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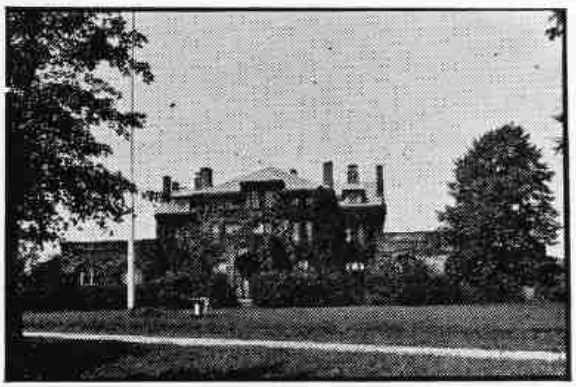
SUMMER SCHOOL

JUNE 10-JULY 22, 1924

ANNOUNCEMENT OF COURSES



HOLLADAY HALL

North Carolina State College of Agriculture and Engineering

State College Station
Raleigh, N. C.

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HARRY PAGE WILLIAMS, B.A. — *Mathematics*
Instructor in Mathematics, N. C. State College

RHETT YOUMANS WINTERS, PH.D. — *Variety Tests*
Specialist in Plant Breeding, N. C. State College Experiment Station

ROBERT E. LEE YATES, A.M. — *Mathematics*
Professor of Mathematics, N. C. State College

SPECIAL LECTURERS

DR. OTIS CALDWELL — *Science Teaching*
Professor of Education and Director Lincoln School, Teachers' College, Columbia University, New York City

DR. FREDERICK G. BONSER — *Education*
Professor of Education, Teachers' College, Columbia University, New York City

HON. A. T. ALLEN — *Education*
State Superintendent of Public Instruction of North Carolina

HON. FRANK PAGE — *Roads*
Chairman of Highway Commission of North Carolina

DR. WATSON S. RANKIN — *Health*
Secretary State Board of Health of North Carolina and Field Director American Child Public Health Association

GENERAL INFORMATION

The eleventh Summer Session of the North Carolina State College of Agriculture and Engineering will begin with registration on Tuesday, June 10, and close with final examinations on Tuesday, July 22, 1924. The purpose of the Summer School is to serve the farmers of the State, teachers of agriculture, extension workers, teachers of Industrial Arts and of Industrial Education, principals and teachers of high schools, especially teachers of science in high schools, and persons interested in executive and administrative positions in industry—a service State College is well equipped to render.

This is the beginning of a Summer School on a new basis, in that there will not be offered, as heretofore, special courses in methods for teachers of elementary schools. Any one qualified, however, may take courses for college credit. There will be offered for principals and teachers of high schools both professional and subject-matter courses. Special courses in methods of teaching high-school science, together with courses in the various sciences, will occupy a large place in the Summer School. This is made necessary by the demand throughout the State for professionally trained teachers of science in the secondary schools.

A six-weeks course in professional and technical subjects will be given for the teachers of agriculture in addition to the two weeks intensive instruction for teachers of agriculture. These courses are designed for both the teachers already in service and for prospective teachers of agriculture in the vocational schools.

During the Summer School special emphasis will be given to the training of teachers of industrial arts for the urban communities of North Carolina, and teachers of trades and industries to meet the demands that have arisen because of the program put on by the Division of Vocational Education. Subject-matter courses, including shop work, together with strong professional courses, will be offered.

Courses in Textiles designed for men who are employed in the manufacturing plants, as well as courses for teachers who are employed in the textile communities, will be given. These courses will be arranged on a unit basis in order to meet the needs of the various groups who may wish to come to the College for different periods. In addition to the technical courses in the Textile Department, instruction will be offered in industrial management and personnel administration.

The courses for college credit are open to graduates of standard high schools, and to others of equal qualifications. These courses give college students the opportunity to remove conditions, so that they may enter their classes in the fall in full standing. They will also make it possible to secure advanced credit. The college-credit courses are also open to teachers who hold standard State certificates.

The courses in Cotton Classing are arranged to instruct the producer in grading staple to induce him, in consequence, to try to grow cotton of better staple, and to aid him in selling his product to better advantage. They are open also to buyers of cotton. The courses are arranged for young and middle-aged men, from twenty-three to fifty years of age, and are not intended for boys, nor for men who lack earnestness of purpose. There are no entrance requirements for the Cotton Classing courses except that the applicant should have a good English education.

Beginning with 1924-1925, the regular session of State College will be divided into three terms; consequently "credit," as used throughout this bulletin, refers to term credit, or twelve weeks' work, unless otherwise designated. Therefore, in order for the college-credit courses to count for a full term's work, they will be given, if for five credits, ten periods a week; if for three credits, six periods a week. Since, however, no student will be allowed to take more than sixteen hours of work per week, this restriction will prevent a student's taking more than one ten-period course.

All professional courses offered will have value both for teachers' certificates and for college credit. The subject-matter courses may be counted by teachers for academic credit towards securing or raising their certificates.

A two-weeks course of instruction for teachers of agriculture will begin June 9 and run until Saturday noon, June 21. This is for those teachers now in service. Persons taking this course for credit will be required to begin class work June 9. This work will be in charge of Mr. Roy H. Thomas, State Supervisor of Agricultural Education, assisted by the staff of the Department of Vocational Education and by Assistant Supervisors.

A special term from June 23 to June 28, inclusive, is for the leaders of the boys' and girls' clubs of the State. These courses are designed to meet the needs of certain boys and girls of demonstrated ability in leadership who wish to come to the College for a week of intensive instruction in order that they may be better qualified to aid in organizing and directing the work in their counties.

In addition to instruction, recreation will be well cared for, and the boys and girls who come may look forward to both a very profitable and pleasant stay at the College.

Beginning on Friday, July 11, a special conference for home demonstration agents has been arranged. In this conference they will be given ten days of intensive instruction in those subjects essential to their work. Some of the courses offered will be given for college credit, as explained under the heading, Home Demonstration Agents' Courses. This work will be under the direction of Mrs. Jane S. McKimmon, State Home Demonstration Agent.

During the same time, the farm demonstration agents of the State will come for ten days of definite instruction in some of the larger problems connected with their work. These courses will be handled by Extension Specialists and members of the College Faculty. During the afternoons of the conference, instruction will be given in subject-matter courses. The groups will separate to take those courses in which they are most interested. This work will be under the direction of Mr. James M. Gray, State Farm Demonstration Agent.

FEES AND EXPENSES FOR SIX WEEKS STUDENTS

All fees and other charges are payable in advance and all checks should be payable to N. C. State College.

The expenses of the entire six-weeks Summer School are as follows:

Registration	$ 2.00
Tuition	10.00
Room rent, each person (two or more in a room)	6.00
Board	30.00
	$48.00

The $30.00 payable for board includes meals from supper on June 9 through breakfast on July 23. If board is paid by the week, the weekly charge will be $5.50, so that the total in this case will be $33.00. It will, therefore, be economical to pay $30.00 for the whole session in advance.

In a limited number of cases one may be able to room alone upon payment of $10.00 room rent.

The registration fee is not returnable after June 2.

There will be no refund of room rent or tuition after the first seven days. In computing refunds for board after the expiration of seven days charges will be made at the following rates:

Per week	$5.50
Per day	1.20
Per meal	.40

DINING HALL

Charge for individual meals will be collected at the Dining Hall, at the meal rate. Anyone desiring to take advantage of the cheaper weekly rate must make payment at the Treasurer's office in advance.

The Summer School will be glad to entertain friends of those registered in the school who wish to visit them over-night or longer, at the rate of $1.50 a day, or $9.00 a week. No guest, however, is expected to occupy any room unless previously assigned thereto by the Dean of Students. No reduction will be made for children.

There will be a key deposit of twenty-five cents, which amount will be refunded when the key is returned. In some of the classes there will be a small fee to cover cost of materials, which will be designated in the description of the course.

FEES AND EXPENSES FOR SHORT-TERM STUDENTS

There will be a fixed charge, payable upon registration, of $1.50 per day for all persons registering for less than six weeks. This charge will cover board, lodging and tuition.

WHAT STUDENTS NEED FOR THEIR ROOMS

The College rooms are supplied with necessary furniture. Each student, however, should bring towels, sheets, one pillow and two cases, and two bedspreads for a single bed.

BOARD AND LODGING

Board may be had in the College at the moderate charges listed under Fees and Expenses, these charges being payable in advance.

Students will be assigned to rooms upon their arrival at the College. Those who prefer to have their rooms reserved can send in their registration fee of $2.00 and be assigned to rooms in advance. Applicants who find that they shall not come to occupy the rooms assigned to them are required to give notice to the Director five days in advance of the date fixed for occupancy or to forfeit to the Summer School the payment advanced for registration. Those who give notice in time that they shall not attend will have their payments returned to them.

The South and Sixth Dormitories will be occupied by women and 1911 Dormitory by men.

In case it is desired to change the room assignment, permission to do so must first be obtained from the Dean of Students. In no case must a room be taken until it has been regularly assigned.

SELECTION OF COURSES

The advisers of the different groups will be available at the College during the mornings and afternoons of the opening days of the session. All students before registering will consult advisers appointed by the school to assist applicants in arranging their schedules. These are as follows:

College-Credit Courses—E. B. Owen, Registrar.

Vocational-Education Courses—Leon E. Cook, Professor of Vocational Education.

Cotton-Classing Courses—W. H. Daest, Professor of Farm Crops.

High School and Administration Courses—J. Henry Highsmith, State High School Supervisor.

