding in logical order. It deals with the ordinary notions and applications of the subject.

104. Descriptive Geometry—Three hours. Mr. Finley.

This course takes up the ordinary problems in points, lines, planes, and solids. It is designed especially for those interested in manual training.

### Social Science

GURDON RANSOM MILLER, Ph.D.  
EDGAR DUNNINGTON RANDOLPH, A.M.

This department offers a series of courses which it desires shall appeal to both the needs and ambitions of many students. The courses are liberal and varied in scope. Many of them will meet the immediate practical needs of teachers. Some of them are technical, and are intended for teachers and students of special subjects. Still others are advanced courses in social theory, or are practical studies in applied sociology. Superintendents and principals will find many courses in this list well adapted for group study and teachers' clubs.

The Department of Social Science invites correspondence regarding these courses. We will formulate new courses, or change present courses when such action seems desirable. Let us know what you want.

### COURSES PRIMARILY JUNIOR COLLEGE

1. **The Beginnings of Human Society**—(Junior or Senior College.) Four hours. Dr. Miller.

An interesting study of early human society. Valuable for teachers in descriptions of physical, mental, and social changes in primitive men and women. A story of development through race experience; the evolution of language, industry, art, the family, law, and other social institutes; correlates well with courses in genetic psychology, human biology, human geography; and is also commended to students of history as a basal study.

2. **Social Evolution**—(Junior or Senior College.) Four hours. Dr. Miller.

A more advanced course in human evolution. The first volume is Elliot's intensely interesting account of the origins of human beings, and the original peopling of the continent of Europe. The second volume is Lord Avebury's standard work on "Primitive Times;" and the final volume, by Dr. Boaz of Columbia, takes as its thesis the idea that all races are approximately equal in potentiality.

This course correlates well with studies in the psychology of primitive people, race studies, and with many phases of the physical geography of Europe.

3. **Modern Social Problems in Relation to Education**—(Junior College.) Four hours. Mr. Randolph.

This is a first course in sociology. It is planned to meet practical needs of a somewhat varied group of people. It should be distinctly useful to the teacher who wishes to vivify her teaching of history by a clearer point of view and a more incisive method of work. It should be valuable to the supervisor of elementary school subjects who wishes a livelier sense of the relationship of school to life—as shown in a social interpretation of the course of study. To the student of affairs it offers help in forming judicious attitudes toward various problematic situations, such as the dynamic modern citizen is required to pass judgment on. To some extent the course will be varied to meet these different needs—where they cannot better be met by other courses described in this bulletin. Primarily, however, this is a course for elementary school teachers in the relations of school work to the varied problems of the world outside school. It is largely concrete. Of the five books studied, only one deals with social theory. This, the first one, is accomplished by very full directions for study—which will be extended as far as the needs of the student require and the ability of the instructor admits.

12a. **Social Readjustment**—(Junior College.) Four hours. Mr. Randolph.

This course offers an elementary study of how the processes of reconstruction may be applied to a considerable number of practical social problems. It is a much simpler course than Sociology 4, as well as a much less extensive study. It isolates certain situations from the larger field and by a brief analysis of the factors in these attempts to stimulate the habit of thinking in terms of social cause and effect. Its main concern is with the possible lines of improvement to be realized through supplementing and redirecting the development of such fundamental institutions and relationships as a family, church, school, property and the like. This course should be useful to the elementary school teacher of history and civics.

16a. **Society and The Church**—(Junior and Senior Colleges.) Four hours. Dr. Miller.

A live, stimulating course of large interest to students of church, Sunday school, and religious social improvement; of special value to classes in religious education. The authors in this course are Rauschenbusch, King, Wormer, and Cutting, all well known writers in this department of social thought.

17. **Society and Religion**—(Junior and Senior College.) Four hours. Dr. Miller.

Similar to Course 16, but dealing more directly with growth and changes within the Church. It comprises discussions of the social basis of religion, the relation of the Church to democracy, religion in social action, God in evolution, and the religion of the future.

18a. **Rural Sociology**—(Junior and Senior College.) Four hours. Dr. Miller.

A constructive study of country life, economic activities, social organizations, schools, clubs, churches, social centers, and modern efforts and successes in rural progress; intended primarily for rural teachers, but is of value to all students of rural social conditions and needs.

19. **Property and Society**—(Junior and Senior College.) Four hours. Dr. Miller.

An attractive study of property rights, wealth holding, standards of living, social problems resulting from poverty, and theories of the leisure classes.

### COURSES PRIMARILY SENIOR COLLEGE

104a. **Elementary Sociology**—(Primarily Senior College, but open to qualified Juniors.) Four hours. Dr. Miller.

This is a course planned to give a clear working notion of the *field of thought* more or less vaguely called *sociology*. It presents the accepted results of study in the field and offers a perspective of the whole field with the various subdivisions displayed in proper relations. In other words, the relationships of the somewhat tangled mass of "modern social problems" is made clear and the most judicial opinions in regard to them are exhibited. This course should be of considerable value to teachers of history and civics. And the general reader who is interested in the complex inter-relations of modern life may find this course offering somewhat nearly the orientation he wants.

105a. **Elementary Sociology**—(Primarily Senior College.) Four hours. Mr. Randolph.

This course is less concrete than the preceding one. It does not attempt to give an outline of the whole field of sociology but is concerned rather with the study of social theory in an elementary way. The foundations that have been most influential in America will be considered carefully. This course should follow Sociology 4.

106a. **Social Theory**—(Senior and Graduate College.) Four hours. Dr. Miller.

An advanced course in the principles of sociology, based on the works of Ward and Giddings, both of whom are recognized great creative leaders in sociologic thought. This course is virtually a study in social philosophy, and is commended to mature advanced students only.

107. **Social Theory**—(Senior and Graduate Colleges.) Four hours. Dr. Miller.

More varied in material than Course 6. All books in this course are scholarly and scientific products of two of the greatest living American sociologists, and one English author of world fame. This will form a productive study of large value for advanced students.

108. **Social Direction**—(Senior College and Graduate.) Four hours. Dr. Miller.

A course in applied sociology, social control, and the scientific direction of comprehensive social reform efforts. This study presupposes knowledge on the student's part of social theory, social institutions, and modern political attempts to direct social change without revolution.

A vigorous, vital course for experienced students.

109. **Comparative Sociology**—(Senior College and Graduate.) Four hours. Mr. Randolph.

For students who have had Sociology 4 or Sociology 6, this course offers an opportunity to consider somewhat deliberately the factors in the rise of sociology, the nature of the theoretic and practical problems confronted by the sociologist, the various points of divergence of theory among the more significant contributors to the science, and the like. It offers in the end the best attempts at a synthesis of the whole field of social thought.

110. **Social Psychology**—(Senior College.) Four hours. Mr. Randolph.

This course might better be called a course in *psychological sociology*, if the older name had not become fixed. It deals with those parts of psychology upon which *social theory* immediately rests. It uses psychology for the purposes of social theory. It considers, for example, the part played by instinct, feeling, intellect, imitation, sympathy, and the like in the characterization of society. The course should be useful to students of education and to administrators who are not satisfied with their merely empirical control of social groups.

