

STATE COLLEGE RECORD

VOL. 33

MAY, 1934.

No. 5

Summer School JUNE 13—JULY 24, 1934

Announcement of Courses



NORTH CAROLINA STATE COLLEGE
OF
AGRICULTURE AND ENGINEERING
OF THE
UNIVERSITY OF NORTH CAROLINA
STATE COLLEGE STATION
RALEIGH

PUBLISHED MONTHLY BY THE NORTH CAROLINA STATE COLLEGE
OF AGRICULTURE AND ENGINEERING

Entered as second-class matter, October 15, 1917, at the post office at College Station, Raleigh, N. C., under the Act of August 24, 1912.

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SUMMER SESSION, 1934

In accordance with the plans that are being carried out in the consolidation of the Greater University of North Carolina, the summer schools of the University at Chapel Hill, of the State College of Agriculture and Engineering at Raleigh, and the Woman's College at Greensboro have been united into one organization. A Director for all three of the schools has been appointed with an Associate Director for each of the individual units. The work of the three divisions will be arranged according to function.

Elementary Education will be the distinctive field of work at Greensboro; Agricultural, Vocational and Technological training at State College; and Secondary Education and Graduate work the distinctive field at the University at Chapel Hill.

There will be a single session of six weeks at all three of the institutions, with a second term of six weeks at Chapel Hill only. The work of the three institutions is being correlated and coordinated in such a way that the students and teachers of the State may be better served than hitherto.

The twenty-first Summer Session of the North Carolina State College of Agriculture and Engineering of the University of North Carolina, begins Wednesday, June 13th, and closes Tuesday, July 24th. In the courses given, the work will be directed primarily to the needs of the teachers in secondary education and to the regular college students working for a degree. The usual technical courses will also be offered, as well as courses for teachers of Industrial Arts who hold a certificate of Grammar Grade C or higher.

In addition to the subject-matter courses open to all students who have graduated from high school and particularly suitable for those persons preparing to teach in the secondary schools, there will be the usual methods courses.

The State College Summer School is desirous of using its faculty and laboratories, which are particularly well prepared and equipped in the scientific and technical fields, to meet the rapidly developing needs of the State.

INSTITUTE OF EDUCATION

During the week of June 25, a series of Conferences will be held in Raleigh, Chapel Hill, and Greensboro in connection with the Summer Session of the University, with lectures and round-table discussions by distinguished leaders in American education. The theme of the Conferences will be "The Place of Education in the Program of Reconstruction." A complete program of each Conference will be announced later.

Among the distinguished visitors who will participate in the Institute are Professors William H. Kilpatrick, George D. Strayer, George S. Counts, John K. Norton, Edward H. Reisner, Jesse H. Newton, Louis C. Mossman, John J. Coss, of Columbia University; Dean Malcolm MacLean, of the University of Minnesota; Professor Edwin H. Reeder, of the University of Vermont; Dr. Sidney B. Hall, State Department of Education of Virginia; Mr. J. C. Wright, United States Office of Education; Governor J. C. B. Ehringhaus; Dr. Clarence Poe, editor of the *Progressive Farmer*; and others.

Many of these visitors will lecture and conduct discussions in Education 107.

CONFERENCE ON LABOR AND INDUSTRIAL RELATIONS

In connection with the Institute of Public Welfare, which is held annually at Chapel Hill in cooperation with the State Board of Charities and Public Welfare, there will be held in the week of July 16 to 20 a Conference on

the important question of *Labor and Industrial Relations*. This Conference will probably be held partly in Raleigh and partly in Chapel Hill. The program is being worked out with the cooperation of the State Department of Labor, the Commissioner of Charities and Public Welfare, and other State leaders, and with officials of the United States Government in the Department of Labor in Washington. Full details of this Conference will be announced later.

AGRICULTURE

It is the purpose of the Summer School of State College to render every possible service to the farmers of North Carolina and to all those interested in helping the farmers with their many intricate problems. The "New Deal" in agriculture calls for an entirely new approach to the whole farm situation. The Agricultural College, including the Experiment Station, occupies a position of leadership in this field, and will offer during the Summer School courses for teachers, students in agriculture, farmers and any others wishing to take advantage of the facilities of the College.

COTTON CLASSING

The Cotton Classing course in the Summer School offers intensive work in the grading and stapling of cotton.

The course consists of lectures and daily practice in grading and stapling, according to the "Universal Cotton Standards."

This work is designed to prepare men to enter the cotton business and to give intensive training for men who are now in active service. (See description of the course on page 15.)

HIGH SCHOOL PRINCIPALS AND SCIENCE TEACHERS

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 physical 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. Teachers planning to take these courses are requested to bring their high school texts.

CURRICULUM STUDY PROGRAM IN NORTH CAROLINA

The Summer School at State College will be definitely identified with the curriculum construction program which is being carried on by the State Department of Public Instruction. Dr. J. Henry Highsmith, Director of the Division of Instructional Service, will offer this summer not only his usual courses but a new one—namely: Education s334, High School Course of Study. This course will deal entirely with certain phases of the high school curriculum, and is a very definite part of the curriculum program itself.

In addition to the work offered by Dr. Highsmith, attention is called to the following courses in Education which may contribute directly to the curriculum program:

Education s250	Education s341
Education s303	Education s353
Education s320	Education s354
Education s331	Education s360
Education s337	Education s381
Education s339	Education s416
	Physical Education s117

These courses cover a wide range of work and offer opportunity, therefore, for a teacher to pursue his own particular interest.

INDUSTRIAL ARTS

During the Summer School emphasis will be given to the preparation of teachers of industrial arts for the various communities of North Carolina. The rapid growth of industrial education in our State is creating a demand for supervisors and teachers who are competent to develop it in the right direction. Courses will be given in shop practice, mechanical drawing, methods of teaching, subject-matter, and administration.

Supervisors and teachers are needed for the work in the junior and senior high schools, part-time and continuation schools, and evening schools. The need is for those who are familiar with both general and vocational education and are capable of placing the proper emphasis on the courses to be outlined for a particular locality.

Industrial arts education depends largely upon the soundness of the philosophy concerning the type of training which underlies the introduction of industrial studies. For this reason those professionally minded teachers with vision will welcome courses giving them a better basis for their work in the classroom.

The purpose of the courses in Industrial Arts for the Elementary School is to create interest in these problems using them to motivate the elementary school subjects and to prepare teachers and supervisors who will become leaders in introducing this work in their school systems. Credit for these courses may be used either in raising or renewing certificates.

Teachers desiring to raise or renew their certificates will take the first two of the courses in the list following, and one course selected from the remainder of the list.

Ed. s353. The Theory of Industrial Arts in the Elementary School. Five hours a week; three credits.

***Ed. s354. Practical Arts Problems,** Ten hours a week; three credits.

Tex. s115. Courses for Teachers. Four hours a week; two credits.

Ed. s203b. Educational Psychology. Five hours a week; three credits.

Ed. s320. Vocational Guidance. Five hours a week; three credits.

***Ed. s355. Art Studies in the Elementary School.** Ten hours a week; 1½ or 3 credits.

Ed. s281. Character Education. Five hours a week; three credits.

NOTE.—The above courses are described elsewhere in this bulletin.

TEXTILES

The Textile School at State College occupies a place of merited leadership in this country. A State with North Carolina's rank in the textile field needs to take advantage of the latest things in research and training in this North Carolina's largest industry. The Textile School offers its equipment and faculty to the people of the State during the Summer School.

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.

*A fee of \$1.00 will be charged those taking Ed. s354 and Ed. s355 to pay for the materials used.

VOCATIONAL GUIDANCE

Guidance is recognized as a part of the work of each teacher in the school. Pupils of all ages require assistance in their growth and progress through their school problems. Each stage of school development as elementary, junior high, senior high, and college requires special attention which the individual teacher may render. In addition to the work done in the classroom, there is that of the school counselor and director of the work whose duty it is to provide materials and programs of work, together with the care of such special cases as requires specific aid.

Vocational Guidance, Ed. s320, is a beginning course for advanced undergraduates and graduates, also for teachers in service who wish to help in guidance activities. Occupational Counseling, Ed. s412, is a graduate course for those who have had Ed. s320 and some experience in teaching, and those who have had a wider experience in school and industry. Closely correlated with these courses are those in psychology, sociology, economics and testing.

PHYSICAL EDUCATION AND COACHING

The Summer School will offer opportunity for coaches and teachers of physical training to take specialized courses in the Department of Physical Education. The courses in athletic coaching and physical training are arranged especially for instructors already engaged in teaching during the regular school year and for others who wish to supplement the preparation they may have received in college. The courses take up the more important problems of coaching, and are designed for the purpose of fitting men more completely to take charge of athletics and physical training in schools and colleges throughout the country, and for fitting women to coach basketball, and direct physical training programs.

The College has now arranged as one of the options in the training of high school teachers, physical education. This permits a student to elect physical education as one of the fields in which he is preparing to teach, and by completing the requirements of this option, and one other, to be certified by the State Department of Education to teach in the two fields. The College has not been able to supply the demand for men with this training.

Leaders in education now recognize the fundamental need of athletics as an important part of any broad educational program. The demand for competent teachers, supervisors, and directors far exceeds the supply. This is especially true in case of men qualified both in coaching and in conducting classes in physical training. Our schools are seeking men who are college trained to take charge of their athletics; men who are versed in all phases of athletic coaching and administration. Approximately thirty-six states in the Union now have adopted legislation making physical education a prescribed part of the elementary and secondary school program.

MUSIC AND ASSEMBLIES

The success of the musical organizations of the Summer School under the direction of Mrs. Lillian Parker Wallace has elicited favorable comment from friends throughout the city. These are voluntary organizations and Mrs. Wallace kindly gives her services to these groups without charge. Students interested in music should by all means bring their musical instruments with them.

Only one assembly period per week will be provided. Interesting programs will be arranged for each of these. All students and faculty members are expected to attend these assemblies.

RECREATION

There will be supervised recreation, consisting of tennis tournaments, baseball, volleyball, basketball and handball. Instruction in swimming will be provided for both men and women. The new swimming pool, lockers and showers, and other gymnasium facilities will be available to all students.

A popular occasion during the 1933 Summer School was the ALL COLLEGE PARTY. These parties give an opportunity for the students and faculty to know each other better by playing and dancing together. More of these will be provided in 1934.

COLLEGE CREDIT

Beginning with 1924-1925, the regular session of State College was 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, five periods a week. Since, however, no student will be allowed to take more than eighteen hours of work per week without special permission, this restriction will prevent student's taking more than one ten-period course.

Thirty days of work during the six weeks will be accepted as meeting Summer School requirements if all the demands of the course are met. This includes one day for registration and one day for examination.

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.

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.

PROVISION FOR BOTH MEN AND WOMEN

All courses are open to both men and women. Special accommodations in the dormitories are provided for the women, and special attention will be given to their comfort and welfare.

The fifth dormitory will be set apart for women in attendance upon the Summer School and will be under the supervision of Mrs. Mary Smithwick, who has served so efficiently for several summers. The sixth dormitory will be reserved for married couples wishing to attend Summer School.

The variety of courses offered during the State College Summer School should appeal not only to those women in the teaching profession, but to those who are interested in taking advantage of these courses in preparation for other vocations and leading toward a college degree. Young women living in Raleigh and in nearby territory who are working for a college degree should take advantage of this opportunity.

EDUCATIONAL FORUM

An open forum for discussion of timely subjects in the several larger fields of study in the College will be conducted for the benefit of Summer School students. These meetings will consist of an opening lecture by a recognized leader in his field, followed by a period of round table conference. These meetings will be as frequent as the attendance and interest will warrant.