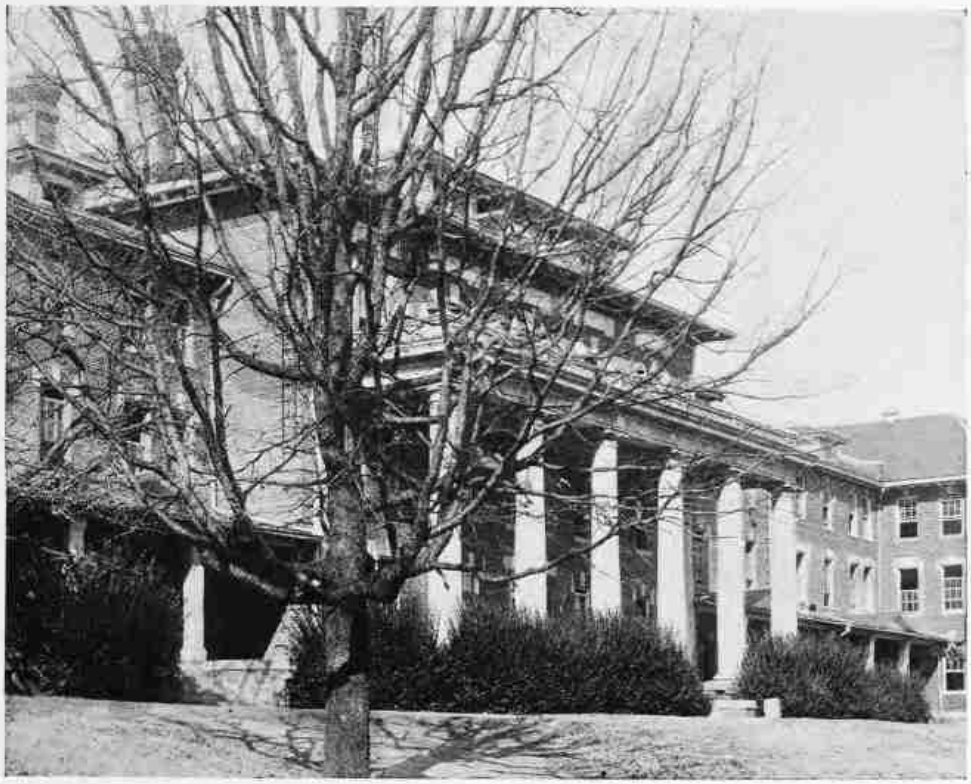
REGISTRATION

All registrations will be conducted in Holladay Hall, beginning at 9 a. m. on June 10. It is desirable that persons who expect to attend the summer school give notice to the Director in advance, but not necessary. Those who wish to have rooms reserved for them can pay the registration fee of two dollars and be assigned to rooms at any time after May 1. Those who do not give notice will be provided for when they arrive.

Students are expected to report in person on Monday afternoon, June 9, or on Tuesday, June 10, so that they may begin class work on the morning of Wednesday, June 11, 8 o'clock.

HOURS OF WORK

It is important to notice that students are required to take twelve hours weekly in order to receive credit for one summer session, and that no one will be permitted to take more than eighteen hours for credit. It has been the experience of summer schools that ambitious students try to take much more work than they can assimilate, with the result that they are bewildered rather than instructed.



DORMITORY, 1911

In addition to the eighteen hours weekly regularly taken for credit, each student will be allowed a limited number of visiting hours, not to exceed four for any class.

The Summer School authorities reserve the right to cancel any course for which the registration is less than five.

All courses offered in Summer School are college-credit courses except where indicated in the description.

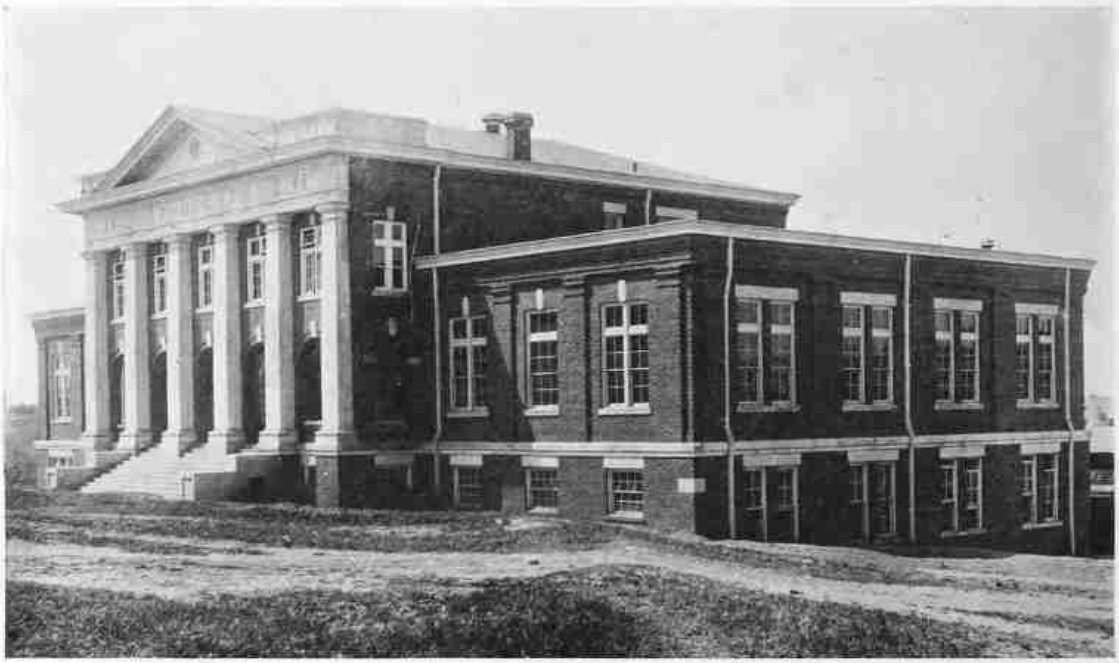
CREDITS

Summer School credit will not be given to anyone whose class attendance, scholarship, or deportment is unsatisfactory, or to anyone who is indebted to

the school, or who takes more than eighteen hours a week of class work, unless permission to take the excess has been given in writing by the Director.

THE ATTRACTIONS OF RALEIGH

Being the capital of one of the original thirteen states, Raleigh is unusually rich in historical collections, fine public buildings, and interesting places and memorials. It is interesting, also, for its churches, its schools, its hotels, and its office buildings, and its growing commercial and industrial activity. Weekly excursions are made to places of greatest interest under the direction of Colonel Fred A. Olds, who knows Raleigh thoroughly, and is a recognized authority on the historical and other collections.



THE Y. M. C. A. BUILDING

The various churches welcome all Summer School students to Sunday School and church services, and their pastors have taken a very friendly interest in the morning services at the College auditorium. Raleigh will be found in all respects a delightful place of residence.

THE SOCIAL CENTER

The Y. M. C. A. building will be the social center of the School. This building contains a reading room, an auditorium, several reception rooms, a limited number of sleeping rooms, a bowling alley, a gymnasium, and a swimming pool.

LIBRARY AND READING ROOM

The College Library, containing over ten thousand volumes, with about a hundred and fifty periodicals, will be at the disposal of the Summer School.

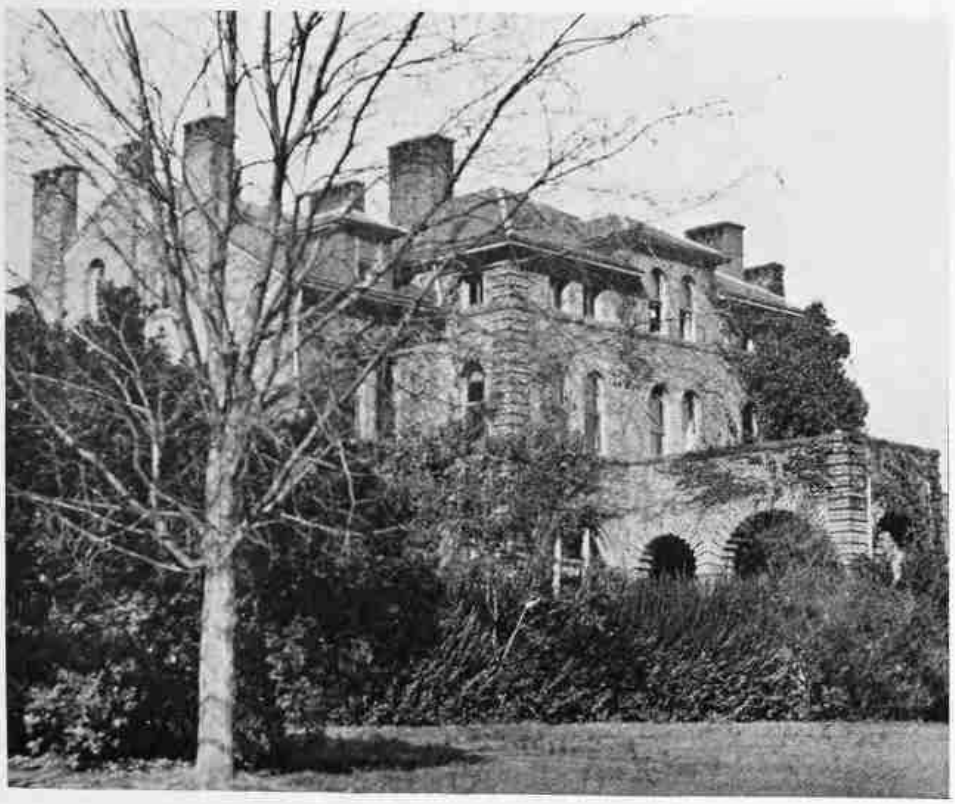
The Olivia Raney Library and the State Library will also be open to Summer School students for reference work.

GRADUATE STUDIES

Practically all of the departments of instruction at the College that are offering undergraduate work during the summer school will also offer graduate work. Persons who have completed their undergraduate work and desire to work toward an advanced degree or to do additional college work of a graduate character may receive one-half term's credit by pursuing graduate work during the six-weeks summer school. Special provision will be made to pursue *in absentia* graduate work started at the College during the summer school. Credit will be given for this work done away from the College.

SPECIAL LECTURES

The Summer School has been fortunate in securing for special lectures Dr. Otis Caldwell, Lincoln School, Columbia University, New York; Dr. Frederick G. Bonser, Professor Industrial Arts Education, Teachers College, Columbia University, New York; Superintendent A. T. Allen, State Superintendent of Public Instruction, North Carolina; Mr. Frank Page, Chairman State Highway Commission, and Dr. Watson S. Rankin, Secretary State Board of Health, North Carolina.



HOLLADAY HALL

COURSES TO BE OFFERED IN THE SUMMER SCHOOL

ANIMAL HUSBANDRY

Stock Judging. Five hours a week; two weeks.

A course aims to train the student to become proficient in livestock judging. The first part of the work consists of a study of the breed characteristics of farm animals, and the proper types within each breed. The major portion of the work is done by the method of comparative judging, using rings of from three to five animals. Some time is devoted to the methods of conducting livestock contests. Mr. RUFFNER.