111. **The Evolution of Morals**—(Senior College and Graduate.) Four hours. Dr. Miller.

A scientific study of the development of morals through anthropologic and historic times. Of interest, not only to teachers, but to all students of ethical and religious development. This course might wisely be preceded by courses 1 or 2; and will be permitted to Junior College students who have taken either of these courses, or similar ones, or who have taken two courses in elementary sociology or social theory, or who have earned not less than seven hours in such courses.

113. **Scientific Management and Labor**—(Senior College and Graduate.) Four hours. Dr. Miller.

A somewhat technical course, dealing with detailed study of mechanical operations, and the efficiency of labor. It includes consideration of the relation of psychology and industry; factory management; fatigue surveys; the bonus system, and its effects on production, and also on workmen. The authorities studied are Taylor, Hoxie, Gantt, Munsterburg, and others.

Intended for teachers of industrial classes, commercial and business classes; but is also of large interest to all students of efficiency in industry. It is a superior practical course.

114. **Privilege and Society**—(Junior and Senior College.) Four hours. Dr. Miller.

This study is closely allied with Course 12, and may profitably either precede or follow it. It deals with the social problems arising from special privileges; social abuses and their political aspects; and with tendencies toward reform in the social order. An interesting course.

115. **Social Insurance**—(Junior and Senior College.) Four hours. Dr. Miller.

Studies the operation of social insurance in European countries, Australia, and New Zealand, and the growth of the idea in America since 1912. It comprises a study of social compensation for accidents, sickness, invalidity, unemployment, and old age. A comprehensive and instructive course.

120a. **Distribution of Wealth**—(Senior College.) Four hours. Dr. Miller.

A companion study of Course 19, but more extensive, and more scientifically worked out. It contains Hobson's well known contrast between production of wealth and its consumption, in which he treats consumption as the neglected element in economics and urges its just scientific treatment. It also contains Dr. Ely's latest discussion of property and contract.

121. **Problems and Methods of Modern Philanthropy**—(Senior College and Graduate College.) Four hours. Mr. Randolph.

This is a course planned to reveal to students of affairs, teachers of history and civics, and those who, from the cultural point of view, are interested in the dramatic under-currents of human life and progress, the least known aspects of our civilization—those aspects which perhaps are to have most credit in the end if we succeed in passing from civilization to humanization. The course will deal with (1) the nature and extent of social failure; (2) the slow and bungling evolution of ways of relieving distress or of putting down the symptoms of misery; (3) the gradual achieving of a conscious technic and curative methods of relief; (4) and the general principles which experience has slowly contributed to present methods of working in social amelioration. Happily, there is a considerable number of books available for such a course, which possess merits of form and graces of expression entitling them to be called *literary* at the same time that they exemplify all the conditions and courageous virtues of a thorough-going scientific method.

122. **Women and Social Evolution**—(Junior and Senior College.) Four hours. Dr. Miller.

A reliable, attractive, sociological study of the modern feminist movement. The contributions are from German, Swedish, and American writers, and include the biologic and psychologic aspects of the problem, as well as its historical and sociological features.

Worthy the attention of any student. It is closely related to Courses 31 and 32.

123. **Immigration and American Problems**—(Primarily Senior College and Graduate, but open to qualified Juniors.) Four hours. Mr. Randolph.

This course is intended to be of practical benefit to two groups of people; (1) To teachers—especially teachers of history and civics—it offers the sociologists' and the economists' interpretative principles in the treatment of a social

phenomenon which, though it has been the life of America, is hardly considered in the usual school history. (2) To those interested in forming judicious views upon current problems of our life it offers as far as possible in the limits of such a course an impartial account of the great *change in the character of population* in the 19th century, whereby from a people comparatively homogeneous we have come to exhibit in our composition the greatest mechanical mixture of racial stocks the world has ever known, and have suffered consequent weakness in our institutions. It is felt that the course is timely now in view of the recent recognition by the government of the peril implicit in our unassimilated aliens.

**124. Problems and Methods of Child Welfare**—(Senior College and Graduate, but open to qualified Juniors.) Four hours. Mr. Randolph.

This is a course in the growth and tendencies of the modern movement for the conservation of children. It begins by giving a view of the status of children in the past; passes to a consideration of the evolution of the child protection agencies in the United States; and deals finally with the present problems and tendencies in child welfare programs. This is a course which should be especially useful to parents who are desirous of raising the type of family relations in their community either through organizations intended to affect the community by public effort or through less direct agencies. Beyond this, parents who are especially zealous to give the most humane nurture to their children will find in this course much to recommend it to them. It should be useful to teachers of household arts as an extension of the dynamics of home making. It is, however, hoped that this course will appeal largely to the elementary school teacher, who next to the parents, best loves the child and most needs to know of the significance of changing attitudes to the child.

**225-226. Socialism**—(Senior and Graduate College.) Four hours each. Mr. Randolph.

The first of these courses is an introductory study of the scope and meanings of this modern reaction to modern conditions of life. It will probably meet the needs of most students. It gives a complete but elementary survey of the whole field, and through some of the simpler treatises presents the pros and cons concretely enough to make the course enjoyable to the novice. In the second course more is done to show the variations of socialism under varied national conditions.

**128. Boys and Modern Social Problems**—(Junior and Senior College.) Four hours. Mr. Randolph.

This course is in sequence with Sociology 124 and offers those who have been especially interested in the field of child conservation an opportunity to give special attention to the problems of rearing, managing, and directing the more restless sex.

**129. Crime and Society**—(Junior and Senior College.) Four hours. Mr. Randolph.

This course is a study of the relationship of the criminal to society—to social institutions and social organizations. Incidentally it will show the changing attitude of society toward the criminal, and the more important factors behind the change. The course is, however, mainly concerned with the present relations of the criminal in society and his treatment at the hands of society. The course intends to present the best modern thought in the various aspects of the field.

**130. The Single Tax**—(Junior and Senior College.) Four hours. Dr. Miller.

A discreet, careful discussion of the Single Tax, in pleasing form, and all material up to date. No old books in the course. Taxation reform is one of our most comprehensive social changes, and is probably the gateway to accomplishment of most of the general program for social improvement, through a more equitable distribution of wealth. This course discusses the Single Tax as a possible solution of the general problem.

**131. The Modern City**—(Junior and Senior College.) Three hours. Mr. Randolph.

A live topic, discussed by the most virile and attractive writer on this subject in America. The three volumes in this course are all by the same writer, an American scholar, of wide and varied experience, occupying high government position. The series is in sequential order, and uses the comparative method in discussing British, German, and American cities. It is a rich fund of information.

**132. The Family**—(Junior and Senior College.) Four hours. Dr. Miller.

A very profitable study of the family from the standpoint of education, industry, ethics, and as a social unit. Desirable for teachers, but of great value

to all students of either theoretical or practical sociology. Closely related to Courses 22 and 24.

133. **Social Hygiene**—(Junior and Senior College.) Four hours. Mr. Randolph.

A special study of marriage and sex, not highly technical, by writers of national and international reputation; a thoroughly reliable, scientific study.