PERSONAL PROBLEMS CONFERENCE

In view of the unusually difficult conditions under which teachers are working, the Summer School is providing for a weekly conference period of faculty and students for the consideration of urgent problems in fields in which students may not be able to get sufficient information and help in regular courses. The conference plan will have the advantage of having a number of faculty members in attendance to bring in their individual experience and points of view bearing on the problem under consideration. This plan aims to afford students the opportunity to have light thrown upon just as many of their general and individual problems as possible.

OPPORTUNITY FOR INTERVIEWS

Members of the faculty will maintain office hours for consultation with students on problems related to their respective fields of work.

In addition to regular personal and professional assistance the State College faculty is always anxious to give, it should be of tremendous value to teachers to attend Summer School in Raleigh where they are in easy access to the various State departments. This is especially true in connection with personal interviews teachers may arrange with heads of divisions in the State Department of Education. The Director's office will be glad to aid in arranging for these interviews.

SPECIAL FEATURES

A reception for students and faculty, followed by other social and recreational events such as week-end picnics and excursions, serve to foster a congenial spirit in the student body, as well as to keep students physically and mentally fit for efficient study.

FEEES AND EXPENSES FOR SIX-WEEKS PERIOD

All fees and other charges are payable in advance or upon registration, and all checks should be payable to North Carolina State College.

Room Rent (per person).....	\$ 7.50
Board at College Cafeteria ..	25.00
COLLEGE FEES	
For Residents of North Carolina.....	27.50
For Non-Residents	40.00

All students occupying a room alone will be charged \$10.00.

Students taking in excess of the normal load of three courses, not exceeding eleven credits, will be charged a fee of \$5.00 for each additional course. Double courses will be counted as two courses.

There will be a key deposit of twenty-five cents, which amount will be refunded when the key is returned.

BOARD AND LODGING

The College dining room will not be kept open during Summer School. The cafeteria, which is in the same building with the dining room, will be run for the benefit of the Summer School students and faculty.

A great many members of the faculty and regular college students eat in the cafeteria and find it very satisfactory, and about as cheap as the dining room, with the addition of greater variety from which to select, and longer

periods in which to eat. The cafeteria charges are reasonable. Students may pay for meals a la carte or they may buy tickets for the six weeks for \$25.00.

Students will be assigned to rooms upon their arrival at the College. In case it is desired to change the room assignments, permission to do so must first be obtained from the Superintendent of Buildings. In no case may a room be taken until it has been regularly assigned.

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 pillow cases, and two bedspreads for a single bed.

REGISTRATION

All registrations will be conducted in Frank Thompson Gymnasium beginning at 9 a.m., on June 13th. Students are expected to report in person on Wednesday, June 13th, so that they may begin class work on the morning of Thursday, June 14th, at 8 o'clock. Deans and Directors of Instruction will be present to advise students relative to courses. The administration reserves the right to cancel any course for which the registration is less than eight.

DIPLOMAS

Students expecting to receive a degree at the end of the Summer School should come to the Office of Registration early in the session and check up on all credits; also check their names as to correctness of spelling, etc., in order that they may appear properly upon the diploma.

HOURS OF WORK

It is important to notice that teachers are required to take at least fifteen hours weekly in order to receive credit for one summer session. Additional credits may be taken by students if they have points to justify, and by teachers on approval of the Director. However, a fee of \$5.00 will be charged for the extra course above the three allowed as a normal load, in no case to exceed eleven credits. In no case will a student be allowed more than twelve credits per week. Each student will be allowed to audit a class five times, if agreeable to instructor.

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, its office buildings, and its growing commercial and industrial activities. Opportunities will be given the students to visit the places of interest.

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, and auditorium, several reception rooms, telephone booths, and other conveniences for the promotion of the social life of the students.

THE D. H. HILL LIBRARY

The D. H. Hill Library, one of the most beautiful libraries in the South, will be open for the use of Summer School students. Its spacious reading and periodical rooms afford an opportunity for research and study under the most pleasing conditions. The consolidation of the various departmental libraries into the central library, have greatly increased the library facilities. The library maintains a competent staff adequate to render every possible library service.

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

FRANK THOMPSON GYMNASIUM

The Frank Thompson Gymnasium is without doubt the finest and best equipped gymnasium in the South. The main floor is 130 by 110 feet, with an inter-collegiate basketball court of maximum size, and seating capacity for 2,500 spectators without using the gallery. Two maximum sized cross courts make it possible to run off class and tournament games. The auxiliary gymnasium or exercise room is 110 by 40 feet. Both of these rooms are equipped with full gymnasium apparatus and handball courts. The basement is fitted up with 1,000 private steel combination lockers. Team training rooms, equipped with private showers and lockers, a towel service room, an equipment room, and a wrestling and boxing room compose one-half of the basement. The other half is given over to the armory.

The swimming pool is located in an annex amply lighted both by windows and skylights, and finished with white tile. The pool is 75 by 30 feet, with room sufficient to accommodate several hundred spectators.

MEETING OF TEACHERS OF AGRICULTURE AND YOUNG TAR HEEL FARMERS

The annual conference of North Carolina teachers of vocational agriculture will be held at State College on June 18, 19, 20, and 21.

The annual meeting of Young Tar Heel Farmers, a statewide organization of students of vocational agriculture, will be held at State College, June 22, and 23.

SCHOOL FOR JANITORS AND FIREMEN

The Mechanical Engineering Department of North Carolina State College, as a feature of the Summer School, conducts a short course of six days for white janitors and firemen, teaching the fundamental principles of combustion, how to fire economically, and general instructions about heating systems and operation of the plant. The mornings are given to lectures and talks by members of the College faculty and representatives from other State departments, and the afternoons are given over to the practical problems and to inspection trips to different schools. The total cost which includes cost of registration and room rent will not exceed \$3.00. Board is not furnished, but can be secured from the College Cafeteria. The 1934 school will be held the week of July 23-28. Applications for admission should be sent to Professor L. L. Vaughan, North Carolina State College, Raleigh, North Carolina.

COURSES TO BE OFFERED IN THE SUMMER SCHOOL

ABBREVIATIONS FOR BUILDINGS

C.—Ceramic	Pr.—Primrose
G.—Gymnasium	Pl.—Patterson
H.—Holladay	R.—Ricks
P.—Page	T.—Textile
P. & E.—Physics and Electrical Engineering Building	Pl.—Pullen Hall
Pe.—Peele Hall	W.—Winston
Pk.—Polk Hall	Z.—Zoology Building

The courses appearing hereafter with numbers 100, 200, and the 300 courses, which are starred, may be taken for undergraduate credit only.

ANIMAL HUSBANDRY AND DAIRYING

A. H. s102. Animal Nutrition 1. Five credits, ten times a week. Pre-requisite: Chem. 101. Mr. Ruffner. By arrangement. Pk. 110.

A study of animal nutrition, physiology of digestion; nutrients; feeding standards; economical and balanced rations. Practical work given.

A. H. s209. Horse and Mule Production. Three credits; lectures and laboratories; five times a week. Prerequisite: A. H. 101. Mr. Haig. By arrangement. Pk. 110.

A study of practical methods in production and management of horses and mules for work on farms under southern conditions. Special study of use of home-grown feeds for horses and mules at work or idle.

A. H. s217. Ice Cream Making. Four credits; lectures and laboratories. Prerequisite: A. H. 103. Mr. Clevenger. By arrangement. Pk. 110.

Standardizing of mixing and freezing of ice cream, sherbets, and other frozen products, and the physical principles involved; types of freezers, flavoring materials, fillers and binders; ice cream standards; the theory and practice of artificial refrigeration and its use in the ice cream plant.

A. H. s304. Herd Improvement. Five times a week; three credits. Prerequisite: A. H. 101, 102, 103. Mr. Haig. By arrangement. Pk. 110.

This course is designed for training students as supervisors of cow-testing associations in North Carolina. Rules and requirements for Advanced Registry Testing are studied in detail. Lectures are supplemented with laboratory work, and the student is required to do practical work in keeping feed costs, milk weights, butterfat tests necessary in the efficient management of dairy associations.

AGRONOMY

F. C. s1. Cotton Classing. Twenty hours a week for six weeks. No college credit. Mr. Darst, Mr. Cotner. 9-1 M. T. W. T. F. Pt. 45.

The Summer School of Cotton Classing offers an intensive course in the grading and stapling of cotton.

The course will consist of lectures and daily practice in grading and stapling cotton samples according to the "Universal Cotton Standards."

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 cotton.

All the instruction in classing will be done by men holding a Federal Cotton Classing license.

The Cotton Classing course is designed for a special group, and does not carry collegiate credit. There is a flat charge of \$27.50 for the whole course in Cotton Classing. Persons registered for fifty per cent or less of the course will be charged \$15.00. All fees are to be paid on or before registration.

A Cotton Classing certificate will be issued by the College to those satisfactorily completing the six weeks course.

The school has been serving the State and neighboring states for fourteen years. The school has international recognition, as men from the following countries have taken the course: South America, India, China, South Africa, Belgium and Germany.

Persons expecting to attend this course should notify Dr. J. B. Cotner, State College Station, Raleigh, N. C.

F. C. s225. Cotton Classing II. Three credits. Mr. Cotner. 9-11 or 11-1.

Required of sophomores in Textile Manufacturing, Chemistry and Dyeing, and Designing.

A study of the universal standards of American upland cotton for grade and staple. Factors that determine grade and their relative value. Practice will consist of classing and stapling three to five thousand samples of cotton.

F. C. s302. Advanced Cotton Classing. Three credits. Mr. Cotner. 9-11 or 11-1. Prerequisite: F. C. 101 or 105, 225, or 220.

For men who expect to become specialists in cotton classing. This course will prepare men to take the U. S. Civil Service examination for cotton classing.

F. C. s201. Cereal Crops. Prerequisite: General Field Crops. Five hours a week; three credits. Mr. Darst, Mr. Cotner. 11 M. W. F.; 11-1 T. Th. Pt. 26.

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.

F. C. s210. Cotton Production, or s215. Tobacco Production. Five hours a week; three credits. Mr. Cotner. 8 M. T. W. T. F. Pt. 45.

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.

F. C. s330. Advanced Seed Judging and Grading. Prerequisite: Cereals. Five hours a week; three credits. Mr. Darst, Mr. Cotner. 12 M. W. F. 2-4 T. Th. Pt. 26.

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.

F. C. s351. Advanced Study of Crops Research. Undergraduate credits, 3-9; Graduate credits, 2-6. Elective for graduates and advanced undergraduates. Mr. Darst, Mr. Cotner. By arrangement. Pt. 26.

A field study of the research work and demonstration work in crops. This course will be based directly upon experimental work in progress.

The crop or crops for study will be agreed upon by the class.

AGRICULTURAL ECONOMICS

Agr. Econ. s260. Agricultural Economics. Five hours a week; three credits. Mr. Knapp. 10 M. T. W. T. F. R. 208.

A study of the economics of agricultural production; the nature and characteristics of the factors of production; the laws relating to the combination of the factors; the factors affecting the choice of farm enterprises.

Agr. Econ. s265. Farm Marketing. Five hours a week; three credits. Prerequisite: Economics 102. Mr. Knapp. 9 M. T. W. T. F. R. 208.

A study of the economic principles underlying successful marketing of farm products, market organization and control, price-making forces, and critical examination of the present system of marketing farm products.

Agr. Econ. s269. Farm Accounting. Five hours a week; three credits. Mr. Knapp. 11 M. T. W. T. F. R. 208.