SENIOR CLASS JUDGING HAMPSHIRE SHEEP

Farm Animals in Health and Disease. Five hours a week; two weeks.

In this course the common diseases of domestic animals are discussed, and particular attention is given to first-aid treatment, preventive measures against the spread of contagious and infectious diseases, methods of taking temperatures, the modes of administering the more commonly used medicines; the prevention of hog cholera, the importance of tuberculin testing, and the care of animals and premises for the prevention of disease. This is a course for county agents, teachers, and students preparing to teach Vocational Agriculture. Mr. RUFFNER.

BOTANY

General Botany. Nature of the Higher (Crop) Plants. Two lectures; four recitations; eight hours laboratory; five credits. Equivalent to Freshman and Sophomore course given the first quarter of the regular college year. Fee, $2.00.

This course is offered to meet the needs of the following groups of students:

(1) Those biology teachers who desire to enhance their knowledge of the higher plants, especially the crop plants.

(2) Those in agricultural work who desire a thorough review of the fundamental structure and functions of the crop plants.

(3) Those college students who, having failed this course in past years, desire to change their record in regard to it.

In the course the fundamental structural and functional facts concerning the crop plant are taken up. Beginning with the flower, the work proceeds to the problem of fruits, seeds and germination of seeds. Then some fundamental biology is given relating to cells and tissues. Following this, the structural and functional data concerning roots, stems, buds and leaves are presented. Numerous excellent microscope slides are used to present the minute structural aspects, while the functional aspects are given with the aid of a number of striking demonstration experiments. Fresh crop plant material is used throughout the course for illustrative purposes. The course closes with a thorough review and summary of the whole field studied.

Mr. WELLS, Mr. MARTIN.

Plant Diseases. Two lectures; two recitations; twelve hours laboratory; five credits. Equivalent of Junior and Senior course given in first quarter of regular college year. Laboratory fee, $1.00. Prerequisite: Elementary Botany.

This course is designed for those agricultural teachers, college students or others who desire a knowledge of the more important diseases which affect the crop plants of North Carolina. In addition to a study of symptoms, much time is devoted to a study of the life histories of the bacterial and fungous parasites which cause disease. The diseases of cotton and tobacco are especially emphasized. The summer season makes it possible for the student to become acquainted with many of these diseases in the field. Further, the fresh material obtained is exceptionally satisfactory for laboratory study. Cereal, fruit and truck crop diseases are also taken up. Modern methods of disease control are given as these apply to specific diseases.

Mr. WELLS, Mr. MARTIN.

Plant Diseases. Two lectures and eight hours laboratory for two weeks; one credit. Fee, $1.00.

In this course an intensive survey will be made of the most destructive diseases of North Carolina crops. Much of the materials will be obtained by the students directly from the fields and orchards, so that the student will learn to identify diseases as they occur under actual crop production conditions. Symptoms, nature of the parasite and control of the disease will be given the individual student to specialize on the diseases which are more prominent in the region in which he lives. Mr. WELLS.

Systematic Botany. Two lectures; sixteen hours of laboratory; five credits. Equivalent of Junior and Senior course given in third quarter of the regular college year. Fee, $1.00. Prerequisite: Elementary Botany.

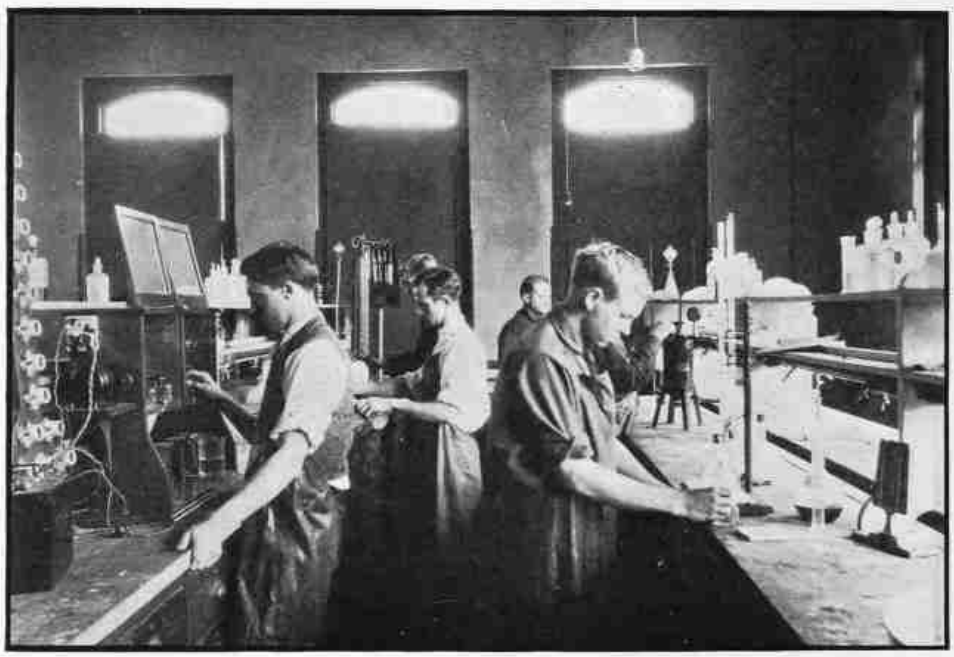
This course is presented for all students who desire a more intimate outdoor acquaintance with plants, both cultivated and wild. Teachers of biology, agricultural students and all others interested in natural history will find this course especially desirable.

The basis of the course consists in practice in identification of plants with the aid of the plant manual. Material collected on the field excursions is

brought into the laboratory and studied with the aid of binocular microscopes. In the lectures the fundamental characters of the natural plant families are pointed out and the evolutionary relationships of these families are discussed. On the frequent field excursions the class will visit the floristically rich areas about Raleigh. On these excursions a few lectures will be given, dealing with the relation of plants to their environment. By the time the course closes the student should personally be acquainted with the commoner trees, shrubs, wild flowers, and weeds of the State. Mr. WELLS, Mr. MARTIN.

CHEMISTRY

The courses in Chemistry as announced correspond with the courses given during the regular college year. Students electing these courses will receive college credit, and will also receive credit on the different teachers' certificates. The need of at least an elementary knowledge of Chemistry is now generally recognized, not only in the school but also in the home and in the industries.



PHYSICAL CHEMISTRY

The course is available for students desiring to receive advanced college credits, and for those desiring to remove deficiencies in the subject.

1. General Chemistry. Seven hours a week; three and one-half credits.

The fundamental principles and phenomena of chemical activity are fully discussed and demonstrated. The metals, non-metals, and their compounds are taken up separately and systematically. Industrial applications of the more important chemical processes are briefly described. Mr. JORDAN.

2. General Chemistry. Seven hours a week; three and one-half credits. (Continuation of 1.) Mr. WILLIAMS.

3. General Chemistry Laboratory. Six hours laboratory; one and one-half credits.

Here under the eye of the instructor the student examines the properties of the substances studied in the class room, and investigates the transformation of these into others possessing different properties. He learns to see things as they are. Laboratory fee, $3.00. Mr. JORDAN.

4. General Chemistry Laboratory. (Continuation of 3.) Six hours laboratory; one and one-half credits. Laboratory fee, $3.00.
Mr. WILLIAMS.

5. Qualitative Analysis. Prerequisite: General Chemistry. Four hours a week; twelve hours laboratory a week; five credits.

This course corresponds with the work in the third quarter of the Freshman year. Students have practice in the identification of the common ions, and the analysis of salts, minerals, etc. Laboratory fee, $3.00.
Mr. WILLIAMS.

6. Organic Chemistry. Brief course. Prerequisite: General Chemistry. Seven hours a week; six hours laboratory a week; five credits.

This course corresponds with that of the third quarter of the Freshman year. Class work will consist of a study of the more general organic compounds, the fundamental principles of the subject, and the relation of Organic Chemistry to plant and animal life. Laboratory work consists in preparation of compounds and study of reactions illustrating the theories studied in class. Laboratory fee, $3.00. Mr. JORDAN.

7. Quantitative Analysis. Prerequisite: Qualitative Analysis. Two hours a week; twelve hours laboratory a week; four credits.

This course corresponds with first quarter of Quantitative Analysis. Gravimetric and volumetric analysis of pure salts at first, followed by analysis of substances of agricultural and commercial importance. Laboratory fee, $3.00.
Mr. WILLIAMS.

Graduate Courses.

The following graduate courses will be given:

Physical Chemistry.
Colloids.
Quantitative Analysis.
Quantitative Research.
Organic Research.

CHEMICAL ENGINEERING

The chemical engineering department offers two short courses for technical men: one for waterworks managers and operators, and one for gas manufacturers. Each of these courses continues for a period of one week, and will consist of intensive study and demonstrations under the direction of specialists in each field.

State College offers unusual opportunities for short courses of this kind for practical men. Its laboratories are equipped with modern apparatus. Its instructors are specialists. It has a well-equipped bacteriological laboratory,

as well as chemical facilities, for a thorough study, examination, and analysis of water and gas. Raleigh is now installing modern filter and gas plants. The Laboratory of Hygiene and other State laboratories are located here.

One-Week Course in Municipal and Technical Water Supplies.

This course will be given in co-operation with specialists from the Engineering Department of the State Board of Health, of the Laboratory of Hygiene, and of the Engineering Departments of the College.

No more important matter concerns the public health than a pure water supply. This course provides definite information to plant managers and operators for successful construction and operation of a plant so as to insure the public health against danger from impure water. Opportunities are provided for exchange of ideas, consultation with specialists, and demonstrations of the most approved equipment.

Instruction will also be given in treatment of waters for technical purposes, such as clarification, purification, and softening. Mr. RANDOLPH.

One-Week Course in Gas Manufacture.

This course follows the same general plan as that outlined above for water supplies. Instruction is provided for the scientific and practical phases of gas production, such as qualities of coal, types of equipment, kinds and qualities of gas, condensable gas, purification, distribution, examination, analysis, and heating value. Practical demonstrations will be made of the different phases of the subject studied. The course is intended for men who are engaged in gas plant operation. Mr. RANDOLPH.

Graduate research courses in Physical and Industrial Chemistry may be taken.