134. **Heredity and Progress**—(Junior and Senior College.) Four hours. Dr. Miller.

Presenting two books each, on the biologic and sociologic aspects of the problem of social progress. Can be profitably used in connection with courses 8, 11, 36, or 39.

135. **The Evolution of Culture**—(Senior College and Graduate.) Four hours. Dr. Miller.

A standard scientific study of the development of human knowledge, and the bases of civilizations. The material is largely anthropological, and forms an excellent sequence for Courses 1, 2, or 11. Commended to historical students.

136. **Social Progress**—(Senior College and Graduate.) Four hours. Dr. Miller.

Deals with modern social evolution and theories of progress; historical and philosophical in method of treatment; covers a wide range of thought, and might properly be termed a philosophy of history.

137. **Labor and Society**—(Junior and Senior College.) Four hours. Dr. Miller.

A study of the laboring classes, development, place, privileges, and rights in society; and relation of workers to systems of industrial administration. Specially commended to teachers of industrial education, and students of economics. It correlates well with Courses 12, 13, 14, 15, 19, and 27.

138. **German Social Organization**—(Junior and Senior College.) Four hours. Dr. Miller.

Four recent books of superior quality on the modern German method and system of organization in industry, business, commerce, education, and governmental activities. A rich fund of information, well told.

139. **Social Philosophy**—(Senior College and Graduate.) Four hours. Dr. Miller.

An advanced course in fundamental social theory, closely related to Courses 6, 7, 8, 9, 10, and 36. Commended to mature, experienced undergraduates, and to graduate students.

140. **The American Family**—(Junior and Senior College.) Four hours. Dr. Miller.

A Social History of the American family from the period of American independence to the close of the Civil War.

141. **Women and Business**—(Junior and Senior College.) Four hours. Dr. Miller.

A study of the entry of American women into the business world, with a recital of general social results, gains and losses in individual opportunities, and a discussion of the future of business for women.

Note—This department has always been interested in promoting the study of modern social conditions and problems. Students interested in finding material on any phase of modern life are invited to apply to the College for help.

## History and Political Science

EDWIN B. SMITH, A.M.

The work offered in this department includes some of the resident courses and some special courses that may be taken to advantage. The effort is made to arrange these courses on a practical basis so that they will aid the teacher who is working in the lines indicated. In nearly every phase of school work the teacher utilizes the subject matter of history, either directly in teaching



the subject or as supplementary material. The new interest that attaches to political relationships calls especially for new effort in the schools in teaching history and civics.

The department is anxious to meet the needs of teachers. If the desired work is not listed, correspond with the department concerning it.

### COURSES PRIMARILY JUNIOR COLLEGE

#### 1. American History—Four hours.

This course includes: The European conditions that furnished the background for the work of the discoverers and explorers; the life of the Indian, especially of the western section; the settlements made by the Europeans; the life of the colonist; the growth of the European colonists in America; and the struggle for the rights of independent people.

#### 2. American History—Four hours.

In this the work of Course 1 is continued as follows: The formation of a government suited to the needs of the people; the experiences of the people under the new government in becoming a strong nation; the western movement; and the testing of the strength of the national government. Throughout, the interest includes the social and industrial conditions.

#### 3. American History—Four hours.

The work begins with the reconstruction following the Civil War. The large movements are traced; such as, the growth of industry, the financial measures, American diplomacy, imperialism, business combinations, labor organizations, conservation, and the international relations of the United States.

#### 4. Medieval Europe—Four hours.

The conditions of the people of Europe, politically, socially, and industrially, during the period called the Middle Ages form the interest of the course. The conditions of modern Europe and of the United States are so largely affected by the life of Medieval Europe that they cannot be properly understood without consideration of this period.

#### 5. Early European History—Four hours.

The countries of Europe at the beginning of the sixteenth century; the commercial revolution; the Protestant Revolt and the Catholic Reformation; the culture of the sixteenth century; absolutism in France; parliamentary government in England; the world conflict of France and Great Britain; the revolution within the British Empire; eighteenth century Germany; the rise of Russia; "Liberty, Equality, Fraternity;" European society in the eighteenth century; the era of Napoleon.

#### 6. Recent European History—Four hours.

A continuation of Course 5. The era of Metternich; the industrial revolution; reform and revolution; the growth of nationalism; the problem of the Irish; the German Empire; the new Russia; dismemberment of Turkish Empire; the spread of European civilization in Asia and Africa; international relations and the outbreak of war, 1914.

#### 9. National Government—Four hours.

The relations between the government of the United States and the people; the new conception of the presidency; the growing powers of Congress; the federal judiciary; constitutional protection of business; the police powers of the national government; civil service; direct legislation; corrupt practices act; legislation of the last administrations.

#### 11a. Commercial History of the United States—Four hours.

A survey of commerce from early times; colonial commerce and its consequences to European nations; commerce in the several periods of American development, domestic and foreign; the coastwise trade; government aid; the consular service; improvement of rivers, harbors, and waterways; tariff provisions affecting shipping; commercial treaties; commercial changes of the twentieth century; international complications.

#### 13a. The Teaching of History in the Elementary School—Four hours.

The aims in teaching history; the values of history; history of one teaching of the subject; the course of study, past, present, and future; psychology of the subject; methods and materials; testing results of history teaching; and the consideration of the school problems relating to history—the place of history in the school curriculum, and the relation of history to other subjects.

**22. Municipal Government—Three hours.**

The growth of cities; their relation to trade and industry; state control over cities; the development of the American city; services to the people; city planning; the commission form of government; the city manager; other recent movements.

**24. Modern European Government—Four hours.**

A course presenting conditions of European governments; the foundations of their governments; the positions of the heads of governments; democracy under the present governments; most recent movements.

**25. Comparative Government—Four hours.**

The government in other countries compared with that in our own; England the cabinet type, France the constitutional cabinet type; Germany the cabinet type in transition, and Switzerland the most perfect type of democracy; the smaller European states and the South American republics; the growth of internationalism and democracy.

**26a. The Teaching of Civics in the Elementary School—Four hours.**

The development of civics teaching from the mere study of the constitution to the present community civics; the value of civics in education for citizenship; the purposes of instruction in government; courses of study for the elementary school; methods and materials for various grades of instruction.

**28. Ancient Social History—Four hours.**

This is a survey of the development of society among the early peoples, with the emphasis on the social and economic phases. The main purpose is to give teachers a new point of view with respect to the teaching of ancient history.

**31. History of the Great War—Four hours.**

This course deals with the diplomatic background, the economic, commercial, and other causes, the conditions surrounding the outbreak in 1914, the United States in the war, and the reconstructive activities following the cessation of hostilities. This work is based upon the best writing produced by the war.

**COURSES PRIMARILY SENIOR AND GRADUATE COLLEGE****104a. Western American History—Four hours.**

The westward movement as an historical process; the migration from the Atlantic into the Mississippi Valley; the Trans-Mississippi West; the history of Colorado as a part of this movement; the Pacific Coast and the dependencies.