This course deals with the practical aspects of farm accounting, such as preparation of inventories of farm property, simple financial statements, method of keeping farm records, analysis of farm records, and the interpretation of results obtained from farm business transactions. Attention will also be given to methods of obtaining information on the business aspects of farming.

Agr. Econ. s363. Agricultural Cooperation. Five hours a week; three credits. Mr. Knapp. 8 M. T. W. T. F. R. 208.

A study of all types of farmers' cooperative enterprises. Specific consideration is given to local community cooperation, both economic and social, farmers' buying, selling and service organizations. A comparative study of all foreign and American farmers' cooperatives is made.

Agr. Econ. s365. National Economic Policies Affecting Agriculture. Five hours a week; three credits. Mr. Forster. By arrangement. Prerequisite: Econ. 103, Agr. Econ. 260, Agr. Econ. 265.

This course will center its discussion on the present Federal program of Agricultural Relief. Analysis will be made of different farm relief proposals for marketing and credit. Attention will be given to the ways in which vocational teachers, county agents and others may correlate their efforts with the Federal program.

BOTANY

Bot. s101. General Botany. Two lectures, two recitations, eight hours laboratory. Four credits. Mr. Whitford. 8, 2-4, M. T. W. T. Pt. 47.

Nature of the Higher Plant. A course presenting the fundamentals of the structure and function of the typical flowering plant.

Bot. s102. General Botany. Four credits. Mr. Whitford. 8, 2-4 M. T. W. T. Pt. 47.

Survey of the Plant Groups. An introduction to the various major kinds of plants through the study of the life histories of types.

Bot. s203. General Bacteriology. Four recitations, eight hours laboratory. Four credits. Mr. Shunk. Prerequisite: Botany 102 or equivalent. 11, 2-4, M. T. W. T. Pt. 47.

An introduction to the principles of bacteriology. Laboratory work on modern cultural methods of handling and studying bacteria.

Bot. s204. Systematic Botany. Two lectures, eight or sixteen hours laboratory. Three credits. Mr. Shunk. Prerequisite: Elementary Botany. 9, 2-5, T. Th. Pt. 47.

An introduction to the local flora and the classification of the plants included therein.

Courses For Graduates Only

Botany s401. Pathology of Special Crops. Three credits. Prerequisite: Bot. 201 or 203, 301. Mr. Lehman or Mr. Poole. By arrangement.

A comprehensive study of the etiology, symptoms, and control of specific diseases.

Botany s402. Bacteriology: Special Studies. Three credits. Prerequisite: Bot. 203, 302. Mr. Shunk. By arrangement.

Special work on restricted groups of bacteria such as nitrogen bacteria of the soil, milk organisms and special groups of bacteria in water.

Botany s406. Research in Botany. Three credits. By arrangement. Prerequisite: 30 hours 100-300 courses in Botany.

CHEMISTRY

Chem. s101. General Chemistry. Five hours in classroom and five hours in laboratory each week. Four credits. Equivalent to first term General Chemistry as given in the regular college year. Mr. Jordan. 8 M. T. W. T. F.; 1-5 T. W. 114.

Composition and properties of air and water. First principles of Chemistry, such as atomic theory, laws of chemical combination, valence, chemical formulas and equations, oxidation, reduction, behavior of gases and solutions. Study of a few typical elements, such as oxygen, hydrogen, carbon and nitrogen, together with their simpler compounds.

Chem. s103. General Chemistry. Five hours in classroom and five hours in laboratory each week. Four credits. Equivalent to second term General Chemistry as given in the regular college year. Mr. Jordan. 10 M. T. W. T. F.; 1-5 Th. W. 102.

Particular attention given to chlorine, sodium, nitrogen, sulfur, fluorine, bromine, and their compounds. Study of such common substances as salt, lye, soda, carbon disulfide, prussic acid, petroleum, coal tar, acetylene; ammonia and its more interesting uses such as in ice machines; sulfur dioxide in household refrigerators and as a bleaching and germicidal agent; compounds of nitrogen in warfare and agriculture. Introduction to acids, bases, salts, ionization, hydrolysis, equilibrium, the periodic law and the new theories of the structure of the atom.

Chem. s105. General Chemistry. Five hours in classroom and five hours in laboratory each week. Four credits. Equivalent to third term General Chemistry as given in the regular college year. Mr. Jordan. 11 M. T. W. T. F. Laboratory 1-5 T. W. 114.

Chemistry of clays, ceramics, glass, cement, soils, fertilizers, insecticides, lime, hard water alloys, paints, storage batteries, photography, flames and explosions. Compounds and properties of phosphorous, arsenic, bismuth, silicon, boron, potassium, calcium, magnesium, zinc, aluminum, iron, tin, lead, nickel, copper, mercury, silver, gold, platinum and other less common elements. Thermochemistry, colloids and radioactivity.

Chem. s111. Qualitative Analysis. Two hours lecture with four laboratory periods of three hours each, per week. Equivalent to one term of college work. Four hours credit. Prerequisite: General Chemistry. Mr. Williams. 10 T. Th.; Laboratory to be arranged. W. 102.

A systematic study and separation of the metallic ions and non-metallic ions into their respective groups, their identification and the chemical reactions involved. The last two weeks will be given over to the complete analysis of mixed salts, compounds, and alloys.

Chem. s112. Quantitative Analysis, A. Two lectures and twelve hours laboratory. Equivalent to one term of college work. Four hours credit. Prerequisite: Qualitative Analysis. Mr. Williams. Arrange. W. 102.

This work will deal with the theory and practice of making up and standardizing acids, bases, di-chromate and permanganate solutions, also the determination of the strength of unknown acids and bases, the analysis for the per cent purity of iron ores, oxalates, sulphates, magnesium phosphate rock, etc.

Chem. s113. Quantitative Analysis. Four credits. Mr. Williams. Required of sophomores in Chemical Engineering and those majoring in Chemistry. Prerequisite: Chem. 111. By arrangement. W. 217.

A continuation of Chem. 112. Substances of more difficult nature are analyzed, minerals, steel, alloys, limestone, Paris green, etc.

Chem. s141. Practical Organic and Biological Chemistry. Five hours a week; three credits. Prerequisite: Chem. 101, 103. Mr. Williams. To be arranged. W. 111.

A systematic study of hydrocarbons, alcohols, aldehydes, ketones, acids, ethers, esters, amino acids, and benzene derivatives, with entire emphasis on the substances in these groups which are related to plant and animal life processes. Special attention to carbohydrates, fats, proteins, and related compounds. Brief treatment of vitamins, alkaloids, plant colors, flavors, and other miscellaneous substances.

Chem. s344. Food, Nutrition and Diet. Five hours a week, three credits. Prerequisite: Training satisfactory to instructor. Mr. Williams. By arrangement. W. 115.

The influence of vitamins, minerals, proteins, amino acids, carbohydrates, fat, fiber, flavor, color, enzymes, preservatives and stimulants on the body. Chemical and physical nature of carbohydrates, fats and proteins. Digestion and metabolism. Study of the proper diet. Flesh-forming and flesh-producing diets. Diet in disease. Sour milk therapy.

While human feeding is emphasized in this course, principles here discussed are applicable to the feeding of animals as well.

Other courses in Chemistry offered during the regular school year may be taken by arrangement.

ECONOMICS

Econ. s102. Introduction to Economics. Five hours a week; three credits. Mr. Shulenberg. 8 M. T. W. T. F. Pe. 101.

This course is the regular college one-term course required of all students in Engineering and is designed for those students who do not feel able to devote more than one term to the study of economics, and also for teachers preparing to teach economics in high schools.

This is an elementary course 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 ideals which dominate, operate and control the manner, means, and methods of making a living.

Econ. s103. General Economics. Five hours a week; three credits. Mr. Shulenberg. 11 M. T. W. T. F. Pe 101.

This is the first term of the regular college course in General Economics.

An introduction to the general field of economics. A study of economic institutions and the general principles governing the production and distribution of wealth under the existing economic organization.

Sections for F. W. S.

Econ. s112. Accounting for Engineers. Five hours a week; three credits. Mr. Shulenberg. 9 M. T. W. T. F. Pe. 109.

Required of students in the School of Engineering. Not open to students in Business Administration.

A survey of accounting and financial statements and records; their construction, their use and interpretation.

Econ. s201. Accounting I. Five hours a week; three credits. Mr. Shulenberg or Mr. Leager. 9 M. T. W. T. F. Pe. 3.

Required of all sophomores in Business Administration and Industrial Management.

A course in the theory and practice of accounting, covering the essential principles of accounting as applied to the several types of business organizations, giving interpretations of the structure, form, and uses of formal business statements such as Balance Sheets, Statements of Profit and Loss, etc.

Sections for F. W. S.

Econ. s210. Business Organization. Five hours a week; three credits. Prerequisite: Econ. 102 or 103. Mr. Leager. 8 M. T. W. T. F. Pe. 3.

Forms of business enterprises, single enterprises, partnerships, joint-stock company, corporation, and principles of business management.

Econ. s211. Business Law. Five hours a week; three credits. Prerequisite: Econ. 102 or 103. Mr. Shulenberg. 10 M. T. W. T. F. Pe. 109.

Required of seniors in Business Administration, and in Ceramic, Chem-

ical, Civil, Architectural, Electrical, and Mechanical Engineering, and teachers of commercial subjects. Elective for other students.

A general survey of the sources of law, fields of law, contracts, agency, sales, law of partnerships and corporation, negotiable instruments, bailments and carriers, personal property, suretyship and guaranty, bankruptcy, crimes in business.

Econ. s212a and 212b. Statistics (for teachers). Five hours a week; three credits. Elective. Prerequisite: Economics 102. Mr. Leager. 10 M. T. W. T. F. Pe. 3.

A study of the elements of statistical methods, collection and analysis of statistical data. This course stresses the application of statistical methods to educational data—graphical presentation, and analysis of teachers' problems.

Econ. s214. Business Statistics. Five hours a week; three credits. Mr. Leager. 9 M. T. W. T. F. Pe. 108.

A review of the history, and an analytical study of the outstanding business forecasting procedures and practices.

Econ. s217. Advertising. Five hours a week; three credits. Mr. Moen. 7 M. T. W. T. F. Pe. 108.

Principles and practices of advertising and its relation to the distribution and sales program.

Econ. s221a. Money. Five hours a week; three credits. Mr. Moen. By arrangement. Pe. 108.

History and theory of money and monetary systems.

Econ. s330. Principles of Insurance. Five hours a week; three credits. Prerequisite: Econ. 103 or equivalent. Mr. Leager. 11 M. T. W. T. F. Pe. 3.

A general course dealing with the various fields of insurance—life, fire, health, accident, credit, automobile, employees' liability and workman's compensation.

***Econ. s325. Stock Market Operations.** Five hours a week; three credits. Mr. Moen. 8 M. T. W. T. F. Pe. 108.

A description and analysis of the principles and practices of the organized exchanges. Investment securities.

ENGLISH

Eng. s101. Rhetoric and Composition. Five hours a week; three credits. Mr. Ladu. 8 M. T. W. T. F. Pu. 105.

Illustrative readings exercises in types of composition; long paper each term; collateral reading. Conferences.

Eng. s202. Advanced English Grammar. Five hours a week; three credits. Mr. Clark. 9 M. T. W. T. F. Pu. 108.

For teachers of English in high schools or in the grades, and for journalists and other creative writers. The science of grammar and the art of its application. The history of forms, inflections, and idioms where helpful in understanding present usage.

Eng. s221. Survey of American Literature. Five hours a week; three credits. Prerequisite: English 101. Mr. Ladu. 11 M. T. W. T. F. Pu. 105.