EDUCATION

The courses in the Department of Education have both certificate value and college-credit value. They are planned to meet the needs of high school principals and teachers, teachers of science in the high schools, teachers of agriculture, and teachers of industrial arts and industrial education.

1. Public School Administration. Six hours a week; three credits.

This course will include the chief problems in the administration of schools, together with a discussion of school and class management.

Some of the topics will be the following: City School Organization, County Organization, including a consideration of the County-wide Plan in North Carolina; Organization and Functions of City and County Boards of Education; the Superintendent, his qualifications and duties; Teachers, their training and certification, salaries, promotion, and tenure; School Funds; Records and Reports. The big problems in Public School Administration in this State will be defined and solutions suggested. Mr. HIGHSMITH.

2. Principles of Secondary Education. Six hours a week; three credits.

There are well defined principles underlying Secondary Education. Intelligent practice depends upon comprehension of such principles. This course in secondary education will have to do with such topics as: The aims of secondary education; relationship of the secondary school to the elementary school and to the College; the secondary school pupil, mentally, physically,

and socially; the course of study. Some attention will be given to the development of secondary education in the United States as a background for consideration of practical aspects of the secondary school situation in State and Nation.

Mr. HIGHSMITH.

3. The High School Course of Study. Six hours a week; three credits.

This course will have to do with two subjects:

1. The subjects to be taught in the high school;
2. Methods of teaching these subjects.

Only the following subjects will be discussed: English; Mathematics, including Algebra and Geometry; Latin; Modern Languages, including French and German; the Social Sciences, including Civics and History. (Other subjects, such as Vocational Agriculture, Home Economics, and the Sciences will be discussed in other courses.)

The question is: First, What should go into a course in any one of the subjects mentioned above? and, second, How should that subject be taught?

Mr. HIGHSMITH.

SOUTH DORMITORY

4. Special Problems in Teaching Agriculture. Six hours a week; three credits.

This course is for graduates of the Department of Vocational Education. It will consist of special individual problems and preparation of plans for the next year's work, involving a survey of the school and community in which they are to work the coming year. From this information each student will prepare a program of agricultural education especially adapted to his school and community. It will include classroom arrangements and fixtures, library equipment, gathering specimens and illustrative materials, and the organization of courses of study.

Mr. COOK.

5. Problems in Agricultural Teaching. Six hours a week for two weeks.

A course for experienced teachers of agriculture. The class will be divided into sections according to the interests and needs of the members of the class. Such problems as organization and methods of teaching part-time and evening classes, community problems, organization of the annual plans, supervised study, and planning of lesson units.

Messrs. Cook, Thomas, Coggin, Barbee, and Teachey.

6. Methods of Teaching Farm Management in the High School. Six hours; two weeks.

This course combines subject matter and the method of teaching farm management in the high school. Surveys of local farms made by the teachers themselves will form the basis of the course. Such problems as the farm layout, analysis of the farm business, size, balance, cropping systems, labor distribution, etc., will be studied from the standpoint of the secondary school.

Mr. Coggin.

7. Psychology. Ten hours a week; five credits.

An introductory study to general psychology. It is the purpose of this subject to give the student a basis for the interpretation of human conduct in terms of psychological principles substantiated through modern experimental psychology. The subject treats such determining factors of human behavior as the following: The human receiving, connecting, and reacting nervous mechanisms; human behavior; instinctive tendencies, reflexes; instincts and capacities; emotional behavior; habit and habit formation; the learning process; memory; thought; dreams; individual psychology. Mr. Mayer.

8. Educational Psychology. Six hours a week; three credits.

This course will deal with psychological facts and theory and their application to educational practices. A study will be made of the human receiving, connecting, and reacting nervous mechanisms, the original equipment of man, reflexes, instincts, and capacities; emotional behavior; laws and nature of learning and of habit formation; economy in learning; transfer of training; work and fatigue; individual differences and intelligence. Mr. Mayer.

9. Educational Tests and Measurements. Six hours a week; three credits.

This course will give the teacher an insight into the more common achievement, diagnostic, and mentality tests, and their use and interpretation from the standpoint of the teacher, supervisor, and administrator. Errors in teacher's marks, principles of testing, and methods of content examining will be discussed from the standpoint of making the teacher more efficient in examining and grading. Mr. Mayer.

10. The Teaching of Industrial Arts. Six hours a week; three credits.

Treats of the problems of the teacher in the organization and presentation of the materials to be used in shop courses. This will be approached through a study of the industrial life of the community with a view to finding out the occupational opportunities. This will be followed by the planning of courses based upon this study, and a consideration of the selection, purchase, and arrangement of shop equipment to meet the needs of the community.

Mr. Boshart.

11. Vocational Guidance, Occupations and Placement. Six hours a week; three credits.

Treats of the problems of directing pupils in the study of the occupations for the purposes of selection and becoming satisfactorily placed in their life work. These problems will be approached through the analysis of the several occupations according to the demands upon the worker in the performance of his tasks, his opportunities for progress and growth and his return in wages and enjoyment. These studies will enable the pupil to compare the requirements and benefits of one occupation with those of others in making his own choice of vocation. This course is planned especially for persons teaching in industrial communities. Mr. BOSHART.

12. Industrial Education. Six hours a week; three credits.

Treats of problems centering around the education of workers who have entered and who are to enter industrial occupations. It will call attention to the place industries should occupy in the field of general education. Topics for discussion are as follows: History of the movement; courses in the elementary, secondary and continuation schools; evening schools; short unit courses; trade and factory schools; and the administration of the Smith-Hughes Act. Primarily for those who are now teaching industrial arts and superintendents who wish to become more familiar with the work under their direction. Mr. BOSHART.

13. Methods of Science Teaching. Six hours a week; three credits.

A course for teachers of science in the secondary schools. It will include the aims and values of the various courses in science, organization and sequence of studies, methods of teaching adapted to the various sciences, and means of measuring results. Mr. .....

14. Materials in Science Teaching. Six hours a week; three credits.

A course in the materials needed for the teaching of general science, biology, physics and chemistry in the junior and senior high schools. Such problems will be considered as arrangement of laboratories, equipment, how and where to secure supplies, use of home-made apparatus, collection and preservation of biological materials, laboratory technique, and adapting the content of courses to the various localities of the State. Mr. .....

NOTE.—If sufficient members register to justify it, special courses will be arranged for each of the four sciences.

Graduate Courses in Education.

If there is sufficient demand, special graduate courses in Education will be offered. Students desiring graduate credit for Summer School work should correspond with the Department of Vocational Education before registering.

Special Two-Weeks Course for Teachers of Vocational Agriculture.

In place of the usual summer conference of teachers of vocational agriculture a special two-weeks course of instruction will be provided in the Summer School, beginning June 9 and continuing through Saturday noon, June 21. The following courses will be offered: Stock judging, animal diseases, farm shop, marketing, farm management, cotton under boll-weevil conditions, plant

diseases, poultry, gas engines and tractors, methods of teaching farm management and problems in teaching agriculture. A description of these courses will be found elsewhere in this bulletin.

ENGLISH

1. Practical Composition. Six hours a week; three credits.

The foundations of style in the choice of words, the building of sentences and paragraph, and the structure of the complete composition in its most practical forms, as letters, short narrative and descriptive sketches, form the matter of this work. Emphasis is placed on the mechanics of style. Attention is given to oral discourse and to spoken English. A textbook of composition and a book of illustrative selections are used. The course carries credit for College Freshman English.

Mr. HARRISON.

2. Advanced Practical Composition. Six hours a week; three credits.

This course is given concurrently with that above, with which it is interrelated. The types of writing studied are thoroughly practical, the themes bearing upon industrial, commercial and agricultural subjects. Exposition and argument are stressed. The textbooks are continued, but wider references are given to special texts. Freshman credit, second semester.

Mr. HARRISON.

3. Public Speaking. Six hours a week; three credits.

The composition of informal talks, as of formal speeches, the "selling" conversation; in general, the arrangement of thought for effective presentation; these are the objectives in this course. Training will be given in the correct use of voice in conversation and in public discourse. A textbook, references to the literature of the subject, and frequent practice in composition and delivery will be the order of work. Elective college credit.

Mr. HARRISON.

4. English for High Schools. Six hours a week; three credits.

This course is primarily for teachers of the subject. The work will consist of a thorough review of the principles of writing for high school students, and demonstrational study of the various types of literature used in high schools. The need for making English a subject which will appeal to high school students by making it practical as well as cultural and inspirational, will be presented. Text books in composition and in literature. Elective college credit.

Mr. .....

5. Contemporary Literature. Six hours a week; three credits.

A rapid review of the background in English and American literature in periods, types, and authors, will be followed by the study of present-day authors, writings, and tendencies. The novel and the short story, history and biography, the essay and philosophy, and poetry and drama will be considered. Text books, periodicals and assigned readings. Elective college credit.

Mr. .....

FARM CROPS

Cotton and Tobacco. Ten hours a week; five credits.

Lectures and recitations on history, production, adaptation, types and varieties, including cultivation, harvesting, grading and marketing, will be given. Laboratory consists of variety studies, the classing of cotton and the grading of tobacco. Laboratory fee, $2.00. Mr. Cotner.

Students Determining the Market Grade of Grains

Cereal Crops. Six hours a week; three credits. Prerequisite: General Field Crops.

Lectures and recitations in history, production, cultivation, improvement, harvesting, storage, and marketing. Laboratory consists of structural studies, seed judging, variety identification and commercial grading. Special problems in cereal production. Laboratory fee, $2.00. Mr. Darst, Mr. Cotner.

Advanced Seed Judging and Grading. Six hours a week; three credits. Prerequisite: Cereals.

Lectures and practice in planning, arranging and judging field crops exhibits. Study of the Federal grain and hay standards. A course planned to develop experts in the judging of field crop seeds and in the grading of grain and hays. A course designed for agricultural extension workers and vocational teachers. Laboratory fee, $2.00. Mr. Darst, Mr. Cotner.

Cotton Classing. Twenty hours a week for six weeks; no college credit.