**107. English History—Four hours.**

The foundations of England; consolidation of England under Norman supremacy; parliamentary development; medieval institutions; civil wars and the decline of feudalism; the Tudor period; divine rights; monarchy and puritanism; contest for constitutional government; whig supremacy; the age of Walpole; development of Greater Britain; transition to modern England; democracy and reform; the eastern question; present movements.

**116a. Spanish-American History—Four hours.**

A course designed to furnish a background for understanding the growing relations between the United States and the republics to the south. In tracing the experiences of the Spanish-American people, attention is given to the work of Spain, to the securing of independence, to the social, political, and economic growth, to international relations and the Monroe Doctrine, to the Panama and the purchase of the Danish West Indies, and to the new Pan-Americanism.

**117. The Teaching of History and Civics in the High School—Four hours.**

The aims and values in teaching the subjects; the development of instruction in these subjects; the socialized course of study problems of teaching; and the relation between history and civics teaching.

**118. Financial History of the United States—Four hours.**

The origin and growth of the currency, banking, and revenue systems of the United States, with especial emphasis upon the relation of the tariff system and the currency system; the recent achievements in the financial system as expressed in the federal reserve banking system, the farm loan plan, and war finance.

**119. Constitutional History of the United States—Three hours.**

Origin of the constitution; relation to the state constitutions; the Articles of Confederation as a precedent; the constitution in the process of making; the interpretation placed on the principles by the makers; the period of misunder-

standing; the Civil War; the new interpretation of the principles of government; the service of the law courts. Throughout the course the great cases that have grown out of the interpretations of the document will receive consideration.

**120. Elementary Political Science—Four hours.**

This is an introduction to the principles of the various political organizations which control people. The theories and forms of government, constitutions, and ideals of citizenship are included. The course should be of special interest and value as explanatory of the current political thought relative to democracy and to the radicalism that is expressed in bolshevism.

**123a. Internal Relations—Four hours.**

In this course there is a study of the principles governing the relations of civilized nations, which includes the problems of citizenship, the position of aliens and of alien enemies, the rights of nations with respect to war, neutrality, and intervention, and the regard for treaties. American ideals, the Monroe Doctrine, Pan-Americanism, and the league of nations.

**124a. History of the Far East—Four hours.**

This is a study of the modern history of China, Japan, and India with reference to their relations to Europe and the United States.

Note—The department invites correspondence from those who find themselves perplexed in regard to any phase of the teaching of history and civics.

## Literature and English

ETHAN ALLEN CROSS, A.B., A.M.

FRANCES TOBEY, A.B.

RAE E. BLANCHARD, A.M.

The department of literature and English selects from all the courses which it offers in residence, a group that may profitably be conducted by individual correspondence.

Text Books: Wherever a text book is prescribed it is supplied by the College under the usual conditions; but the College does not agree to supply the illustrative pieces of literature studied in these courses. These must be obtained from a local library, or bought by the student. In most cases the books are such as may be found in any good town library, and in all cases they will be worth possessing.

**1. Reading in the Grades—Four hours. Miss Tobey.**

Aims of the course: To stimulate insight and encourage system in the organization of material; to direct the study of method; to develop initiative and resource in the conduct of the reading class; to quicken the teacher's perception of the values of literature of varied type, for pupils of various grades.

**8. English Literature (670-1660)—Open to students of either Junior or Senior College. Four hours. Miss Blanchard.**

The course will consist of a study of the following pieces and authors:

1. Beowulf and Anglo-Saxon literature. 2. Chaucer. 3. Everyman. 4. Book 1 of *The Faerie Queene*. 5. *The English Sonnet*. 6. *Sidney's Arcadia* (extract) and other attempts at fiction. 7. Marlowe's *Dr. Faustus*. 8. *Macbeth*. 9. *Every Man in His Humor* or *Epicene* (choice). 10. Bacon (12 essays). 11. *Early Translations of the Bible* (extracts). 12-14. Burton, Walton, and Sir Thomas Browne. 15. *Pilgrim's Progress*, Book 1 *Paradise Lost*, and *Lycidas*.

**9. English Literature from 1660-1900—Open to students of either Junior or Senior College. Four hours. Miss Blanchard.**

This course includes studies in (a) the poetry of Dryden, Pope, Thomson, Gray, Goldsmith, Cowper, Burns, Wordsworth, Coleridge, Scott, Byron, and Tennyson; and (b) the prose of Dryden, Pepys, Addison, Steele, Johnson, De Foe, Swift, Goldsmith, Lamb, De Quincey, Macaulay, and Ruskin; and (c) plays by Goldsmith and Sheridan.

Note—The material for English 8 and 9 has been divided into three four-hour courses (English 8, 9, 10).

**6. American Literature (1700-1900)—Open to students of either Junior or Senior College. Four hours. Miss Blanchard.**

This course embraces (a) a survey of the history of colonial literature, and (b) a careful study of the following authors: Emerson, Whittier, Longfellow, Holmes, Lowell, Hawthorne, Poe, and Whiteman, with a few others of lesser note.

**31. The Short Story—Four hours. Mr. Cross.**

The study of the forms and themes used by modern short story writers. Today the short story is a literary form quite distinct from any other, and capable of carrying a significant theme within its limited space. This course attempts first to study the forms and then to show how the story is being used to entertain and to teach truth to the millions who read magazine fiction. The student is expected to study the structure and meaning of fifty typical stories.

**100. Advanced Composition—Four hours. Miss Blanchard.**

This is a practice course in writing designed for those who are already familiar with the elements of correct expression in writing. It consists of fifteen themes of 6 to 10 pages each, on paper approximately 8 by 11 inches. Detailed directions for each of the fifteen papers are given in the syllabus, which will be sent, one section for each theme, after the student has enrolled for the course. The papers are read, criticised, and returned by the instructor.

**116. The Festival—Four hours. Miss Tobey.**

Aims and scope of the course: A study of the values, the varied forms, and the practical development and direction of school pageants and festivals; the preparation of full outlines of school or community festivals which are detailed and practicable for actual use in schools.

**127. Selected Plays of Shakespeare—Four hours. Mr. Cross.**

A careful study of the ten plays of Shakespeare, chronicle, comedy, and tragedy, which seem best suited to high school courses in English literature.

**132. The English Novel—Four hours. Mr. Cross.**

In the main this is a reading course following the development of the English novel from 1740 to 1900. The two text books which will be indicated are assigned for reading to guide the student through the course in an ordered way. Ten novels are read entire, and parts of two others. The details of the work are furnished in a syllabus of fifteen parts.

**133. The Recent Novel—Four hours. Mr. Cross.**

Many students who do not care to follow the development of the novel as a literary form wish to study the novel of the present. An opportunity for such study is given in this course. It may be taken following Course 16 or independently. In the main, it consists of a careful study of ten or twelve novels of the present, with written work to accompany each study. Some of the most significant pieces of writing on social and educational problems of the day are being published in the form of novels. This course gives literary students an opportunity to study these problems.

**134. Modern Dramatists—Four hours. Mr. Cross.**

In addition to making a careful study of standard treatises on modern drama, the student will be expected to read and analyze for form and meaning twenty representative plays, Continental, English, and American, since Ibsen. Details furnished in a syllabus.