Equivalent to second term in regular session; from 1840 to 1900.

A study of the masterpieces and outstanding types of American literature in their historical settings, together with a critical examination of the development of American literary thought in connection with its European background.

Eng. s238. The Bible as Literature. Five times a week; three credits. Mr. Ladu. 9 M. T. W. T. F. Pu. 105.

Selected books of the Old and New Testament as literary and historical documents. (King James Version.)

***Eng. s330. Shakespeare.** Five times a week; three credits. Mr. Clark. 10 M. T. W. T. F. Pu. 108. Elective. Prerequisite: Eng. 101 and three additional credits in English.

An analysis of principal plays. Reports on parallel readings.

***Eng. s332. The Romantic Period.** Five times a week; three credits. Mr. Clark. 11 M. T. W. T. F. Pu. 108. Elective. Prerequisite: English 101 and three additional credits in English.

Representative poems of Gray, Blake, Burns, Wordsworth, Coleridge, Scott, Southey, Byron, Shelley, and Keats.

***Eng. s335. Milton.** Five times a week; three credits. Mr. Clark. 8 M. T. W. T. F. Pu. 108. Elective. Prerequisite: English 101 and English 220 or its equivalent.

Major and minor poems, with limited treatment of prose.

***Eng. s337. Contemporary American Literature.** Five times a week; three credits. Mr. Ladu. 10 M. T. W. T. F. Pu. 105. Prerequisite: English 101 and three additional credits in English.

Study of leading writers of present century, and an attempt to interpret works against social background of period.

EDUCATION

Courses for Undergraduates

Ed. s208a. Educational Psychology. Five hours a week; three credits. Required of students in Education; elective for others. Mr. Garrison. 8 M. T. W. T. F. H. 3.

Original nature and environment are analyzed in this course as to their function in the educational processes. The elementary principles of psychology are illustrated and studied as they relate to the learning process.

Ed. s208b. Educational Psychology. Five hours a week; three credits. Required of students in Education; elective for others. Mr. Garrison. 10 M. T. W. T. F. H. 3.

This part of educational psychology is concerned with the physical and mental development of high school boys and girls. Social development; character development; emotional development and control; religious and moral development; and, mental hygiene are topics given special consideration.

Note to Teachers of Industrial Arts:

Especially for industrial arts teachers, courses will be offered in wood-working, metal work, electrical work, auto-mechanics and mechanical drawing. The instructors will be men of wide experience helpful to teachers of general shop and unit courses.

Ed. s250. Mechanical Drawing for Teachers. Ten hours a week; three credits. Mr. Foster. By arrangement. P. 6.

Lectures and drawing room practice involving problems of junior and senior high school mechanical drawing. Lettering, instrument practice, projections, intersections, developments, tracing, and blue-printing.

***Ed. s303. Extra-Curricular Activities in the Secondary School.** Five hours a week; three credits. Prerequisite: Junior standing or teaching experience. Mr. Showalter. 10 M. T. W. T. F. Pe. 208.

The home room; pupil participation in government, the assembly; clubs; publications; recreational activities; athletics; honor societies; social organizations; financial support.

***Ed. s305. Methods of Study.** Five hours a week; three credits. Mr. Cook. Prerequisite: Twelve credits in Education. By arrangement. Pe. 201.

Ed. s320. Vocational Guidance. Five hours a week; three credits. Mr. Boshart. Prerequisite: Twelve credits in Education. 9 M. T. W. T. F. H. 16.

Treats of the problems of directing pupils in the study of occupations for the purpose of selecting satisfactory life work. It includes studies of the history of occupational guidance and personnel administration, principles and practices in guidance and employment, compulsory school laws, child labor legislation, and forms and records essential for school use.

***Ed. s330. Visual Instruction.** Five hours a week; three credits. Prerequisite: Twelve credits in Education. Mr. Armstrong. 9 M. T. W. T. F. Pe. 201.

An advanced course in the psychology, methods, and technique of visual instruction; its place and limits, evaluation and expense of various aids, aids available. Practice in the making and use of practical visual aids.

***Ed. s331. Visual Aids in Social Sciences.** Five hours a week; three credits. Prerequisite: Ed. 208 or Ed. 330 and nine other credits in Education. Mr. Armstrong. 8 M. T. W. T. F. Pe. 201.

A detailed study of visual materials, devices, and procedures applicable to teaching the social sciences, including geography. Emphasis will be given to motivation, facilitating the learning process, and fixation. Various devices will be used by the class.

***Ed. s334. High School Course of Study.** Five hours a week. Three credits. Mr. Highsmith. 12 M. T. W. T. F. Pe. 206.

A program of Course of Study building will be carried on in the State for the next two years and this course, Ed. s334, is given as a part of this state-wide enterprise.

The course will include the following:

1. A brief study of the aims or objectives of secondary education.
2. Setting up attainments or achievements for students in each of the

major subjects taught in each year of the high school—English, Mathematics, Science, Language, History.

3. Actual and practical work on certain subjects determined by the interests and information of the members of the group.

***Ed. s335. Public School Administration.** Five hours a week; three credits. This course is intended primarily for superintendents and principals. Prerequisite: Twelve credits in Education. Mr. Highsmith. 9 M. T. W. T. F. Pe. 208.

The following problems will receive consideration:

The powers and duties of the board of education; the powers and duties of the superintendent; the county-wide plan; consolidation of schools; transportation of pupils; school buildings and equipment; operation and maintenance of plant; janitor service; selection, purchase and distribution of supplies; school reports; problems pertaining to the teacher, pupil and home; educational problems of a county school system. Textbooks, lectures, readings and reports.

***Ed. s336. Problems in Secondary Education.** Five hours a week; three credits. Prerequisite: Twelve credits in Education. Mr. Highsmith. 11 M. T. W. T. F. Pe. 206.

The purpose of this course is to give as practical assistance as possible to those men and women who wish to become or are now serving as high school principals in North Carolina. The following problems will be discussed:

Aims of secondary education; the curriculum (with special reference to the North Carolina course of study) standards for high schools; classification of pupils; control of pupils; attendance; guidance of pupils; classroom standards; tests and examinations; marking system; directed study; class schedule making; duties of principals; supervision of instruction; selection of teachers; teaching load; salaries; textbooks, lectures, readings and reports.

***Ed. s337. The Teaching of Geography.** Five hours a week; three credits. Required for a certificate in science. Elective for teachers in the elementary and secondary school. Prerequisite: junior standing or teaching experience. Mr. Showalter. 9 M. T. W. T. F. Pe. 208.

Trends in geography teaching; nature and use of curriculum materials; practices in teaching geography; the place of geography in general education.

***Ed. s339. The Teaching of Science in the Secondary School.** Five hours a week; three credits. Required for a certificate in science. Prerequisite: junior standing or teaching experience. Mr. Showalter. 8 M. T. W. T. F. Pe. 208.

Determining influences in the development of science teaching; nature and use of curriculum materials; practices in teaching science; educational values and objectives; a program for teaching science.

***Ed. s341. The Teaching of High School Mathematics.** Ten hours a week; five credits. Prerequisite: Ed. 101, 203, 212, 213 and 20 credits in Mathematics. Mr. Mumford. 11-1 M. T. W. T. F. P. 101B.

A comprehensive view of the materials of high school mathematics will be accompanied by a discussion of the selection and use of textbooks and supplementary helps. Practice will be given in the construction and use of written examinations, and the comparative merits of standard tests will be

considered. Attention will be given to adapting both the content and the methods of procedure to the needs of various groups.

Ed. s353. Theory of Industrial Arts in the Elementary School. Five hours a week; three credits. Prerequisite: Twelve credits in Education. Mr. Boshart. 8 M. T. W. T. F. H. 16.

A study of the value and place of industrial arts in the elementary school. The correlation of industrial arts with other school subjects; the methods of teaching and supervision, and the study of industries, with the view of selecting suitable projects for classroom use. Primarily for teachers and supervisors of the elementary schools.

Ed. s354. Practical Arts Problems. Ten hours a week; three credits. Prerequisite: Twelve credits in Education. Mr. Boshart. 9-11 M. T. W. T. F. or 11-1 M. T. W. T. F. H. 15.

Treats of the selection and organization of suitable projects in industrial arts and the working out in detail of such as will meet the needs of the class. The meaning of industrial arts and the methods of making it a part of the regular work of the school will be discussed. For teachers in the elementary schools who have had teaching experience and who have not had special work in industrial arts. A small fee for supplies.

Ed. s355. Art Studies in the Elementary School. Five or ten hours a week; one and one-half or three credits. Prerequisite: Twelve credits in Education. Mr. Boshart. 9-11 M. T. W. T. F. H. 15.

Intended to aid teachers in illustrating their problems through the use of water color, crayon, clay, poster work, etching, and designing. A small fee for supplies.

Ed. s360. Special Problems in Teaching Agriculture. Five hours a week; three credits. Prerequisite: Twelve credits in Education, including Special Methods of Teaching Agriculture. Mr. Cook. 9 M. T. W. T. F. Pe. 201.

This course is for graduates of the Department of Agricultural 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.

***Ed. s364. History of Education.** Five times a week; three credits. Mrs. Wallace. 9 M. T. W. T. F. Pu. 8.

This course will include a brief study of European education and its influence upon the American public school, the early development of the elementary and high schools of America, and the present tendencies of our educational system. The period from 1890 to the present will be given special consideration.

Ed. s377. Psychology of Secondary School Education. Three credits. Mr. Garrison. Prerequisite: Ed. 203 or 371 and 6 credits in Education.

The psychology of learning applied to secondary education; the educational growth of high school pupils.

***Ed. s381. Character Education.** Five hours a week; three credits. Prerequisite: Twelve credits in Education. Mr. Cook. 11 M. T. W. T. F. Pe. 201.

A study of the needs for character training, the nature of the problem, present development, difficulties, agencies responsible, results of investigations, materials and methods for teachers.

***Ed. s382. Supervision—The Improvement of Instruction.** Five hours a week; three credits. Prerequisite: Eighteen hours in Education. Open to college graduates only. Mr. Highsmith. 10 M. T. W. T. F. Pe. 206.

For principals of high schools, heads of departments, supervisors and teachers.

The problems involved in the supervision of teachers; the planning and organization of supervision; the functions of supervision; rating of principals, supervisors, and teachers; classroom visitation and conferences; the improvement of teachers in the service.

Textbooks, lectures, readings, and reports.

Ed. s412. Occupational Counseling. Five hours a week; three credits. Prerequisite: Ed. 320, 327. Mr. Boshart. 8 M. T. W. T. F. H. 16.

Special attention is given to counseling as it may be applied in the junior and senior high schools, colleges, or placement offices, and the method of conducting individual interviews and group conferences. Information covering occupational material will be organized, evaluated, and applied to specific case studies. For teachers of experience and those familiar with personnel work.

Ed. s416. Problems in Agricultural Teaching. Five hours a week; three credits. Prerequisite: Ed. 203, 307, and at least 12 other credits in Education and Agriculture. Experience in agricultural teaching will be accepted in lieu of Ed. 307. Mr. Cook. By arrangement. Pe. 201.

Investigations, reports, and a critical evaluation of present practices with constructive remedies. The content of the course will depend on the interests and needs of the individual members of the class.

Ed. s421. Research in Education. Staff.

ENGINEERING

M. E. s102. Engineering Drawing. Ten or twenty hours a week; three or six credits. Required of Engineering freshmen. Mr. Foster. 9-1 M. T. W. T. F.; 10-12 M. T. W. T. F. P. 106.