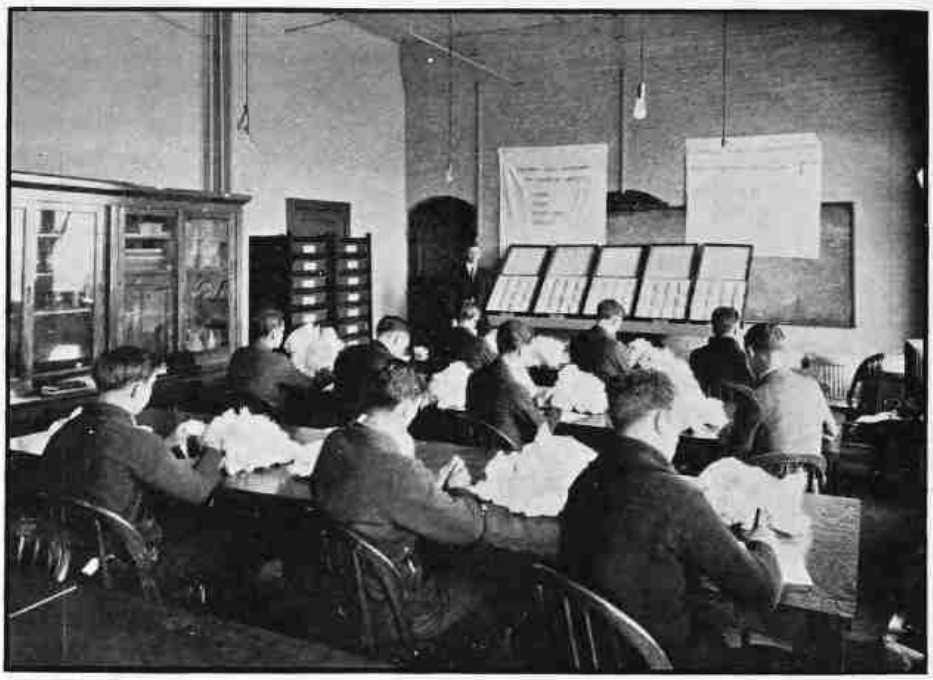
The Summer School of Cotton Classing is designed to prepare men to enter the cotton business and to enable producers to become familiar with grades, so

that they may handle their cotton more efficiently from the time it opens in the field until it is baled.

Inefficient handling at the present time is causing the State a loss of millions of dollars annually. The business side of cotton transactions as well as the practical grading and stapling will be included in the course.

Experience will not be necessary for taking the course, as the class will work in groups according to previous training. Students may qualify as competent Cotton Classers at the expiration of this course.

The course will consist of lectures and daily practice in grading and stapling cotton samples according to the revised U. S. Cotton Standards, including the descriptive grades as well as the official.



SENIORS CLASSING COTTON

The course will be given each day, with the exception of Saturday, for four hours a day.

The first period of each day will be devoted to lectures and discussions, and the remaining time will be used in the actual practice of grading and stapling of cotton. An expert from the United States Department of Agriculture will assist in this course. Mr. COTNER.

Cotton Culture Under Weevil Conditions. One hour a day for two weeks.

This course in cotton culture consists of lectures and discussions in the following topics: Cultivation, fertilization, varieties, seed improvement and the boll-weevil and its control.

Each topic will be discussed with boll-weevil conditions in mind and will be handled by a specialist. Laboratory practice and field demonstrations will be a part of the course. Mr. DARST.

Farm Shop Work. Six hours a week; two weeks.

This course is designed to meet the needs of men now engaged in teaching Agriculture in High Schools throughout the State. The majority of the time will be spent working with tools and equipment, but enough time for discussion of methods and practice of teaching Farm Shop Work will be used to develop the teaching phase.

The laboratory work will consist of the making of farm appliances which will best bring out the proper manipulation of Farm Shop tools as relates to wood-working, forging, and tool fitting. Rope work, soldering, babbitting, painting, repairing and concrete work will be stressed as the class requests, being phases in which most of our present teachers need help. Some work in Farm Buildings, such as laying out buildings, framing details and rafter cutting will be given.

Class room work will be devoted to discussion, text book and problems.

Mr. WEAVER.

PATTERSON HALL

Gas Engines and Tractors. Six hours a week.

This course is to meet the needs of those experiencing trouble in operating their gas engines and tractors. It includes a study of the principles of gas engine operation and trouble. Special stress is given to ignition systems and ignition trouble, both in battery and magneto currents. The class room work with tractors is a study of the parts that are not common in small gas engines.

The laboratory work will be a study of the small gas engine and the tractor while in operation. Various forms of gas engine trouble will be studied, its causes, and remedies best suited. Considerable time will be given to making adjustments for varying loads and for an engine operating under different conditions.

Special attention will be given to lubrication methods, and repair work, that is within reach of the average tractor owner. Mr. BOHANON.

NOTE.—The above course will be given in two units. The first two weeks an intensive course for teachers of agriculture, and a ten-days course near the end of Summer School for county agents.

MATHEMATICS

Algebra. Ten hours a week; five credits.

This course includes the progressions, binomial theorem, undetermined coefficients, logarithms, compound interest and annuities, permutations, combinations, theory of equations, and solution of higher equations.

Mr. WILLIAMS.

Solid Geometry. Ten hours a week; five credits.

Three books of Solid Geometry, including numerous original exercises.

Mr. WILLIAMS.

Plane Trigonometry. Ten hours a week; five credits.

Definitions of the trigonometric functions, derivation of formulae, and the solutions of all types of plane triangles. Mr. MOCK.

Analytical Geometry. Ten hours a week; five credits.

Loci of equations, the straight line, circle, parabola, ellipse, hyperbole, and the general equation of the second degree. Mr. MOCK.

Differential Calculus. Ten hours a week; four semester credits.

An elementary course on the fundamental principles of Calculus, including the development of the formulae for differentiation and their application to problems in rates, maxima and minima, expansion of functions, and curve tracing. Mr. YATES.

Integral Calculus. Ten hours a week; four semester credits.

Development of formulæ for integration and their application to definite integrals, areas under curves, lengths of curves, volumes of solids, centers of gravity, centers of pressure, and moments of inertia. Mr. YATES.

MECHANICAL ENGINEERING

1. Freehand Drawing. Ten hours a week; no college credit.

Lectures two hours a week and practice eight hours a week. Materials, Technic, Dimensions, Kinds of Sketcher and the making of freehand sketches will be studied. This course is for those who have had no instruction in freehand drawing. Mr. FOSTER.

2. Mechanical Drawing. Fifteen hours a week; five credits.

Lectures three hours a week and practice twelve hours a week. Lettering, instrument practice, orthographic projection, and developments and intersections will be studied. Credit for one semester or two terms of College Freshman Engineering Drawing may be obtained. Mr. FOSTER.

3. Shop and Drawing Room Equipment. Five hours a week; no college credit.

Lectures and recitations five hours a week. Materials, supplies, cost, and proper size will be studied. Inspection trips will be made. Catalogues will be studied. This course is for those who contemplate introducing Industrial Arts courses into their schools. Mr. FOSTER.

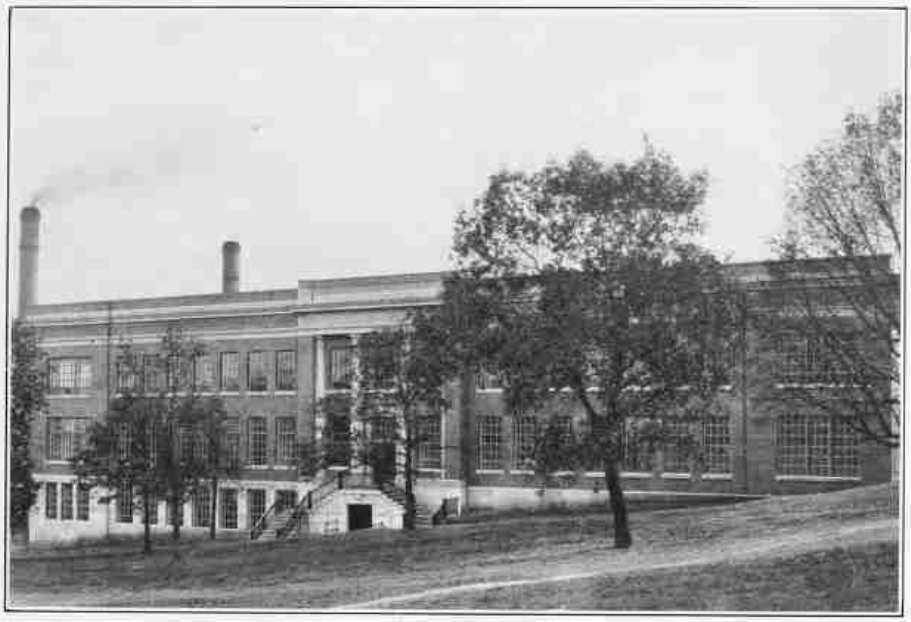
4. Sheet Metal Work. Ten hours a week; no college credit.

Lectures, pattern drafting, and Shop Work ten hours a week. Soldering, pipe elbows, pails, tee joints, funnels and covers will be studied. Layout work will be included. Mr. .....

5. Descriptive Geometry. Ten hours a week; two credits.

The representation of points, lines, surfaces, and solids on a flat surface and the solution of problems involving these will be studied. Full credit for the entire College Course in Descriptive Geometry may be obtained.

Mr. FOSTER.



PAGE HALL

6. Wood Working. Fifteen hours a week; three credits.

Lectures and practice fifteen hours a week. Instruction will be given in bench-work, wood-working machines, wood turning and pattern-making. This course is for those desiring credit for Freshman Shop Work, for those expecting to teach wood work and for teachers of Industrial Arts. The course will be arranged so that each student will receive individual instruction, thus allowing him to advance as rapidly as time and ability will permit.

Mr. WHEELER.

7. Automobile Ignition, Starting and Lighting Systems. Five hours lecture and recitations, and twenty hours laboratory practice a week; no college credit.

Description and elementary electrical principles will be studied, giving special attention to the following:

(1) Electrical circuits, current, voltage, resistance power units and heating effect of current.

(2) Magnetism, permanent and artificial laws of magnetic attraction and repulsion. Magnetic fields and solenoids.

(3) Induction principles of motors and generators.

(4) Fundamental ignition principles, both low and high tension.

(5) Sources of current, primary batteries, storage batteries and modern types of magnetos.

(6) Electrical starting and lighting systems:

a. General features, fundamental characteristics, single and double units, different types of regulators, principles of third brush regulation; automatic battery, cut-outs and circuit breakers.

b. Practical analysis of starting and lighting types.