## Romance Languages, German and Latin

EDWIN STANTON DU PONT, Ph.D.

By a recent arrangement, the Department of Modern Foreign Languages is able to offer correspondence courses by the phonograph method. Four different methods may be had, as follows:

First: A year's course using the ordinary course of instruction with the aid of a standard phonograph, grammar, and letter writer included in the course. The price for the course complete, including 30 phonograph records and complete text books, is \$50.00. Second: Without the phonograph, the same course with all complete, for \$35.00. Third: A similar course with the vanophone and 30 records, for \$30.00. Fourth: The same course with the dictaphone, the machine and records to be returned at the end of the year, for \$32.00. All express charges on the above material will be paid by the College.

The following are the non-resident courses offered without any reference to the above aids in pronunciation.

### FRENCH

#### First Year Courses

##### 1a. Elementary French—Four hours.

The definite and indefinite articles; use of the articles; the partitive article; remarks on the articles. The two auxiliaries; uses of same. Number and gender. The adjectives; irregularities of the same; comparison of adjectives. The present tense; the imperfect tense; the future and future perfect, the pronouns *qui*, *que* and *quoi*. Relative and interrogative pronouns. The reading of fifty pages of selected easy texts. The review of all work up to this point.

Note—Unless special reasons are given, no credit will be given for less than 15 hours in the first year of any language studied in this manner.

##### 2a. Elementary French—Four hours.

Possessive adjectives and pronouns. The demonstrative and conjunctive pronouns. Use of the pronoun *ce*. Disjunctive personal pronouns. Conjunctive pronouns; position of same; use of disjunctive instead of conjunctive. Negation. Indefinite adjective and pronouns. Use of *tout* and *même*. Positions of adverbs. Peculiarities of spelling. Idiomatic use of *avoir* and certain nouns. The reading of one hundred pages of graded French text.

##### 3a. Elementary French—Four hours.

The use of the imperfect tense; past definite and past indefinite tenses; the pluperfect and past anterior; use of the future and conditional tenses. Rules of the past participles. Use of the auxiliary *avoir*. The rule for *être*. Use of reflexive pronouns. Use of the imperative. Use of the present participle. The impersonal verbs. The verbs *must*, *should*, and *ought*. The verbs *pouvoir*. The use of the subjunctive after verbal expressions; use of the subjunctive after certain conjunctions; remarks on *que* and the subjunctive; distinction between the subjunctive and other moods; uses of the tenses in the subjunctive. General rules of negation; use of *ne*. Inversions. Gender of nouns and rules for same. Uses of prepositions before certain infinitives. A comprehensive study of irregular verbs. The reading of 150 pages of easy French plays. A colloquial study of every day idioms.

#### Second Year Courses

##### 4a. Intermediate French—Four hours.

Reading and study of *George Sand's Mare au Diable* and *Dumas' Monte Cristo*. French composition.

##### 5a. Intermediate French—Four hours.

Intermediate Course. Reading and study of *Verne's Michael Strogoff* and *Le Tour du Monde en 80 Jours*. Review of grammar and composition.

##### 6a. Intermediate French—Four hours.

Intermediate Course. The study of selected works by *Erckmann-Chatrian; Le Juif Polonais, Waterloo, and Madame Therese*. Advanced press composition.

15a, 16a, 17a. **Advanced French**—Four hours for each course.

Advanced Courses. See the general catalog for these courses. Offered only to students who have previously done work in residence.

## GERMAN

### First Year Courses

1a. **Elementary German**—Four hours.

Introduction and pronunciation. Cases, nominative and accusative. The indefinite article. Present indicative. Definite article. The imperative mood. Genitive case. The present tenses. The dative. Word order. Personal pronouns. Reflexive pronouns. Future indicative. Personal pronouns reviewed. Non-personal use of personal pronouns. Strong nouns, first class. The present tense of the modal auxiliaries. Strong nouns of the second class. Strong nouns of the third class. The present tense of *wissen*. Weak nouns. Past tense of weak verbs. Past tenses of the modals and of strong verbs. The reading of 50 pages of easy German stories.

2a. **Elementary German**—Four hours.

Possessive pronouns and the past tenses of strong verbs. Prepositions with the dative and accusative. Weak declension of adjectives. Adjectives used as substantives. The past tense of semi-irregular verbs. Relative pronouns. Perfect tense of weak verb. Declension of adjectives after *ein* words and after *der* words. Pluperfect and future of weak verbs. Strong declension of adjectives and a review of the mixed and the weak declension of adjectives. Reading of fifty pages of graded texts.

3a. **Elementary German**—Four hours.

Perfect and pluperfect of modal auxiliaries. Demonstratives. Cardinal numbers. Ordinal numbers. Interrogatives. Comparison of adjectives and adverbs. Inseparable and separable prefixes. Separable and inseparable verbs. *Sein*, *haben*, and *werden* used as auxiliaries. Passive voice. Subjunctive. Indirect statement. Conditional mood. Conjunctions. Study of strong verbs. The indirect discourse. Rule of gender for nouns. Reading of 100 pages of intermediate German.

### Second Year Courses

4a. **Intermediate German**—Four hours.

Reading of *Gerstacker's irrfahrten*; *Heyse's Anfang und Ende*; *Wildenbruch's Das Edle Blut*; *Wichert's Die Verlorene Tochter*.

5a. **Intermediate German**—Four hours.

Study of *Storm's Immensee*. *Karsten Kurator* and *Polepoppenspaler: Harris' Prose Composition*.

6a. **Intermediate German**—Four hours.

*Schiller's Wilhelm Tell*, *Maria Stuart*, and *Jungfrau von Orleans*. The life and works of Schiller.

4b, 5b, and 6b. **Commercial German**—Four hours for each course.

A course of one year's work in the writing and reading of commercial German. This course presupposes at least one year of German. The writing of advertisements; the study of phrases used in business houses; the language of the court room; technical terms.

## ADVANCED GERMAN

(For students who have done resident work at this institution.)

12a. **Advanced German**—Four hours.

*Schiller's Trilogy*, *Wallenstein's Tod*, *Die Lager*, and *Die Piccolomini*. Advanced composition.

13a. **Advanced German**—Four hours.

*Lessing's Minna von Barnhelm*, *Emelia Galotti* and *Nathan der Weise*. Study of Lessing's life and works. Some attention paid to the *Hamburg Dramaturgy*.

15a. **Advanced German**—Four hours.

Devoted to Goethe, *Hermann und Dorothea*, *Der Vicar von Sesenheim*, and one other selected work.

18a, 19a, and 20a. **Advanced German**—Four hours for each course.

The following courses are open to all who may be able to take the work. *The Present German Drama*. Reading the selected plays of *Fulda*, *Sudermann*, and *Hauptmann*. Three plays of each will be read.

## SPANISH

### First Year Courses

1a. **Elementary Spanish**—Four hours.

The articles. Gender of nouns; possession; plural of nouns. Regular verbs, present of the indicative. Interrogative sentences. Personal *a*. *Usted; ustedes*. Forms of address. Qualifying adjectives. Apocopation. Comparison of adjectives; of adverbs. Participles. Uses of *haber* and *tener*. Present and perfect tenses. Uses of *ser* and *estar*. Reading of 75 pages of easy texts.