Drawing-board work, covering lettering, orthographic projection, auxiliary projection, isometric projection, cabinet projection, intersection and development, working drawings, and blue-printing.

M. E. s103. Descriptive Geometry. Ten hours a week; three credits. Mr. Foster. 8-10 M. T. W. T. F. P. 106.

This work covers the representation of geometrical magnitudes, by means of points, lines, planes, and solids, and the solution of problems relating to them.

M. E. s107. Mechanical Drawing. Four, seven or ten hours per week; one, two or three credits. Mr. Foster. By arrangement. P. 106.

Drawing-board work, covering machine fastenings, pipe fittings, elementary cams, technical sketching, working drawings, tracing and blue-printing.

C. E. s200. Mechanics. Five, ten, or fifteen hours per week; three, six, or nine credits. Mr. Foster. By arrangement. P. 102. Required of Engineering juniors. Prerequisite: Math, 203.

Either the first, second, third, or a combination of two, or all three terms may be taken. First term covers statics, concurrent, non-concurrent and parallel forces, friction, centroids, and moment of inertia. Second term covers kinetics, rectilinear and curvilinear, motion and rotation. Third term covers work, power, and energy.

M. E. s203. Kinematics. Ten hours a week; three credits. Prerequisite: M. E. 103 and M. E. 107. Mr. Foster. To be arranged. P. 102.

Drawing-board work, covering the forms and motions of machines.

GEOLOGY AND PHYSICAL GEOGRAPHY

Geol. s101. Earth History. Five hours a week; three credits. Mr. Stuckey. 9 M. T. W. T. F. Pr.

Open to both college students and teachers who are interested in a better understanding of the world about them.

An introductory course in general geology dealing with the changes which have taken place in the earth and the physical and life processes which have brought about these changes. The first half of the course deals with the processes of physical and dynamical forces while the second half deals with the historical development of the earth as it has been affected by those forces and by life processes.

Geol. s105. Physical Geography. Three lectures; four hours laboratory and field work; three credits. Equivalent to the regular course in physical geography given in the third term of the college year. Mr. Stuckey. 10 M. T. W. T. F. Pr.

The course is intended to give those interested in general science and in teaching a better appreciation of physical geography. It will include an account of the earth as a planet; the atmosphere; the development of winds and rain; changes in the earth's crust; and the development of relief features and physiographic provinces.

The work of running water, ground water, wind, snow and ice, and forces within the earth as they affect the relief features will be taken up in some detail.

The course will also include a brief consideration of the physical geography of North Carolina.

Geol. s201. Geology of North Carolina. Three lectures; four hours laboratory; three credits. Mr. Stuckey. 12 M. W. F. Laboratory by arrangement. Pr.

Elective for students in the Schools of Engineering and Science and Business who have had Geol. 101 or 120.

Also open to teachers who are interested in the geology of North Carolina and who may be interested in helping students to collect and assemble groups of the common rocks and minerals from different sections of the State.

The course will cover the physical geography, general geology, common rocks and minerals, and mine and quarry products of the State.

HISTORY

Hist. s101a. American Economic History. Five hours a week; three credits. Mr. _____ 8 M. T. W. T. F. Pu. 6.

Discovery, colonization, economic background of the Revolution, government foundations, wars, presidential administrations, public lands, public finance, agriculture and industry.

Hist. s101c. Commercial Geography (Commercial and Industrial). Five hours a week; three credits. Mr. _____ 11 M. T. W. T. F. Pu. 109.

This course is designed to prepare teachers of geography in the high schools as provided for in the plan of High School Reorganization as well as for students in the School of Science and Business. Geographical conditions affecting industries, production and commerce of the world; development and relations of commercial areas to location and availability of resources; markets and transportation routes.

Hist. s201b. Modern European History. Five hours a week; three credits. Mr. _____ 10 M. T. W. T. F. Pu. 8.

The political and social history of Europe from 1789 to 1870. A survey of the French Revolution and Napoleon; the era of Metternich; democratic reforms and revolution; the Industrial Revolution; and the growth of nationalism in 1870.

Hist. s201c. Contemporary Europe. Five hours a week; three credits. Mr. Barnhardt. 9 M. T. W. T. F. Pu. 6.

This course deals with the economic, social, and political developments in Europe from 1870 to the present time. Special emphasis is laid upon the causes of the World War. The war is studied in outline and attention is given to post-war conditions.

Hist. s209. American Government. Five hours a week; three credits. Mr. Barnhardt. 10 M. T. W. T. F. Pu. 6.

This course gives a survey of the historical development, the constitution, the organization, powers, and the actual operations of our national government. Special emphasis is given to present day conditions and movements in our government and political life.

***Hist. s302. Recent U. S. History.** Five hours a week; three credits. Prerequisite: History 101. Mr. Barnhardt. 8 M. T. W. T. F. Pu. 6.

The Civil War, reconstruction, development of West and South, transportation, rise of big business and organized labor, political parties, movements for reform, the free silver movement, war with Spain, American expansion, rise of the Progressive Party; the World War and problems of Reconstruction, Roosevelt and the New Deal.

***Hist. s303. History of North Carolina.** Five hours a week; three credits. Prerequisite: History 101. Mr. Barnhardt. 11 M. T. W. T. F. Pu. 6.

The purpose of this course is to give the teachers of North Carolina and others a general view of the political, economic, and social development of North Carolina from colonial beginnings to the present day. A brief survey will be made of the settlement of North Carolina, the various racial groups

which colonized, agriculture, industry, and commerce in the colonial era, and the relations of the province of England. A more detailed study will be made of North Carolina between the Revolution and the Civil War, emphasis being given to North Carolina and states' rights, social conditions, slavery and the free Negro, agriculture and industry, and the beginnings of public school education. Particular emphasis will be placed on the recent development of the State, the rise of textile, tobacco, and other industries, the development of agriculture, public schools and higher education, good roads, and other factors in recent North Carolina progress.

HORTICULTURE

Horticulture s209. Vegetable Production. Three credits. Mr. Randall. By arrangement. Pk. 308.

Location, soil preparation, fertilization, irrigation, and general culture applicable to commercial vegetable production.

Horticulture s228. Home Floriculture. Three credits. Mr. Randall. By arrangement. Pk. 308.

Principles and methods of growing garden flowers and house plants, including varieties and their adaptability.

There will be the equivalent of two lectures and one two-hour laboratory for each of the above courses.

MATHEMATICS

Math. s100. Mathematical Analysis. Five hours a week; three credits. Prerequisite: Algebra to quadratics and Plane Geometry. Mr. Mock. 10-11 M. T. W. T. F. P. 101A.

The course treats of Algebra, Trigonometry, and Analytical Geometry. It emphasizes graphical methods in the solutions of equations.

Math. s101. Algebra. Ten hours a week; five credits. Prerequisite: Algebra to quadratics and Plane Geometry. Mr. Mumford. 11-1 M. T. W. T. F. P. 101B.

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

Math. s103. Plane Trigonometry. Ten hours a week; five credits. Prerequisite: Algebra through quadratics and Plane Geometry. Mr. Fisher. 8-10 M. T. W. T. F. P. 209.

Definitions of the trigonometric functions, derivation of formulæ, solutions of plane triangles, solutions of many practical problems, etc.

Math. s104. Analytical Geometry. Ten hours a week; five credits. Prerequisite: Mathematics 101, 103. Mr. Mumford. 8-10 M. T. W. T. F. P. 101B.

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

Math. s201. Differential Calculus. Ten hours a week. Five credits. Prerequisite: Mathematics 104. Mr. Mock. 8-10 M. T. W. T. F. P. 203.

An elementary course on the fundamental principles of the Calculus, including the development of the formulæ for differentiation with their applications to the problems in rates, maxima and minima, etc.

Math. s202. Integral Calculus. Ten hours a week; five credits. Prerequisite: Mathematics 201. Mr. Fisher. 11-1 M. T. W. T. F. P. 209.

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.

***Math. s341.** See Ed. s341 for description.

MODERN LANGUAGES

French

Mod. L. s104. French Prose. Five hours a week; three credits. Mr. Hinkle. 8 M. T. W. T. F. Pe. 212.

This course consists of readings and translations based upon selections from representative modern French authors. Rapid reading and sight translation are stressed.

***Mod. L. s313. French Prose Masterpieces.** Five hours a week; three credits. Mr. Hinkle. 9 M. T. W. T. F. Pe. 212.

This is a reading translation course developing facility in French for purposes of investigation. The class work is supplemented by lectures and reports in such a way as to give a general survey of French literature.

German

Mod. L. s102. Elementary German. Five hours a week; three credits. Mr. Hinkle. 10 M. T. W. T. F. Pe. 212.

This course is intended for students who have had little or no previous training in German as well as those who may wish to review the elements of German grammar and pronunciation. It consists of reading and translation with the elements of grammar. Practice in the pronunciation and understanding of German is given by means of dictation and oral practice.

Mod. L. s105. German Prose. Five hours a week; three credits. Mr. Hinkle. 10 M. T. W. T. F. Pe. 212.

Grammar, composition, and translation continued. Rapid reading and sight translation stressed. General survey of German literature is made. Selections from modern German classics are studied in class.

***Mod. L. s304. Scientific German.** Five hours a week; three credits. Mr. Hinkle. 10 M. T. W. T. F. Pe. 212.

This is a reading translation course in scientific German literature. A great deal of attention is given to the study and analysis of German scientific constructions, and a basis is laid for the development of a scientific vocabulary. Open to students who have had two years high school German or one year of college German.

Spanish

Mod. L. s103. Elementary Spanish. Five hours a week; three credits. Mr. _____ 11 M. T. W. T. F. Pe. 212.

This course is intended for students who have had little or no previous training in Spanish. It consists of reading and translation with the elements

¹NOTE. Courses in this department may be taken for double credit with the consent of the teacher concerned and the approval of the Director of the Summer School. The courses in French and Spanish are given alternately.

Students wishing graduate credit in languages should consult the Head of the Department of Modern Languages before registering.

of grammar. Practice in the pronunciation and the understanding of Spanish is given by means of dictation and oral practice.

Mod. L. s106. Spanish Prose. Five hours a week; three credits. Mr. ----- 12 M. T. W. T. F. Pe. 212.

This course consists of readings and translation based upon representative Spanish authors. Reading and sight translations are stressed. The class work is supplemented by lectures and reports in such a way as to give a general survey of Spanish literature.

PHYSICS

Physics s110. General Physics and Physics for Textile Students. Four or eight credits. Five hours class work, one 2½ hours laboratory each week for four credits. Double this for eight credits. Mr. Heck. 9 M. T. W. T. F. 2-4 Tu.; 9-11 M. T. W. T. F.; 2-4 T. T. P. & E. 113.

A course covering the whole field in condensed form. It is especially designed for high school teachers, containing method as well as subject matter. The materials discussed give a broad background of additional subject matter with which to supplement a like course given in high school. It is given in halves taken simultaneously. At nine, force and machines, heat and weather, sound and the physics of music are given. At ten, light and the general field of electricity and the electrical nature of matter are given. Either half may be taken and four college credits earned, substituting for the corresponding term of Physics 101. Two afternoons of laboratory accompany each half.

Physics s104. Five or ten credits. Mr. Dixon. 8 M. T. W. T. F.; 2-4 M. W.; 8-10 M. T. W. T. F.; 2-4 M. T. W. T. F. P. & E. 212.

An advanced treatment of General Physics. First, second, or third terms work may be taken or any two terms taken simultaneously.

Graduate courses in physics will be given if there is sufficient demand.

Physics s107. Descriptive Astronomy. Five hours a week; three credits. Mr. Heck. 12 M. T. W. T. F. P. & E. 212.