(7) General study of starting and lighting storage batteries.

Students taking this course will be expected to bring a "road-kit" of tools.

Mr. BRIDGES.

MODERN LANGUAGES

FRENCH

French. I. Six hours a week; three semester credits.

Fraser and Squair's French Grammar, Part I. This course is intended for students who have had no previous training in French. Reading and oral practice with elements of grammar; practice in pronunciation and hearing of French is afforded by means of reading, dictation and as early as practicable the recitations are conducted at least partially in French.

Mr. HINKLE and .....

French. II. Six hours a week; three semester credits.

Fraser and Squair's French Grammar, Part II, composition and translation. In this course rapid reading and sight translation are stressed. A general survey of French civilization and literature is made. Selections from Hugo, Dumas, De Maupassant, Malot, and Daudet are studied by means of parallel readings and reports. Open to students who have had two years of high school French or one year of college French.

Mr. HINKLE and .....

SPANISH

Spanish. I. Six hours a week; three semester credits.

Olmsted's First Course in Spanish; DeVitis' Spanish Reader. Grammar, translation and composition. This course is intended for students who have had no previous training in Spanish. Practice in pronunciation and hearing of Spanish is afforded by means of reading and dictation and, as early as possible, the recitations are conducted at least partially in Spanish.

Mr. HINKLE and .....

Spanish. II. Six hours a week; three semester credits.

This course is a continuation of Spanish I. It is intended to develop ability for rapid reading and sight translation. A general survey of Spanish civilization and literature is made by means of parallel readings and reports. Some attention is given to composition and letter writing. Open to students who have had two years work in high school Spanish or one year's college work.

Text: Historia de Espana by Romera—Navarro.

Mr. HINKLE and .....

GERMAN

German. I. Six hours a week; three semester credits.

Bacon's German Grammar; other texts to be selected. Grammar with reading and oral practice. This course is intended for students who have had no previous training in German. Practice in pronunciation and hearing of German is afforded by means of reading, dictation and, as early as practicable, the recitations are conducted at least partially in German.

Mr. HINKLE and .....

German. II. Six hours a week; three semester credits.

Reading and translation with a review of the fundamental principles of grammar. In this course rapid reading and sight translation are stressed. A general survey of German civilization and literature is made by means of parallel readings and reports. Open to students who have had two years work in high school or one year's work in college.

Mr. HINKLE and .....

PHYSICS

1. Elementary College Physics I. Six hours a week recitation, six hours laboratory; four and one-half credits.

This course is the same as that which has been given in the regular college session during the first quarter and the first half of the second quarter to Freshmen in Engineering, and Sophomores in the Textile and in the Agricultural courses, and is accepted as college credit. It covers the fundamentals of the elementary physics of Mechanics and Heat. Prerequisite, college algebra. This course and No. 2 give a year's credit. Laboratory fee, $2.00.

Mr. HECK.

2. Elementary College Physics II. Six hours recitation, six hours laboratory; four and one-half credits.

This course is a continuation of No. 1 and is the same as that which has been given in the last half of the second quarter and throughout the third quarter during the regular college session to the students of courses as stated in 1. It covers the subject of Electricity, Sound and Light. Prerequisite, Physics 1. This and course No. 1 give a year's credit. Laboratory fee $2.00.

Mr. DERIEUX.

3. Intermediate College Physics I. Nine hours recitation and six hours laboratory a week; six credits.

This is the course which has been given in the regular college session to Sophomores in Engineering, during the first quarter and the first half of the second quarter, and is accepted as college credit. It covers the subject of Mechanics and Heat in a more advanced manner than Physics 1. Prerequisites, Physics 1 and 2. This and course No. 4 give a year's credit.

Mr. DIXON.

4. Intermediate College Physics II. Nine hours recitation, six hours laboratory; six credits.

This course is a continuation of No. 3 and is the same as that given in the regular college session to Sophomores in Engineering and is accepted for

college credit. It covers the subjects of Electricity, Sound and Light in an advanced manner. Prerequisite, Physics No. 1 and 2. Laboratory fee, $2.00.

Mr. DERIEUX.

5. Design and Construction of Apparatus. Twelve hours recitation and shop; three credits.

This course will consist of lectures and shop work on the design, construction and repair of simple apparatus, such as used in high school class and laboratory work in physics. The shop work will cover wood-work, glass blowing, soldering, cutting threads, use of drill press, repair of galvanometer suspensions, putting cross-hairs in telescopes and microscopes, repair of electroscopes, and the construction of laboratory equipment for experiments on the lever, inclined plane, sliding friction, parallel forces, nonparallel forces, density, Boyle's law, mercury barometer and a part or all of the apparatus for as many other experiments as time permits. The apparatus constructed by any member of the course may be taken with him.

Fee, $2.00 to cover cost of material. Mr. DIXON.

POULTRY SCIENCE

Especially planned for County and Home Agents and Agricultural High School Teachers.

1. Poultry Production. Five hours a week; two weeks.

This subject will cover ten periods, divided as follows: Five one-hour lectures covering the newer thoughts on feeding. How, what, and when to feed baby chicks, growing birds, laying or breeding birds, and fattening fowls. In this charts will be used showing results of the experimental sections of the Poultry Department at the College and the Mountain and Coastal poultry plants. The newest ideas in poultry house construction and poultry equipment for the North Carolina climate.

The construction and operation of incubators and brooders, and a discussion of the best methods of handling the sitting hen and her brood. How and when to use artificial lights to get high-priced winter eggs. Other live topics will be discussed.

The five three-hour laboratory periods will give the student a chance to candle, grade, and properly pack eggs for shipment to market; to caponize, to select standard-bred birds, and to cull or select the poor from the good layers of the large as well as the small breeds.

The Poultry Department is well equipped with candling rooms, operating rooms, educational laboratories, and trap-nested flocks, including S. C. White Leghorn, S. C. Rhode Island Red, Barred Plymouth Rock, and White Wyandotte. Mr. KAUPP.

2. Poultry Diseases. Five hours a week; two weeks.

Especially designed to train county and home agents and agricultural high school teachers to co-operate with the disease research laboratories of the Poultry Department of State College to aid in the control of disease and keep the flocks of North Carolina healthy, that they may be profitable to their owners.

Ten lectures are planned. These will include a discussion of sanitation, and conditions influencing the health of fowls, and a study of disease condi-

tions, with illustrations, preserved specimens from the poultry pathology museum, and by cases in the poultry hospital, and from autopsies in the research laboratory of noncontagious as well as contagious diseases of poultry.

A discussion of how to recognize and treat diseases, and of fowl typhoid and fowl cholera; how to send suspected cases to the laboratory, and the preparation of the vaccine. The student will learn to vaccinate birds, to aid in stamping out this, as well as other contagious diseases.

Mr. KAUPP.

3. General Poultry. Six hours a week; three credits.

This course is of college grade and will be given six times a week. The work will consist of recitations and laboratory work. The subject will include the study of standard breeds of poultry and the selection and mating of same, how to select high, medium, and low egg producers and breeding same for high egg production. Broiler and capon production, the student learning caponizing by actually doing the operation. Candling and grading eggs, grading and packing same for market. How and what to feed chicks, growing stock, and layers. Sanitation and hygiene, including poultry house construction. Diseases caused by external and internal parasites. Common noncontagious and contagious diseases and means of handling same.

Mr. KAUPP.

Graduate work in poultry will be given wherever there is a demand.

SPECIAL COURSES FOR FARMERS

Should there be a demand by the farmers of the State for courses in Agriculture not listed in this bulletin, arrangements will be made to give them.

SOCIAL SCIENCE AND BUSINESS ADMINISTRATION

ECONOMICS

General Accounting A1. Six hours; three credits. Open to all students.

This course deals with the fundamental and universal principles of accounting practice. It is designed to fill the needs of the student who expects to become an accountant; the manager, investor, or layman who wishes to understand, interpret, and profit fully by the work of the accountant; and the teacher who wishes to have more than a mere knowledge of bookkeeping. The course involves a consideration of the main types of bookkeeping and provides laboratory practice in their use as a part of the work. An analytical study is made of the underlying principles of accounting practice to enable the student to interpret and appreciate the facts behind the figures. The rest of the work is devoted to the construction of accounts, special forms, preparation of financial statements, the distinction between capital and revenue, maintenance and depreciation, methods of determining valuations and the basis of cost accounting.

Both the "Inventory" and "Cost Accounting" methods are used.

Mr. STRETCHER.

1. Farm Management. Six hours a week; three credits.

This course will consist of a discussion of the principles underlying the successful management of an individual farm. Subjects which will be discussed are as follows: Objectives of farm management, farm layouts, methods

of managing farm labor, factors involved in the efficient use of farm machinery, construction and use of programs of work, factors influencing the size of the farm, the relation of the size of the economic unit to farm profits and, finally, a detailed study of successful farms for the purpose of determining the factors responsible for success.

Students will be given the opportunity to visit actual farms for the purpose of studying the organization and management. Problems bringing out the important points discussed in lectures will be assigned, and each student is expected to reorganize a given farm assigned. Graduate credit will be given for this course. However, if graduate credit is desired, additional work will be required. Mr. FORSTER.

2. Farm Management. (Special two-weeks course.) Six hours a week.

This course is designed for those students desiring a brief course in farm management. Consideration will be given to the entire field, but emphasis will be given to only the more important principles and problems. The major problems which will be discussed are problems of investment, farm administration, the buying of farm equipment, etc., and the selling of farm products. Under the subject of investment will be considered the factors involved in the purchase of land, equipment, the hiring of labor, the principles involved in the selection of farm enterprises, including a discussion of specialization, diversification and rotation of crops, the scale of production—that is, desirability of a large scale, medium, or small scale of production. Under administration, the problems of organization, the use of standards and the keeping of accounts will be considered. A brief consideration will be given to the question of buying. Under this subject such questions as what to purchase, from whom to purchase, how to buy and with what to buy—that is, credit or cash—and the selling of farm products will be briefly touched upon and a discussion of such problems as when to sell, to whom to sell, and how to sell.

Field excursions will be arranged in order that each student may have an opportunity to study and analyze the organization of nearby farms. Problems involving the reorganization of farms according to scientific principles will be assigned from time to time. Mr. FORSTER.