2a. **Elementary Spanish**—Four hours.

Radical change of verbs of the first class. Cardinal numbers. Ordinal numbers. Time of day. Augmentative and diminutives. The past participle and the past absolute. Personal object with *a*. Possessive adjectives. Future and conditional. Demonstrative, pronouns and adjectives. Object personal pronouns. Reflexive and reciprocal verbs. Passive voice. Two object personal pronouns. Compound tenses of the indicative and their uses. Relative pronouns. The erasing of 100 pages of easy stories and plays.

3a. **Elementary Spanish**—Four hours.

Interrogative adjectives and pronouns. The imperative mood; the subjunctive mood. Past, future, and compound tenses of the subjunctive. Sequence of tenses. Conditions contrary to fact. Orthographic changes. Verbs with inceptive endings. Radical changes of verbs of the second and third class. The infinitive. Prepositions before an infinitive. Irregular verbs. Letter writing. Business letters. Introduction to commercial forms. Spanish life. Reading of 150 pages of easy texts.

### Second Year Courses

4a. **Intermediate Spanish**—Four hours.

The reading of *Valera's El Pajaro Verde; Larra's Patir a Tiempo; Alarcon's Short Stories*.

5a. **Intermediate Spanish**—Four hours.

*Alarcon's El Sombrero de tres Picos* and *El Final de Norma; Waxman's A Trip to South America*.

6a. **Intermediate Spanish**—Four hours.

The reading of *Gutierrez's El Trovador; Valer's Pepita Jiménez; Valde's Jose*.

## ADVANCED SPANISH

10a. **Advanced Spanish**—Four hours.

Three plays of *Echegaray* and *Alarcon's Las Paredes Oyen*. Original themes in Spanish.

11a. **Advanced Spanish**—Four hours.

The reading of *Ayala's Consuelo; Caballero's La Familia de Alameda; Ibanez's La Baraca, Lope de Vega, and La Moza de Cantaro*.

12a. **Advanced Spanish**—Four hours.

A study of *Cervantes' Don Quijote* and *Valde's La Hermana San Sulpicio*. Original themes on Spanish life.

4b, 5b, 6b. **Commercial Spanish**—Four hours for each course.

Presupposes one year of Spanish. A complete course dealing with all possible forms used in every day commerce and much original composition. The writing of reports on subjects dealing with Latin-America.

## PORTUGUESE

For the present, the first year's work only will be offered, and will be mostly commercial Portuguese.

1. *A study of the grammar and the reading elementary texts.* Four hours.
2. *Continuation of grammar and reader. Introduction to commercial Portuguese.* Four hours.
3. *A thorough course in commercial forms and the writing of business correspondence.* Four hours.

### ITALIAN

1. *Young's Italian Grammar, first half of book to be completed.* Four hours.
2. *Young's Grammar completed. One hundred pages in Marioni's Italian Reader.* Four hours.
3. *Selections from Carducci; Italian reader and grammar completed.* Four hours.
4. *Reading of Alberto by de Amicis; una Notte Bizarra by Barrili.* Four hours.
5. *Careful study of Amicis' Un Incontro and Camilla.* Four hours.
6. *Reading of Fra le Corde di un Contrabasso by Farina and Fortezza and Un Gran Giorno by Amicis.* Four hours.

### LATIN

1. **Beginning Latin**—(Junior and Senior College.) Four hours.  
Text: D'Ooge's Latin for Beginners.
2. **Intermediate Latin**—(Junior and Senior College.) Four hours.  
This course can be taken by those having had from one to two years' work of the subject. Texts: Sallust's Catiline and any good grammar.
3. **Pedagogy of Latin**—(Junior and Senior College.) Four hours.
  - a. How to Read Latin.  
Text: The Art of Reading Latin—William Gardner Hale.
  - b. Teaching Latin Prose.
  - c. Exercises in Translation and Prose Composition, assigned to each student.

### Music

JOHN CLARK KENDEL, A.B., Director

The Music Courses offered are for both the experienced and inexperienced musician. Music 2 is a plan of presenting the work of the first eight grades in such a manner that it is hoped it will be helpful to teachers of all degrees of experience. Music 7 is designed to meet the needs of those desiring to develop their cultural appreciation of the art, requiring no special musical ability. Music 8 and 9 are designed for the individual wishing to specialize in music and presuppose some general technical knowledge.

The department will welcome suggestions from students for specially desired courses and will strive to present any courses that can be successfully taught by mail.

#### 2. **Methods for the First Eight Grades**—Four hours. Mr. Kendel.

A very practical course covering all the problems of the grade teacher. The course is based on the assumption that the teacher has little or no knowledge of the work at hand, and every effort is made to give the most inexperienced teacher just the knowledge she needs to carry on her work. All problems are discussed and all technical points are explained as they should be explained to children. The emphasis is placed entirely upon making the course practical and helpful. No previous musical knowledge is required.

#### 7. **History of Music**—Three Hours. Mr. Kendel.

The study of the history of music from primitive to modern times. The musical theories and instruments of ancient peoples. The music of the Greeks and Romans. The early Christian era. The evolution of notation. A complete study of the development and growth of music into a great art.

This is a literary course which does not require technical skill. Open to all students who wish to study Music from a cultural standpoint.



**8a. Harmony—Four hours. Mr. Kendel.**

Beginning harmony. The work consists of building scales and chords in all keys and the harmonization of melodies and bases. Emphasis is laid upon original melody writing followed by the harmonization of the original melody. All through the course the harmonization of melodies made predominant rather than of bases. Work completed to the harmonization of dominant discords and their inversions.

**8b. Harmony—Four hours. Mr. Kendel.**

A continuation of 8a. Open to students that have had 8a or its equivalent. The harmonization of the dominant discords, sevenths, ninths, and their inversions. Work done through the diminished seventh chords, up to the second class discords. Emphasis laid upon harmonizing melodies and original melody writing.

**8c. Harmony—Four hours. Mr. Kendel.**

A continuation of 8b. Open to students having taken courses 8a and 8b, or their equivalent. The harmonization of second, third, and fourth class discords and their diversions. Modulation to next related keys, altered and mixed chords, extraneous modulation.

**9a. Harmony—Four hours. Mr. Kendel.**

A continuation of Courses 8a, 8b, 8c. Open to students having taken these courses or their equivalent. Modulation completed, enharmonic exchange, the organ point, suspension, anticipation, the neighboring-note, the passing-note, appoggiatura.

## Practical Arts

SAMUEL MILO HADDEN, A.M., Dean

The Practical Arts Group comprises Woodwork, Metal Work, Bookbinding, Printing, Drafting, Fine Art, Accounting, and Commercial Arts. This group occupies the entire three floors of the Guggenheim building, the first floor of the Training School, the Library basement, and the greater part of the basement floor of the Administration building.