A descriptive course covering the most interesting elements in the study of the sun and planets and the stars. The modern interpretation of the universe as a whole given in this course makes it valuable as a background to a student or teacher of any subject. Observation periods, using the telescope on top of the physics building, will be substituted at times for class lectures.

Physics s411. Research.

PHYSICAL EDUCATION

NOTE.—Summer School students are very desirous of getting in coaching courses but find it difficult to schedule them in addition to other required subjects. The coaching courses of the regular term have been combined, to make it possible for students to get instruction in all the major sports if they so desire. These classes meet daily, each sport covering one-half the summer term.

P. E. s112. Theory and Practice Football Coaching. Three hours theory, one hour practice; two credits. Mr. Miller. By arrangement. Gym.

This course will cover the equipment, schedule making, rules, individual position play, offensive and defensive team play, individual technique, team strategy, training and conditioning.

P. E. s113. Theory and Practice Basketball Coaching. Three hours theory, one hour practice; two credits. Mr. Miller. By arrangement. Gym.

This course will cover the equipment, schedule making, rules, individual technique, offensive systems, defensive systems, training and conditioning.

P. E. s114-115. Theory and Practice Track and Baseball Coaching. Five hours theory, one hour practice; three credits. Mr. Miller. By arrangement. Gym.

Track will be covered the first half of the term. The equipment, rules, individual technique, practice organization, administration of meets will be thoroughly discussed and opportunity given for practical demonstration. Baseball will be covered the last half of the term covering individual technique in all fundamentals of individual play, offensive and defensive baseball.

P. E. s117. Physical Education and Recreational Programs. Five hours theory, one hour practice; three credits. Mr. Miller. By arrangement. Gym.

This course is designed to aid those teaching in smaller high schools and grades to meet the demand made of them in assisting in the physical education programs of their school. Both the formal work consisting of calisthenic drill, marching, dancing, and apparatus work and the informal work consisting of group games, sports and efficiency tests will be covered. The organization and the administration of the class work will be stressed. Mr. Miller will teach the men's section in this course and Miss Crow will teach the women's section.

POULTRY SCIENCE

Poul. s303. Poultry Nutrition. Three credits. Mr. Williams or Mr. Dearstyne. By arrangement. R. 208.

This course covers the fundamentals of poultry feeding, physiology of digestion, utilization of home grown feeds, finishing of capons and broilers.

Poul. s305. Poultry Diseases. Three credits. Mr. Gauger or Mr. Dearstyne. By arrangement. R. 208.

A study of the diseases of poultry and of parasitic infestations; sanitation in relation to disease prevention; special stress on autopsy work.

Poul. s306. Commercial Poultry Plant Management. Three credits. Mr. Williams. By arrangement. R. 208.

Principles of successful commercial plant management; operation of force draft incubator; feeding; culling and marketing of poultry.

SOCIOLOGY

Soc. s102. Introductory Sociology. Five hours a week; three credits. Mr. Winston. 11 M. T. W. T. F. Pu. 8.

This course offers an inductive introduction to the field of sociology by taking up a number of social problems which are already somewhat familiar

to every one. These problems confront every community and our general citizenry. The outstanding problems to be considered are: poverty, crime, divorce, immigration, population and race problems. This course, therefore, is a natural introduction to the sociology courses, which deal more directly with social theory.

Soc. s103. General Sociology. (1st term.) Five hours a week; three credits. Mr. Winston. 10 M. T. W. T. F. Pe. 108.

The course deals first with the basic principles of sociology, then analyzes society and its influence on human behavior.

***Soc. s302. Sociology of City Life.** Five hours a week; three credits. Prerequisite: Soc. 103 and three additional term credits of Sociology. Mr. Winston. 8 M. T. W. T. F. Pe. 108.

Problems arising from growth of modern town and city; city planning in regard to social and industrial progress.

***Soc. s306. The American Family.** Five hours a week; three credits. Prerequisite: Soc. 103 and three additional term credits in Sociology. Mr. Winston. 9 M. T. W. T. F. Pe. 108.

A study of family relationships, of the relationship between husband and wife, parents and children, with particular emphasis on the development of personality. The effect of present-day social changes upon the family and the changes in family life as a result will be studied. Discussion of various efforts to stabilize the family. The part habits play in successful and non-successful marriages will also be discussed.

SOILS

Soils s220a. Soil Geography of the United States. Five periods a week; three credits. Mr. Clevenger. 8 M. T. W. T. F. Pt. 16.

A course dealing with the characteristics and distribution of the soil groups of the United States and their influence on the agricultural, grazing and forest industries of the country.

Soils s310. Fertilizers. Four hours of class and one laboratory period a week; three credits. Mr. Clevenger. 10 M. T. W. T. Laboratory to be arranged. Pt. 16.

A study of the sources, characteristics and utilization of fertilizers.

Soils s315. Soils of North Carolina. Four hours of class, one laboratory period a week; three credits. Mr. Clevenger. 11 M. T. W. T. Laboratory to be arranged.

A study of the origin, characteristics, distribution and utilization of North Carolina soil types.

TEXTILES

Tex. s107. Power Weaving. Two credits. Mr. Nelson. By arrangement. Textile Building.

Construction of auxiliary motions on plain looms. Cams and their construction. Drop-box loom construction. Methods of pattern chain building. Construction and value of pattern multipliers. Timing of drop-box motion, and other studies.

Tex. s108. Power Weaving Laboratory. One or two credits. Mr. Hart.
By arrangement. Textile Building.

Operation and fixing of plain, automatic and drop-box looms. Pattern chain building for drop-box looms.

Tex. s115. Textiles for Teachers. Five hours a week; three credits. Mr. Nelson. 8 M. T. W. T. F. Textile Building.

This course is designed to give a fundamental knowledge of fabrics. It will include a study of various fabrics and their selection and adaptability to different uses. Various methods of distinguishing fabrics made from different materials such as cotton and rayon, cotton and wool, wool and silk, and other combination of yarns will be given and analysis made of the fabrics. In addition, a general survey of the various processes through which cotton passes in its transition from the raw material to the finished product will be studied.

Tex. s205. Fabric Design and Analysis I. Three or six credits. Mr. Hart.
By arrangement. Textile Building.

Construction of fancy weaves, such as broken twills, curved twills, entwining twills, granite weaves. Imitation leno; honeycomb weaves; fabrics backed with warp or filling; fabrics ornamented with extra warp or filling; combining weaves together to produce new patterns.

Analyzing samples of fancy fabrics for design, drawing in draft, reed, and chain plan. Calculating particulars to reproduce fabric from data obtained from sample.

Tex. s207. Dobby Weaving. Three credits. Mr. Nelson. By arrangement. Textile Building.

Methods of drawing in and starting up cotton and rayon warps. Setting of harness shafts. Selection of springs or spring jacks. Construction and methods of fixing single and double index dobbies. Methods of pattern-chain building.

Tex. s208 or s209. Dobby Weaving Laboratory I or II. One, two, three, or six credits. Mr. Hart. By arrangement. Textile Building.

Preparation of warps for weaving cotton and rayon fabrics on dobbie looms; starting up warps in looms; fixing single and double index dobbies; pattern chain building; operation of dobbie looms.

Tex. s404. Textile Fabrics: Their Qualities and Uses. Three credits. Mr. Nelson. By arrangement. Textile Building.

Analyses and illustrations of standard, fancy, and novelty fabrics. Determination of fabric content. Construction of fabrics. Determination of quality in fabrics. Common defects in fabrics, and their causes. Methods of testing fabrics for strength, elongation, and durability.

ZOOLOGY

Zool. s101. General Zoology. Five recitations, four hours laboratory. Four credits. Mr. Mitchell. 9 M. T. W. T. F. Lab. arranged. Z. 7.

A study of the structures and functions of the vertebrates with special reference to man and the rat.

Zool. s102. General Zoology. Five recitations, four hours laboratory. Four credits. Mr. Bostian. 10 M. T. W. T. F. Lab. arranged. Z. 8.

A review of the groups of animals with special reference to those of economic importance.

Zool. s103. Human Physiology. Five recitations, four hours laboratory. Three credits. Mr. Bostian. 8 M. W. F. Lab. arranged. Z. 8.

A study of the functions of the human body, designed especially for teachers.

Zool. s204. Economic Entomology. Five recitations, four hours laboratory. Four credits. Mr. Mitchell. 8 M. W. F. Lab. arranged. Z. 7.

A general study of the insects, including their economic importance, with emphasis upon control of the more important local species.

Zool. s220. Animal Nature Study. Five recitations, four hours laboratory. Three credits. Mr. Metcalf. 9 M. W. F. Lab. arranged. Z. 201.

A study of the common birds, animals and insects with special reference to presenting this material for grade school teachers.

Courses for Graduates Only

Zool. s401. Systematic Entomology. 3 credits. Mr. Metcalf, Mr. Mitchell. By arrangement. Prerequisite: Zool. 307 or equivalent.

A thorough discussion of codes of nomenclature, methods of writing descriptions, constructing keys, determining priority, selecting and preserving types, and making bibliographies and indexes. The student may select some special group of insects for detailed study.

Zool. s403. Research in Zoology. Three credits. Mr. Metcalf, Mr. Mitchell, Mr. Bostian. By arrangement. Prerequisite: Eighteen term credits in Zoology.

The student will be assigned a problem in development morphology, ecology, physiology, genetics or taxonomy.

SCHEDULE FOR SUMMER SCHOOL, 1934

Name of Course	Number	Teacher	Hours per week		Time of Recitation		Room
			Check	Credit	Hours	Days	
ANIMAL HUSBANDRY AND DAIRYING							
Animal Nutrition I.....	A. H. s102	Ruffer	10	5	By arrangement	By arrangement	Pl. 110
Horse and Mule Production.....	A. H. s209	Halg	5	3	By arrangement	By arrangement	Pl. 110
Ice Cream Making.....	A. H. s217	Clevenger	6	4	By arrangement	By arrangement	Pl. 110
Herd Improvement.....	A. H. s304	Halg	5	3	By arrangement	By arrangement	Pl. 110
AGRONOMY							
Cotton Classing.....	F. C. s1	Darrs, Cotner	20	None	9-11	M.T.W.T.F.	Pl. 45
Cotton Classing II.....	F. C. s225	Cotner	10	3	9-11 or 11-1	M.T.W.T.F.	Pl. 45
Adv. Cotton Classing.....	F. C. s302	Cotner	10	3	9-11 or 11-1	M.T.W.T.F.	Pl. 45
Cereal Crops.....	F. C. s201	Darrs, Cotner	5	3	11	M.W.F.	Pl. 28
Cotton Production, or Tobacco Production.....	F. C. s210	Cotner	5	3	11-1	T.Th.	Pl. 26
Adv. Seed Judg. & Grad.....	F. C. s330	Darrs, Cotner	5	5	8	M.T.W.T.F.	Pl. 45
					12	M.W.F.	Pl. 26
					2-4	T.Th.	Pl. 26
					By arrangement	By arrangement	Pl. 26
Adv. Study of Crops Res.....	F. C. s351	Darrs, Cotner		3-9 or 2-6			
AGRICULTURAL ECONOMICS							
Agricultural Economics.....	Ag. Ec. s269	Knaapp	5	3	10	M.T.W.T.F.	R. 208
Farm Marketing.....	Ag. Ec. s285	Knaapp	5	3	9	M.T.W.T.F.	R. 208
Farm Accounting.....	Ag. Ec. s259	Knaapp	5	3	11	M.T.W.T.F.	R. 208
Agricultural Cooperation.....	Ag. Ec. s363	Knaapp	5	3	8	M.T.W.T.F.	R. 208
National Econ. Policies Affecting Agriculture.....	Ag. Ec. s365	Forster	5	3	By arrangement	By arrangement	R. 207
BOTANY							
General Botany.....	Bot. s101	Whitford	12	4	8, 2-4	M.T.W.T.	Pl. 47
General Botany.....	Bot. s102	Whitford	12	4	8, 2-4	M.T.W.T.	Pl. 47
General Bacteriology.....	Bot. s203	Shuck	12	4	11, 2-4	M.T.W.T.	Pl. 57
Systematic Botany.....	Bot. s204	Shuck	10	3	9, 2-5	T.Th.	Pl. 47
Pathology of Succ. Crops.....	Bot. s401	Lehman, Poole	8	3	By arrangement	By arrangement	Pl. 49
Bacteriology: Spec. Stud.....	Bot. s102	Shuck	10	3	By arrangement	By arrangement	Pl. 38
Research in Botany.....	Bot. s106	Shuck	10	3	By arrangement	By arrangement	Pl. 38