3. Marketing Farm Products. Six hours a week; three credits.

The purpose of this course is to give the student a working knowledge of the economic principles involved in the marketing of farm products. As marketing is one of the important problems facing the farmer at this time, it is necessary that the student understand the organization and control of the present marketing system, how the price-making factors operate, the various marketing methods now commonly employed, such as direct, regular and intergraded marketing. In this course special attention will be given to co-operative marketing and, finally, a critical examination of the present marketing system with suggestions regarding improvement will be given. The student will have the opportunity to study the operation of co-operative organizations with headquarters in Raleigh. Graduate credit will be given for this course provided the student completes additional work.

Mr. FORSTER.

4. Marketing. (Special two-weeks course.) Six hours a week.

This course will deal with the principles involved in the successful marketing of farm products. Special attention, however, will be given to the

following problems: The importance of marketing, marketing types and methods, marketing agencies and their functions, the middle man and his services, grading standards and inspection, transportation, assembling, and storing, financing of marketing transactions, price determination, marketing costs, and market prices and a critical examination of the present marketing system. Mr. FORSTER.

5. General Economics. Six hours a week; three credits.

This is a beginning subject in Economics. It treats of the business aspects and economic organization of society. It includes a study of the great fundamental economic laws which apply to all professions and occupations; a study of the production, distribution, and value of economic goods; and a study of the institutions, agencies, and ideas which dominate, operate, and control the manner, means, and methods of making a living. Mr. FORSTER.

6. Commercial and Business Geography. Six hours a week; three credits.

World geography as influencing the commercial life of man, viewing the factors of production, distribution and consumption from their world-wide aspects. This study includes a survey of such problems as the following: Our changing environment, the production of raw materials, basic manufacturing industries, expansion of industry and resources, the law of trade, the world's highways, the ocean and its carriers, recent world changes and the Panama Canal, trade and trade routes of the continents, the trade center—its work and development; balance of trade and its relation to industrial development; commercial policy of nations. Mr. HONEYCUTT.

7. Economic History. Six hours a week; three credits.

This is a subject in modern history, beginning with that period of history which in general conforms to the beginning of the American government and the industrial revolution. A brief consideration is given to the events which ushered in the industrial revolution in Europe. This is followed by an intensive study of the industrial revolution and its consequences in the world of events. The purpose of the course is to give an understanding of not only the historic and population facts of modern times, but also of the economic and social facts. Mr. .....

INDUSTRIAL MANAGEMENT

1. Industrial Management. Elective; six hours a week; three credits.

Textbook, lectures, discussions, collateral readings. Administration, organization, system and internal working relations of industrial enterprises; principles and methods of handling industrial problems. Mr. MOEN.

2. Personnel Management. Six hours a week; three credits.

Textbook, lectures, discussions, collateral readings. Systematic and experimental survey of principles of effective management of men, including selection, progressive adjustment and motivation of personnel in industry.

Mr. MOEN.

Industrial Journalism. Three hours a week; one and one-half credits.

A course in Journalism is offered to meet the needs of county agents, home demonstration agents, research men and women, teachers of agricultural and industrial subjects, farmers, and others who may have occasion to prepare

material for campus publications or for the press on agricultural and industrial subjects. Journalism does not displace fundamental work in English, but supplements it by giving the technique of journalistic writing.

Mr. ROBERTSON.

SOCIOLOGY

1. General Sociology. Ten hours a week; five credits.

This subject is an introduction to the scientific study of social life. It deals with the origin, development, structure, and function of all types of social organization. A number of practical social problems, such as poverty, crime, race problems, immigration, divorce, etc., are studied. The last half of the course is devoted to a study of social psychology, social institutions, and other forms of human association; social ideas, social processes, social controls, and social progress. Mr. HONEYCUTT.

2. Rural Sociology. Six hours a week; three credits.

This is an introductory study in Rural Sociology. It deals with the rise and nature of the so-called rural social problem and the general social conditions which maintain and result from the occupation of farming. Such specific problems as rural isolation and communication, rural health, rural recreation, the rural school, the rural church, and the rural home are taken up and analyzed. In as far as possible a first-hand study is made of different rural communities and their problems by the instructor and students.

Mr. HONEYCUTT.

Graduate courses in Advanced Economic Theory, History of Economic Doctrines, Political Theory, and in Business Forecasting will be given to summer school students if there is a sufficient demand for this type of work.

TEXTILE DEPARTMENT

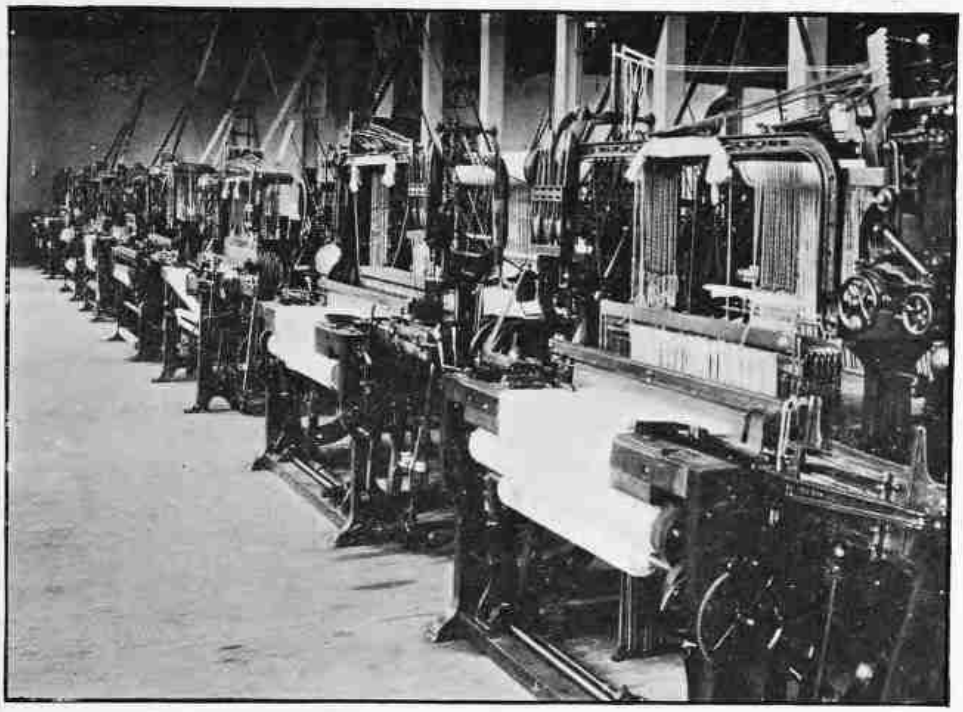
1. Weaving, Designing and Textile Calculations. Ten hours a week; five credits.

An intensive course will be given in each of the above subjects for young men who are working in mills and who desire to study any or all of these subjects. This course will be arranged so as to cover as much ground as possible in the time given, and in a thoroughly practical manner. In weaving, the timing, setting and adjusting of the different parts of both plain and fancy looms will be studied, together with the fixing of these looms. Designing will include a study of the various weaves used and their application to fabrics. With this subject a course in fabric analysis will be given. This analysis will consist of obtaining the necessary data from a small sample by which fabrics can be reproduced. Textile calculations will be given covering the various subjects taught. Mr. NELSON.

2. Textile Course for Teachers. Five hours a week; double for five credits.

This course is designed to give teachers in cotton manufacturing communities a fundamental knowledge of the textile industry, and will be accomplished by lectures, demonstration and practical application. In addition to a general survey of the textile industry, the various processes through which cotton passes in its transition from the raw material to the finished

product will be studied. In this way the teacher will be able to understand more fully the problems of those who are working in the mills and will be a real help to the community. As far as possible this course will be arranged so that the teachers can obtain a general knowledge of the industry which will enable them to apply their teaching to mill problems. Mr. Nelson.



Weave Room, Showing Fancy Looms

COURSES IN HOME DEMONSTRATION WORK

I. HOME DEMONSTRATION AGENTS' COURSE

July 11-22

A two-weeks course in home economics and agriculture is provided for home demonstration agents, with plans made for definite follow-up field work to supplement class instruction. This course offers the following:

Interior Decoration. Twenty hours.

Purposes of the course: To establish standards for judging line and proportion in the house and its furnishings; to make familiar commercial furnishings which fulfill these standards; and to apply standards in order to produce a harmonious house. Miss Wilkerson, *University of Illinois.*

Landscape Gardening; Landscape Design. One lecture and one laboratory each day; one credit.

Study of the principles of the art of design and their application in the improvement of the farmstead, the rural school grounds and other similar problems. Practice in mapping, designing and as much of execution of important parts of plans as is practicable.

Lecture, 2:00-2:30 daily. Laboratory for home agents, 10:00-11:30 daily. Drawing equipment necessary will cost about $10.00.

Poultry Diseases. Sixteen hours.

A study of parasitology and the practical phases in the control of external and internal parasites. Mr. KAUPP. Mr. OLIVER.

Conference Class. Fifteen hours.

Purposes: To analyze problems in home demonstration work and to instruct in methods of conducting work.

Mrs. JANE S. MCKIMMON, *State Home Demonstration Agent.*

Methods. Twenty hours.

Teaching by lecture demonstrations. Each county home agent is required to give a demonstration showing how she presents a project to an organized rural group. Mrs. MCKIMMON.

Agents may elect Landscape Design or Poultry Work.

II. COURSE FOR CLUB GIRL LEADERS

JUNE 23-28

This course is for the purpose of training club leaders to assist home demonstration agents in carrying out plans of project instruction.

Clothing.

(a) Study in the technique of sewing, including the use of equipment, stitches, seams, construction and finishing.

(b) Costume appreciation, including appropriateness, line and design, color, accessories, and planning the girl's wardrobe. Eight hours.

Bread Making.

Purposes of the course: To establish good practices in the making of quick breads and yeast breads and to instruct in the art of judging the finished product. Eight hours.

Food Preservation.

A study in the art of canning meats and in judging canned products, including meats, vegetables, fruit, jelly, preserves and pickles. Eight hours.

Poultry.

A study in poultry feeding, the control and prevention of parasites, and in judging poultry for utility purposes. Eight hours.

Recreation.

Songs, games, and stunts.