Courses are varied in nature in every special department. These are arranged along both the lines of theory and practice, neither of which is sacrificed for the good of the other. Methods in teaching the subjects in the public schools are emphasized, and when a person has done his major work in his chosen division, he is fitted to do the work, with an added advantage that he is also trained to teach these subjects in the schools.

## Industrial Arts

S. M. HADDEN, A.M.

RALPH T. BISHOP

CHARLES M. FOULK, Pd.M.

OTTO W. SCHAEFER

### COURSES PRIMARILY JUNIOR COLLEGE

**2. Intermediate Woodwork—Four hours. Mr. Foulk.**

This course is designed for those who wish to become proficient in the use of woodworking tools, where the student has at his disposal sufficient tools to carry on the work. The course includes the making of drawings from which cabinet work can be executed. The building of furniture and useful household articles such as tabourettes, library tables, writing desks, piano benches, music cabinets, medicine cabinets, etc. The student must have had sufficient practice with woodworking tools to be able to select and put to use the ordinary tools used in cabinet making.

The student will be allowed to select the projects on which he is to work from a list that will be submitted by the instructor or he may choose some other, but must submit drawings or cut of same for approval. The list of articles that can be submitted by the instructor includes something like one hundred different designs.

No set text is used in this course. The student executes the work as definitely outlined by the instructor. A very thorough bibliography is furnished from which the student can select books that will fit his particular wants.

### 5. Methods in Practical Art Subjects—Four hours. Mr. Hadden.

The work of this course is divided into the following groups. First: Historical development of industrial education and its progress in the public schools of the United States. Second: The influence of scientific development upon industrial conditions; its place in the public schools of the country together with its interpretation and relation to other subjects in the curriculum; the selection of materials fundamental in the organization of industrial courses in public schools and the method of attack and relation of the teacher and student in the class room.

### 10. Elementary Mechanical Drawing—Four hours. Mr. Hadden.

This course is designed to give a knowledge of the use of drawing instruments and the material customarily used in a draftsman's office. The technical phases of the work include lettering, geometrical drawing, orthographic projections, oblique projections, isometric drawings, working drawings, developments and applications.

### 12. Elementary Architectural Drawing—Four hours. Mr. Hadden.

This course includes designs, plans, elevations, and longitudinal sections of framing, doors, windows, sills, rafters, etc., in building construction in its application to work for barns, outbuildings, and residences. It also includes the making of tracings, blueprints, and specifications.

### 17. Elementary Machine Design—Four hours. Mr. Hadden.

Here is treated the development of the helix and its application to V and square threads; conventions of material, screw threads, bolts and nuts, rivets, keys, etc. Sketches, drawings, and tracings are made from simple machine parts, such as collars, face plate, screw center, clamps, brackets, couplings, simple bearings and pulleys. Standardized proportions are used in all drawings.

## COURSES PRIMARILY SENIOR COLLEGE

### 111. Advanced Mechanical Drawing—Four hours. Mr. Hadden.

This course presupposes some training in drawing and also some fundamental notions in mathematics. The material of the course is as follows: The theory of orthographic projections, or the art of representing a definite body in a space upon two co-ordinate planes at right angles with each other. The work consists of projections of lines, surfaces and solids, also the shadows of lines, surfaces, and solids upon planes of projection, shading and application. Prerequisite: Course 10 or its equivalent.

### 113. Advanced Architectural Drawing—Four hours. Mr. Hadden.

This course is a continuation of Course 12, and deals with the drawing of plans for cement, brick, and stone structures, culminating in a complete set of plans and specifications for a residence or a public building of moderate cost.

### 118. Advanced Machine Design—Four hours. Mr. Hadden.

A study is made of the transmission of motion by belt and pulley, and gears and calms. Such curves as the involute, cycloid, and epicycloid are applied in the designing of gears. Sketches, detail, and assembly drawings are made of intricate pieces of machinery, such as the glove valve, vise, head stock lathe, and such shop machinery as lathes, band saws, motors, and gas and steam engines.

### 104. Pre-Vocational Education—Four hours. Mr. Hadden.

This course is divided into two definite sections. First: Material of pre-vocational education or attempts that have been made to solve the problem in rural schools, city school system, state schools and special government and private schools. Second: The basis for the collection of data fundamental in the selection of material that will give a basis for the interpretation and application of pre-vocational to the needs of the child in the public school.

This course is especially organized so that the work can be done in non-residence.

## Fine and Applied Arts

GRACE M. BAKER  
EDWARD KAMINSKI

### 4. Applied Design—Four hours. Miss Baker.

The construction and decoration of notebook covers, desk pads, and similar articles, theory of design in its relation to useful objects; the application of original designs by block printing on curtains, table runners, or pillow covers.

### 9. History of Painting—Two hours. Miss Baker.

The evolution of painting from the beginning of history; the growth of the great schools and their influences; the study of the important masters, discussing their personalities as related to their painting, and their work as an index to the time in which they lived; illustrated by a large collection of photographs and lantern slides. Lectures with related reading.

## NON-CREDIT COURSES

### 18. Drawing and Applied Art for the First Four Grades—\$4.00. Miss Baker.

Drawing of simple symbols of figure, animals, birds, houses, etc., for use in story illustration and in correlation with other subjects of the curriculum. Paper cutting, lettering, poster. Nature drawing showing the development of design applied to construction problems.

### 19. Drawing and Applied Art for Intermediate and Grammar Grades—\$4.00. Miss Baker.

Object drawing, elements of perspective, development of design from nature and from geometric motifs with application to construction problems. Correlation of drawing with other subjects of the curriculum.

## Home Economics

MARGARET M. ROUDEBUSH, A.B.  
MARIE LUNDBERG, B.S.  
EDITH GALE WIEBKING

## HOUSEHOLD ARTS

### COURSES PRIMARILY JUNIOR COLLEGE

#### 5. Millinery—Four hours. Miss Roudebush.

The purpose of the course is to train the student in discriminating power from the consumer's point of view; to give a working basis of design applied to hats and to the general lines of the figure; to develop technique in handling millinery fabrics. To this end the lessons consist in very simple problems in hat design requiring no ability to sketch, draw, or any previous training in design; book reviews contributing to an intelligent understanding of the problems in hat construction; and directions in shop methods of remodelling and building hats with actual practice in the processes.

### COURSES PRIMARILY SENIOR COLLEGE

#### 6. Textiles—Four hours. Miss Roudebush.

This course deals with the physical, microscopical and chemical analysis of fibers and fabrics. There is laboratory work with hand microscopes, compound microscopes and chemicals.

Supplementary experimental study are papers in review of chapters from textile books and on general topics dealing with the factors related to the textile field. The course cannot be taken unless the student has access to a limited amount of biological and chemical laboratory equipment.

#### 21. Interior Decoration—Four hours. Miss Roudebush.

The work in this course is designed to help the student to a clear appreciation of the fundamental principles underlying designs in their relation and application to the interior of a house. To this end an intelligent and analytical study is made of the factors which make these basic principles. Attention is given to a

washable color theory; to the study of line and form as problems in composition generally; to an analysis of the structural elements comprising the room as a whole—walls, floor, openings; to the materials into which the room is completed in unity with the structural elements—draperies, floor coverings, foreground materials (for example, pictures, brass, furniture, lighting, et cetera). The course will be accomplished by chapter and book reviews, magazine references when the magazines are available—exercises in illustrative material requiring no training in drawing or interior decoration.