CHEMISTRY

General Chemistry	Chem. s161	Jordan	10	4	8	M.T.W.T.F. I.	W. 114
General Chemistry	Chem. s195	Jordan	10	4	1-5	M.T.W.T.F.	W. 192
General Chemistry	Chem. s165	Jordan	10	4	1-5	M.T.W.T.F. Th.	W. 114
Qualitative Analysis	Chem. s111	Williams	14	4	1-5	T.Th.	W. 162
Quantitative Analysis A.....	Chem. s112	Williams	14	4	Lab. at ranged	By arrangement	W. 217
Quantitative Analysis	Chem. s113	Williams	12	4	By arrangement	By arrangement	W. 111
Practical Organic and Biological Chemistry	Chem. s131	Williams	5	3	By arrangement	By arrangement	W. 115
Food, Nutrition and Diet.....	Chem. s344	Williams	5	3	By arrangement	By arrangement	W. 101
ECONOMICS							
Introduction to Econ.....	Econ. s162	Shulenberg	5	3	8	M.T.W.T.F.	Pa. 191
General Economics	Econ. s163	Shulenberg	5	3	11	M.T.W.T.F.	Pa. 191
Accounting for Engineers	Econ. s112	Shulenberg	5	3	9	M.T.W.T.F.	Pa. 199
Accounting I.....	Econ. s201	Shulenberg or Loeger	5	3	9	M.T.W.T.F.	Pa. 3
Business Organization	Econ. s210	Loeger	5	3	8	M.T.W.T.F.	Pa. 3
Business Law	Econ. s211	Shulenberg	5	3	10	M.T.W.T.F.	Pa. 199
Statistics for Teachers	Econ. s212a	Loeger	5	3	10	M.T.W.T.F.	Pa. 3
Business Statistics	Econ. s214	Loeger	5	3	9	M.T.W.T.F.	Pa. 108
Advertising	Econ. s217	Moen	5	3	7	M.T.W.T.F.	Pa. 108
Money	Econ. s224a	Moen	5	3	By arrangement	By arrangement	Pa. 108
Principles of Insurance.....	Econ. s239	Loeger	5	3	11	M.T.W.T.F.	Pa. 3
Stock Market Operations	Econ. s225	Moen	5	3	8	M.T.W.T.F.	Pa. 168
ENGLISH							
Rhetoric & Composition.....	Eng. s101	Ladu	5	3	8	M.T.W.T.F.	Pa. 165
Adv. English Grammar	Eng. s292	Clark	5	3	9	M.T.W.T.F.	Pa. 108
Survey of Am. Lit.....	Eng. s221	Ladu	5	3	11	M.T.W.T.F.	Pa. 165
Bible as Literature.....	Eng. s238	Ladu	5	3	9	M.T.W.T.F.	Pa. 165
Shakespeare	Eng. s239	Clark	5	3	10	M.T.W.T.F.	Pa. 108
The Romantic Period.....	Eng. s252	Clark	5	3	11	M.T.W.T.F.	Pa. 108
Milton	Eng. s335	Clark	5	3	8	M.T.W.T.F.	Pa. 108
Cont. American Lit.....	Eng. s337	Ladu	5	3	10	M.T.W.T.F.	Pa. 108

SCHEDULE FOR SUMMER SCHOOL, 1934.—(Continued)

Name of Course	Number	Teacher	Hours per week			Time of Recitation		Room
			Clock	Credit	Hours	Days		
EDUCATION								
Educational Psychology	Ed. 4203a	Garrison	5	3	8	M.T.W.T.F.	H. 3	
Educational Psychology	Ed. 4203b	Garrison	5	3	10	M.T.W.T.T.	H. 3	
Mechanical Drawing for Teachers.....	Ed. 4250	Foster	10	3	By arran	gement	P. 6	
Extra Curricular Activities in the Secondary School	Ed. 4303	Showalter	5	3	10	M.T.W.T.F.	Pe. 208	
Methods of Study.....	Ed. 4305	Cook	5	3	By arran	gement	Pe. 201	
Vocational Guidance	Ed. 4329	Boshart	5	3	9	M.T.W.T.F.	H. 16	
Visual Instruction	Ed. 4359	Armstrong	5	3	9	M.T.W.T.F.	Pe. 201	
Visual Aids in Social Sciences.....	Ed. 4331	Armstrong	5	3	8	M.T.W.T.T.	Pe. 201	
High School Course of Study.....	Ed. 4334	Highsmith	5	3	12	M.T.W.T.F.	Pe. 206	
Public School Administration.....	Ed. 4335	Highsmith	5	3	9	M.T.W.T.T.	Pe. 203	
Problems in Secondary Education.....	Ed. 4336	Highsmith	5	3	11	M.T.W.T.T.	Pe. 260	
Teaching of Geography.....	Ed. 4337	Showalter	5	3	9	M.T.W.T.F.	Pe. 203	
Teaching of Science in the Secondary School	Ed. 4339	Showalter	5	3	8	M.T.W.T.F.	Pe. 208	
Teaching of High School Mathematics.....	Ed. 4341	Mumford	10	5	11-1	M.T.W.T.F.	P. 101B	
Theory of Industrial Arts in the Elementary School	Ed. 4353	Boshart	5	3	8	M.T.W.T.F.	H. 16	
Practical Art Problems.....	Ed. 4354	Boshart	10	3	9-11 or 11-1	M.T.W.T.F.	H. 15	
Art Studies in Elementary School.....	Ed. 4355	Boshart	5 or 10	1½ or 3	9-11	M.T.W.T.F.	H. 15	
Special Problems in Teaching Agriculture.....	Ed. 4369	Cook	5	3	9	M.T.W.T.F.	Pe. 201	
History of Education.....	Ed. 4364	Mrs. Wallace	5	3	9	M.T.W.T.T.	Pe. 8	
Psychology of Sec. School Ed.....	Ed. 4377	Garrison	5	3	By arran	gement	H. 16	
Character Education.....	Ed. 4381	Cook	5	3	11	M.T.W.T.T.	Pe. 201	
Supervision—The Improvement of Instruction	Ed. 4382	Highsmith	5	3	10	M.T.W.T.F.	Pe. 206	
Occupational Counseling	Ed. 4412	Boshart	5	3	8	M.T.W.T.F.	H. 16	
Problems in Agricultural Teaching.....	Ed. 4416	Cook	5	3	By arran	gement	Pe. 201	
Research in Education.....	Ed. 4421	Staff						

ENGINEERING

Engineering Drawing	M. E. s102	Foster	10 or 20	3 or 6	9-1	M.T.W.T.F.	P. 106
Descriptive Geometry	M. E. s103	Foster	10	3	10-12	M.T.W.T.F.	P. 106
Mechanical Drawing	M. E. s107	Foster	4, 7, or 10	1, 2, or 3	8-10	M.T.W.T.F.	P. 106
Mechanics	C. E. s200	Foster	5, 10 or 15	3, 6, or 9	By arrangement		P. 106
Kinematics	M. E. s203	Foster	10	3	By arrangement		P. 102
GEOLOGY AND PHYSICAL GEOGRAPHY							
Earth History	Geol. s101	Stuckey	5	3	9	M.T.W.T.F.	Pr.
Physical Geography	Geol. s105	Stuckey	7	3	10	M.T.W.T.F.	Pr.
Geology of North Carolina	Geol. s291	Stuckey	7	3	12	M.W.F.	Pr.
HISTORY							
American Econ. Hist.	Hist. s101a		5	3	8	M.T.W.T.F.	Pu. 6
Commercial Geography (Comm. & Industrial)	Hist. s101c		5	3	11	M.T.W.T.F.	Pu. 100
Modern European Hist.	Hist. s201b		5	3	10	M.T.W.T.F.	Pu. 8
Contemporary Europe	Hist. s201c	Barnhardt	5	3	9	M.T.W.T.F.	Pu. 6
American Government	Hist. s209	Barnhardt	5	3	10	M.T.W.T.F.	Pu. 6
Recent U. S. History	Hist. s302	Barnhardt	5	3	8	M.T.W.T.F.	Pu. 6
History of North Car.	Hist. s303	Barnhardt	5	3	11	M.T.W.T.F.	Pu. 6
HORTICULTURE							
Vegetable Production	Hort. s269	Randall	3	3	By arrangement		Pk. 368
Home Floriculture	Hort. s228	Randall	3	3	By arrangement		Pk. 368
MATHEMATICS							
Mathematical Analysis	Math. s100	Moock	5	3	10	M.T.W.T.F.	P. 101A
Algebra	Math. s101	Mumford	10	5	11-1	M.T.W.T.F.	P. 101B
Plane Trigonometry	Math. s103	Fisher	10	5	8-10	M.T.W.T.F.	P. 209
Analytical Geometry	Math. s104	Mumford	10	5	8-10	M.T.W.T.F.	P. 101B
Differential Calculus	Math. s201	Moock	10	3	8-10	M.T.W.T.F.	P. 203
Integral Calculus	Math. s202	Fisher	10	5	11-1	M.T.W.T.F.	P. 209
MODERN LANGUAGES							
French Prose	Mod. L. s104	Hinkle	5	3	8	M.T.W.T.F.	Pe. 212
French Prose Masterpieces	Mod. L. s313	Hinkle	5	3	9	M.T.W.T.F.	Pe. 212
Elementary German	Mod. L. s102	Hinkle	5	3	10	M.T.W.T.F.	Pe. 213
German Prose	Mod. L. s105	Hinkle	5	3	10	M.T.W.T.F.	Pe. 212
Scientific German	Mod. L. s304	Hinkle	5	3	10	M.T.W.T.F.	Pe. 212
Elementary Spanish	Mod. L. s103		5	3	11	M.T.W.T.F.	Pe. 212
Spanish Prose	Mod. L. s106		5	3	12	M.T.W.T.F.	Pe. 212

SCHEDULE FOR SUMMER SCHOOL, 1934.—(Continued)