No girl permitted to elect more than two projects.

Recreation to be engaged in by student body.

Instructors conducting short course: Assistant State Agent, MAUDE E. WALLACE; District Agents, ESTELLE T. SMITH, CORNELIA C. MORRIS, MARTHA CREIGHTON, PAULINE SMITH, with twelve county home demonstration agents assisting.

COURSES IN FARM DEMONSTRATION WORK

I. FARM DEMONSTRATION AGENTS' COURSE

JULY 15-22

A ten-days course in farm economics and agriculture practices is provided for the county farm demonstration agents, with definite follow-up field work to supplement class instruction.

The following courses are described on other pages. All farm agents will be required to take this work:

1. *Farm Management.*
2. *Farm Credits.*
3. *Co-operative Buying and Selling Organizations.*

The following courses are elective:

1. Poultry.

Consisting of one half-hour lecture period and one hour laboratory period each day throughout the course.

This will include work in poultry diseases, judging, and marketing poultry products. Mr. KAUPP and Mr. OLIVER.

2. Swine Husbandry.

One hour a day throughout the course.

Hog-raising will be discussed from the standpoint of the advantages North Carolina has in the production of high-class pork on a profitable basis, emphasizing the packers' needs, the value of different crops in hog production, study of markets, judging, explanation of research work, the value of pastures in the economic production of pork, the effect of intelligent breeding and feeding, and its bearing upon the advantages of co-operative marketing of hogs. Mr. SHAY and Mr. HOSTETLER.

3. Terracing and Drainage.

Work will be given in running terrace elevations, terrace construction and in terrace maintenance.

In addition to this, actual practice will be given in laying out a drainage system, including location, elevations, construction, and instruction in the use of various drainage materials.

Instruction in the use, care and adjustment of farm levels will be given.

Mr. BARTEL.

4. Landscape Gardening; Landscape Design.

One lecture and one laboratory each day.

A study will be made of the principles of the art of design and their application in the improvement of the farmstead, the rural school grounds and other similar problems. This course will also include practice in mapping, designing and as much of execution of important parts of plans as is practicable.

5. Farm Sewerage and Water Supply.

Two hour laboratory periods. Various types of water supplies and the conditions for which they are best suited will be explained. This will in-

clude shallow and deep well pumps, hydraulic rams and gravity systems as well as the different kinds of storage tanks. Water power development will be discussed briefly.

Requirements for sewage disposal, including plans for septic tanks, will be explained.

Mr. RANEY.

II. COURSE FOR LEADERS, BOYS' CLUB WORK

JUNE 23-28

Regular classes will begin on Tuesday morning, June 24, and will run through Friday, June 27. Periods will last for fifty-five minutes. All lectures and laboratory work will be given in the forenoons, the afternoons and evenings being given over for recreational and social activities.

Instruction under competent supervision will be given in playing games, swimming, calisthenics, singing, yells, and preparing and giving stunts.

On two afternoons during the week the club members will visit the Hall of History, State Museum, and other institutions and points of interest in and about the city. These tours will be under the direction of Col. FRED A. OLDS.

PRIZE WINNERS AT STATE FAIR

Necessary Equipment.

Each boy should bring a suit of overalls, bath suit, bed linen, towels, and all kinds of athletic equipment, such as baseballs, bats, uniforms, tennis racquets and balls.

1. Production and Marketing Poultry and Poultry Products.

This course will consist of a study of the methods of producing and marketing poultry and of the grades and methods used in marketing eggs. Special emphasis will be placed upon grading, candling and packing eggs for the market and the use of parcel post and egg routes. This course is designed to fit club members for assisting in the movement to improve the quality of poultry and poultry products and the methods used in getting these products to the consumer.

Mr. OLIVER.

MARKETING POULTRY

2. Livestock Judging.

In this course, consisting of four double periods, a brief study will be made of the breed types and of the points indicating quality and value in animals. Lectures and demonstrations will be given, followed by a practice period in which the students will place and write their reasons on as many classes of livestock as the time will permit. This course is designed to interest the student in the study of animal types and to prepare him to take part in livestock judging and demonstrations held in connection with the local club, community, county and State fairs, and also to prepare him to recognize merit in individual animals. Mr. RUFFNER, Mr. CURTIS.

3. Farm Carpentry.

The course in farm carpentry will be a practical laboratory course. For the poultry club members this will consist of the construction of a colony house, a self-feeder and perhaps other useful home-made equipment to use in connection with caring for the flock. For the pig club members it will consist of the construction of a hog house and self-feeders. Mr. RANEY.

4. Tractor and Farm Mechanics.

This course will consist of the practical study of the care, operation and handling of gas tractors, with some work in pipe fitting and general gas engines. Mr. WEAVER *and assistants.*

5. Study of Variety and Fertilizer Plants.

This course will consist of a number of trips to the College Experiment Station Farm for the purpose of studying the variety plat work and of the results of the different fertilizers in plant production. To consist of four periods. Mr. WINTERS and Mr. PATE.

6. Seed Judging.

The course in seed judging will consist of a practical laboratory study of methods used in judging common cereal, legume and grass seeds. This course is designed to prepare club members to recognize character and merit in seeds, to enable them to qualify for judging at fairs and in contests, and to acquaint them with methods used in selecting seeds in crop improvement.

Mr. DARST.

(1) POULTRY CLUB GROUP:
Courses 1, 2, and 3 required.
One other course to be elected.

(2) PIG CLUB GROUP:
Courses 2 and 3 required.
Two other courses to be elected.

(3) CROP CLUB GROUP:
Courses 4, 5, and 6 required.
One other course to be elected.

COURSE FOR GAS METERMEN

The Engineering School, co-operating with the Southern Gas Association, will offer a one-week course during the summer session for gas metermen. This course will be given during the week of July 7th to 12th.

The purpose of this course is to instruct employees of commercial gas companies in the construction, repair and testing of gas meters. Also the calorimetry of gas. While the course is given primarily for the benefit of the employees of gas companies, others who desire to become acquainted with this particular line of work will be welcomed.

The Southern Gas Association and the College will endeavor to secure the services of expert, practical men to present this course.

The general arrangement for giving the course will be handled by the Mechanical Engineering Department under the supervision of L. L. VAUGHAN, Head of the Department.

APPLICATION FOR ADMISSION

TO STATE COLLEGE SUMMER SCHOOL

Name in full.....

Home Address: P. O....., R. F. D.....

County ....., State.....

Courses desired .....

.....

Are you a high school graduate?.....; Have you attended any other College?.....

Name .....

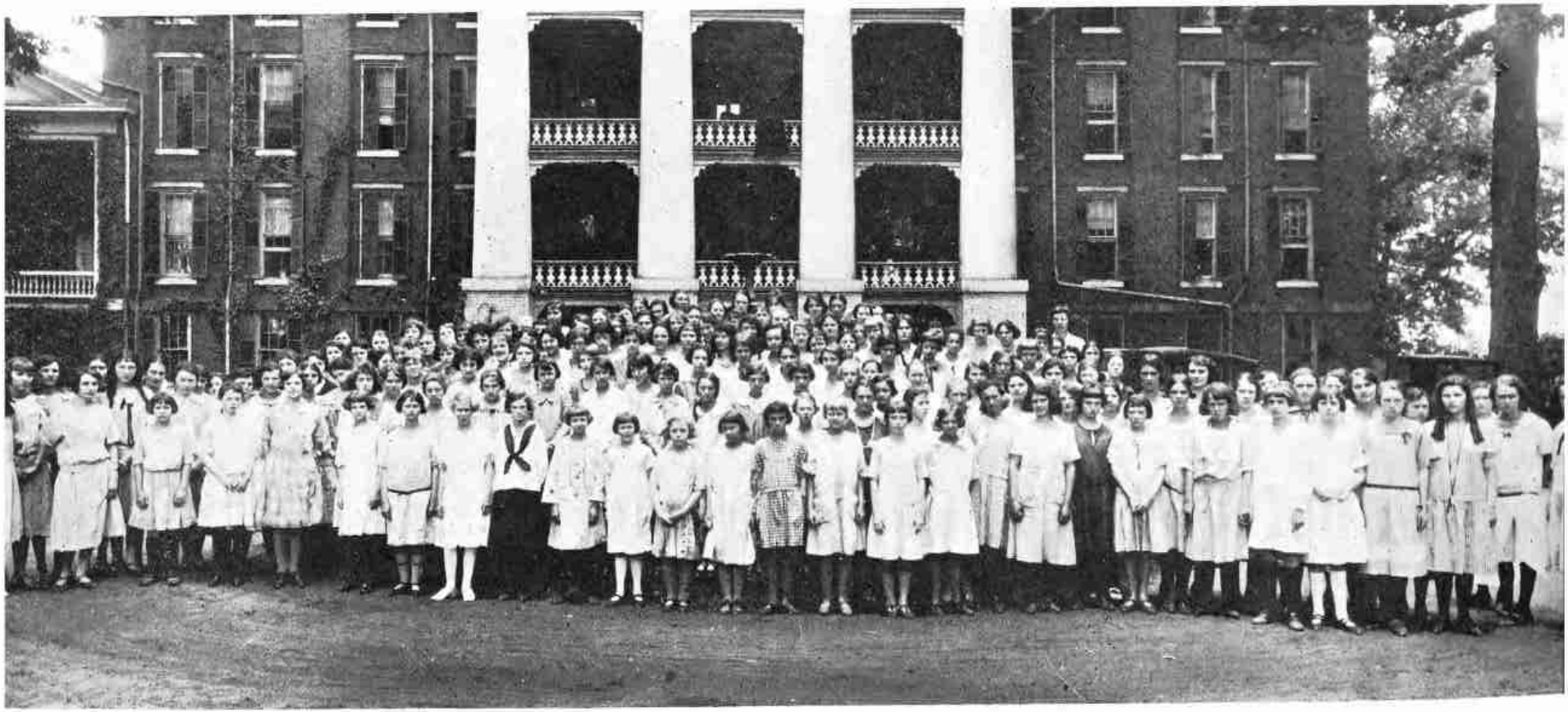
In case of sickness notify.....

Address .....

Church preference .....

Date of application.....

(As soon as you decide to attend State College Summer School please fill out above blank and mail to the Director)



GIRLS' CLUB LEADERS—SUMMER, 1923