## HOUSEHOLD SCIENCE

### COURSES PRIMARILY JUNIOR COLLEGE

#### 5. Housewifery and Sanitation—Four hours. Miss Roudebush.

1. Treats of the site, surroundings and construction of the house; heating, lighting, ventilation, water supply, drainage, and disposal of garbage.

2. Treats of service in all parts of house, the importance of daily routine and systematic housekeeping; of house furnishings and all cleaning processes; of division of income and organization and management of the household.

### COURSES PRIMARILY SENIOR COLLEGE

#### 9. Food Production—Four hours. Miss Roudebush.

A study of food materials, their growth, production and manufacture, conditions of marketing, transportation and storage; adulterations and pure food laws.

## Commercial Arts

AMBROSE OWEN COLVIN, B.C.S.

FLORA E. ELDER, A.B.

It is our aim in the following outline to offer only such courses as seem to be practical by correspondence. We do not encourage the study of shorthand or advanced typewriting by correspondence courses.

We offer Courses 1 and 2 in shorthand, and Courses 11 and 12 in typewriting. We believe that Courses 1 and 2 in shorthand can be successfully taken by mail, but not with the same degree of success that would result from residence courses; therefore, we recommend that students elect other courses from this outline than the ones in shorthand. All of the material necessary for each of these courses is outlined in the first lesson that is sent to the student, and we have omitted further references to the required materials. All of the material and supplies should be bought from the publishers or the local book store of the town.

#### 1. Shorthand—Four hours. Miss Elder.

This course includes ten lessons on the principles of Gregg Shorthand; 1 to 10 inclusive.

#### 2. Shorthand—Four hours. Miss Elder.

Prerequisite: Stenography 1. This course covers ten lessons in Gregg Shorthand; 10 to 20 inclusive.

#### 11. Typewriting—Four hours. Mr. Colvin.

Beginning work in touch typewriting, covering position at the machine, memorizing of keyboard, proper touch, and correct fingering, with instruction in the care of machines.

This course covers the first twenty lessons of the Expert Typewriting Manual by Fritz-Elderidge.

#### 12. Typewriting—Four hours. Mr. Colvin.

Prerequisite: Typewriting 11 or its equivalent. This course covers Lessons 21 to 38 inclusive of the Expert Typewriting Manual by Fritz-Elderidge.

#### 21. Elementary Accounting—Four hours. Mr. Colvin.

Fundamental principles of double entry, the use of the journal and ledger. Making the trial balance and statements. Cash book, purchase book, and sales book introduced.

**22. Intermediate Accounting—Four hours. Mr. Colvin.**

Commercial paper, bill book, invoice book, bills of lading, special column books. A set of books on wholesale accounts. Prerequisite: Course 21.

**23. Advanced Accounting. Corporation Accounting—Four hours. Mr. Colvin.**

This deals with the organization of corporations under the laws of Colorado. Books are kept illustrating the commission business. Prerequisite: Course 21.

**25. Commercial Arithmetic—Four hours. Mr. Colvin.**

This course is intended primarily for commercial students, but as well adapted to those who want a good, stiff arithmetic review. There will be a rapid review of the four fundamental operations and fractions. A thorough treatment of percentage and its applications will be given. Only the most modern methods and short cuts will be used.

**26. Penmanship—Four hours. Mr. Colvin.**

Drills in free-arm movement writing. Mastery of position and movement expected. Study of the forms of the letters and figures.

**26b. Penmanship—Four hours. Mr. Colvin.**

Drill work to develop better form. Much attention is given to the spacing and height of letters.

**24. Bank Accounting—Four hours. Mr. Colvin.**

This includes a study of the state and national banking laws; loans and discounts; commercial paper; methods and principles of banking; savings accounts. A set of books illustrating several days of business will be given. Prerequisite: Course 21.

**32. Cost Accounting—Four hours. Mr. Colvin.**

Importance of cost accounting in a business. Material cost; labor cost; overhead expense; distribution of expense. A set of books will be prepared on manufacturing costs. Prerequisite: Course 21.

**64. Commercial Law—Four hours. Mr. Colvin.**

A treatment of the general principles of common law as applied to business together with the study of the Colorado Statute and decisions bearing on commercial interest.

## Agriculture

W. H. HARGROVE, Pd.B., B.S. in Agr., B.S. in Ag. Ed.

Agriculture in all its phases is a severely practical and scientific subject and cannot be studied successfully except by the laboratory method. Students who have gone far enough in the laboratory study of the problems of agriculture to be able to profit from academic study of any phase of it will be accommodated by this department of the State Teachers College upon application for specific courses that can be successfully given by mail.

Teachers of agriculture in high schools are invited to apply for aid in way of suggestions; and elementary school teachers in town, country, and city are invited to apply to the department for aid in any phase of their work.

## Western Slope

Mr. M. F. BEESON, A.M., District Supt., Grand Junction

The State Teachers College, the State University, and the State Normal School jointly maintain a District Superintendent of Extension Service on the Western Slope—Mr. M. F. Beeson, with headquarters at Grand Junction. This co-operative plan was initiated in 1918 and though greatly hampered by the influenza nevertheless made a very creditable beginning. Representatives of the three schools met last fall in Grand Junction with county and city superintendents of schools and other local leaders of the public schools. A symposium was held upon the needs of the teachers. As a result of the discussion the extension courses were focused upon the two fields of public school work

which the superintendents felt were least satisfactorily taught—namely, the History-Civics group and the Physiology-Hygiene group. In the four most accessible counties twenty groups of teachers were organized, and the District Superintendent prepared courses of instruction, distributed detailed outlines, secured reference material, and so on, and the courses were given.

Students desiring credit for their work pay a fee of five dollars for instruction and designate the school with which they desire to establish standing. Students not desiring credit pay no fee. The co-operation between the public school leaders and teachers and the co-operative higher schools has been highly encouraging and a considerable expansion of the work is expected next year. Students interested in entering this division of the organized opportunities for Extension study should address

M. F. BEESON,  
Grand Junction, Colorado.

### The Grading System

A grade of "B" indicates "average" work and receives full credit. Students who do work of high quality are marked "A," and receive credit for 10 per cent above the number of hours scheduled for the course. Those who do work of unusually high quality are marked "AA," and receive credit for 20 per cent more than the normal hours allowed for the course. Work of only fair quality is marked "C," and 10 per cent is deducted from the normal allowance. Work of poor quality is marked "D," and 20 per cent is deducted from the normal allowance.

- AA indicates 4.8 hours' credit in a 4-hour course.
- A indicates 4.4 hours' credit in a 4-hour course.
- B indicates 4 hours' credit in a 4-hour course.
- C indicates 3.6 hours' credit in a 4-hour course.
- D indicates 3.2 hours' credit in a 4-hour course.

These marks go on the permanent records and stand as an indication of the quality of the work done by the student, and are useful for instructors when they recommend graduates for positions.