Name of Course	Number	Teacher	Hours per week			Time of Recitation		Room
			Clock	Credit	Hours	Days		
PHYSICS General Physics and Physics for Textile Students	Phys. 3110	Heck	7 ½ or 15	4 or 8	9 2-4 9-11 2-4	M.T.W.T.F. T. or M.T.W.T.F. T.Th.	F. & E. 212	
Physics	Phys. 3104	Dixon	9 or 20	5 or 10	8 2-4 8-10 2-4	M.T.W.T.F. M.W. or M.T.W.T.F. M.T.W.T.F.	F. & E. 212	
Descriptive Astronomy Research	Phys. 3107 Phys. 3411	Heck	5	3	12	M.T.W.T.F.	F. & E. 212	
PHYSICAL EDUCATION Theory & Practice Football Coaching	P. E. 3112	Miller	4	2	By arrangement	By arrangement	Gym.	
Theory & Practice Basketball Coaching	P. E. 3113	Miller	4	2	By arrangement	By arrangement	Gym.	
Theory & Practice Track & Baseball Coaching	P. E. 3114-3115	Miller	6	3	By arrangement	By arrangement	Gym.	
Physical Education & Recreational Programs	P. E. 3117	Miller	6	3	By arrangement	By arrangement	Gym.	
POULTRY SCIENCE Poultry Nutrition	Poul. 3303	Williams, Dearborne Gauger,		3	By arrangement	By arrangement	R. 208	
Poultry Diseases	Poul. 3305	Dearborne Williams	5	3	By arrangement	By arrangement	R. 208	
Commercial Poultry Plant Management	Poul. 3306	Williams		2	By arrangement	By arrangement	R. 208	
SOCIOLOGY Introductory Sociology	Soc. 3102	Winston	5	3	11	M.T.W.T.F.	Pa. 8	
General Sociology	Soc. 3103	Winston	5	3	10	M.T.W.T.F.	Pa. 108	
Sociology of City Life	Soc. 3302	Winston	5	3	8	M.T.W.T.F.	Pa. 108	
The American Family	Soc. 3306	Winston	5	3	9	M.T.W.T.F.	Pa. 108	

SOILS									
Soil Geography of the U. S.	Soils 226a	Clevenger	5	5	8	M. T. W. T. F.	Pt. 16		
Fertilizers	Soils 230	Clevenger	5	2	10	M. T. W. T. F.	Pt. 16		
Soils of North Carolina	Soils 235	Clevenger	5	3	11	M. T. W. T. F.	Pt. 16		
						Lab. by arrangement			
TEXTILES									
Power Weaving	Tex. 2107	Nelson	5	2	By arrangement	By arrangement	Tex. Bldg.		
Power Weaving Lab.	Tex. 2108	Hart	5	1 or 2	By arrangement	By arrangement	Tex. Bldg.		
Textiles for Teachers	Tex. 2115	Nelson	5	3	8	M. T. W. T. F.	Tex. Bldg.		
Fabric Design and Analysis I	Tex. 2205	Hart	5	3 or 6	By arrangement	By arrangement	Tex. Bldg.		
Dobby Weaving	Tex. 2207	Nelson	5	3	By arrangement	By arrangement	Tex. Bldg.		
Dobby Weaving Lab. I or II	Tex. 2208 or Tex. 2209	Hart	5	1, 2, 3, 6	By arrangement	By arrangement	Tex. Bldg.		
Textile Fabrics: Their Qualities & Uses	Tex. 2104	Nelson	5	3	By arrangement	By arrangement	Tex. Bldg.		
ZOOLOGY									
General Zoology	Zool. 2101	Mitchell	9	4	9	M. T. W. T. F.	Z. 7		
						Lab. arranged			
General Zoology	Zool. 2102	Eastian	9	4	10	M. T. W. T. F.	Z. 8		
						Lab. arranged			
Human Physiology	Zool. 2103	Bostian	9	3	8	M. W. F.	Z. 8		
						Lab. arranged			
Economic Entomology	Zool. 2204	Mitchell	9	4	8	M. W. F.	Z. 7		
						Lab. arranged			
Animal Nature Study	Zool. 2229	Metcalf	9	3	9	M. W. F.	Z. 291		
						Lab. arranged			
Systematic Entomology	Zool. 2191	Metcalf, Mitchell,	5	3	By arrangement	By arrangement	Z. 291 & 292		
		Metcalf,	5	3	By arrangement	By arrangement	Z. 105		
Research in Zoology	Zool. 2103	Mitchell, Bostian	5	3	By arrangement	By arrangement			

COURSES TO BE GIVEN AT CHAPEL HILL SECOND SIX WEEKS

The consolidation of the Summer School of the University of North Carolina has brought about a correlation which makes possible an easy continuation of work at the Chapel Hill unit during the second session. Students wishing to continue their studies at Chapel Hill during the second six weeks should study the offerings listed below and try to arrange to take the courses given at State College and not given at Chapel Hill during the first session. Then they can arrange their work at Chapel Hill for second session without inconvenience.

All students wishing to attend second session at Chapel Hill, please report to the office of the Director during the first week of Summer School.

STAFF OF INSTRUCTION FOR THE SECOND SEMESTER

University of North Carolina at Chapel Hill

July 25—Aug. 31, 1934

MEMBERS OF THE REGULAR STAFF

RAYMOND WILLIAM ADAMS, Ph.D.	English
Assistant Professor of English	
JAMES OSLER BAILEY, A.M.	English
Instructor in English	
WILLIAM STANLEY BERNARD, M.A.	Greek
Professor of Greek	
RALPH STEELE BOGGS, Ph.D.	Spanish
Associate Professor of Spanish	
EDWARD TANKARD BROWNE, Ph.D.	Mathematics
Professor of Mathematics	
WALLACE EVERETT CALDWELL, Ph.D.	History
Professor of Ancient History	
FREDERIC EDWARD COENEN, A.M.	German
Instructor in German	
JOHN NATHANIEL COUCH, Ph.D.	Botany
Professor of Botany	
JOHN FREDERICK DASHIELL, Ph.D.	Psychology
Professor of Psychology	
JOHN GRAY DOUGLAS, Ph.D.	Geology
Associate Professor of Geology	
JAMES GILBERT EVANS, M.A.	Economics
Assistant Professor of Economics	
ERNEST RUTHERFORD GROVES, B.D.	Sociology
Research Professor of Sociology	
JOHN MINOR GWYNN, A.M.	Education
Assistant Professor of the Teaching of Latin	
JAMES PENROSE HARLAND, Ph.D.	Archaeology
Professor of Archaeology	
FRANCIS CLEMENT HAYES, M.A.	Spanish
Instructor in Spanish	
RICHARD JUNIUS MENDENHALL HOBBS, LL.B.	Economics
Professor of Business Law	
SAMUEL HUNTINGTON HOBBS, Ph.D.	Rural Social-Economics
Professor of Rural Social-Economics	
URBAN TIGNER HOLMES, JR., Ph.D.	French
Professor of French	
GEORGE HOWARD, Ph.D.	Education
Professor of Education in Extension Teaching	
ALMONTE CHARLES HOWELL, Ph. D.	English
Associate Professor of English	
VINTON ASHURY HOYLE, Ph.D.	Mathematics
Assistant Professor of Mathematics	
ELWOOD CAETELYOU HUNTER, A.M.	Education
Instructor in Education	

WILLIAM SUMNER JENKINS, Ph.D.	.....	<i>Government</i>
Assistant Professor of Government		
ARTHUR MELVILLE JORDAN, Ph.D.	.....	<i>Education</i>
Professor of Educational Psychology		
ARNOLD KIMSLEY KING, A.M.	.....	<i>Education</i>
Assistant Professor in the Teaching of History		
GEORGE HAROLD LAWRENCE, A.M.	.....	<i>Public Administration</i>
Supervisor of Social Field Work		
ROBERT WHITE LINKER, Ph.D.	.....	<i>French</i>
Instructor in French		
GERALD RALEIGH MACCARTHY, Ph.D.	.....	<i>Geology</i>
Associate Professor of Geology		
WILLIAM JOHN MCKEE, Ph.D.	.....	<i>Education</i>
Professor of Education in Extension Teaching		
SALLIE BELLE MARKS, M.A.	.....	<i>Education</i>
Assistant Professor of Elementary Education		
HAROLD DIEDRICH MEYER, A.M.	.....	<i>Sociology</i>
Professor of Sociology and Supervisor of Field Work		
ROY WILLIAMSON MORRISON, Ph.D.	.....	<i>Education</i>
Associate Professor of Education in Extension Teaching		
HOWARD FREDERICK MUNCH, A.M.	.....	<i>Education</i>
Associate Professor of the Teaching of Mathematics		
WILLIAM ANDERSON OLSEN, A.M.	.....	<i>English</i>
Assistant Professor of English		
CARL HAMILTON PEGG, Ph.D.	.....	<i>History</i>
Instructor in History		
WILLIAM WHATLEY PIERSON, JR., Ph.D.	.....	<i>History</i>
Professor of History and Government and Dean of the Graduate School		
EARLE KEITH PLYLER, Ph.D.	.....	<i>Physics</i>
Associate Professor of Physics		
JOSIAH COX RUSSELL, Ph.D.	.....	<i>History</i>
Instructor in History		
SHIPP GILLESPIE SANDERS, A.M.	.....	<i>Latin</i>
Associate Professor of Latin		
WILEY BRITTON SANDERS, Ph.D.	.....	<i>Public Administration</i>
Associate Professor of Public Administration		
ROBERT BOIES SHARPE, Ph.D.	.....	<i>English</i>
Assistant Professor of English		
ROBERT HOWARD SHERRILL, C.P.A.	.....	<i>Commerce</i>
Assistant Professor of Accounting		
ARCHIBALD KENNETH SHIELDS, M.A.	.....	<i>Spanish</i>
Instructor in Spanish		
JOHN LEROY SMITH, A.M.	.....	<i>French</i>
Instructor in French		
RUPERT BAYLESS VANCE, Ph.D.	.....	<i>Sociology</i>
Research Associate in Sociology		
HENRY MCGILBERT WAGSTAFF, Ph.D.	.....	<i>History</i>
Professor of History		
ALVIN SAWYER WHEELER, Ph.D.	.....	<i>Chemistry</i>
Professor of Organic Chemistry		

WILLIAM LEON WILEY, Ph.D.	.....	<i>French</i>
Assistant Professor of French		
WILLIAM WALDO WILLIAMS, M.S.	.....	<i>Chemistry</i>
Assistant in Chemistry		
HARRY DEMERLE WOLF, Ph.S.	.....	<i>Economics</i>
Associate Professor of Economics		
JOHN BROOKS WOOSLEY, Ph.D.	.....	<i>Economics</i>
Professor of Economics		
THOMAS EWELL WRIGHT, A.M.	.....	<i>French</i>
Instructor in French		

VISITING INSTRUCTORS

JOHANNE GJERULFF, M.S.	.....	<i>Music</i>
Teacher in American Institute of Dalcroze Eurythmics, New York City		
ROBERT PHILLIP McCUTCHEON	.....	<i>English</i>
Professor of English at Tulane University, New Orleans, Louisiana		
CHARLES E. TROXELL	.....	<i>Music</i>
Professor of Music, Richmond University, Richmond, Virginia		

**COURSES OFFERED AT THE UNIVERSITY OF NORTH
CAROLINA, CHAPEL HILL, FOR THE SECOND SESSION OF
THE SUMMER SCHOOL, JULY 25—AUGUST 31**

NOTE:—Courses marked thus (#) are continued from the first term. Before registering for courses so marked, the new student (that is, the student who has not had the first part of the course desired) must confer with the department head or the instructor and secure approval for registration.

ART HISTORY

Courses for Undergraduates

- s68a. **Architecture: History and Appreciation of Architectural Styles.** Credit, $\frac{1}{2}$ course. Mr. Bernard. Hour: 9:00 daily.
- s63c. **Painting: Masters and Masterpieces from Giotto to Modern Times.** Credit, $\frac{1}{2}$ course. Mr. Bernard. Hour: 11:00 daily.

BOTANY

Courses for Undergraduates

- s43. **Structure and Classification of Seed Plants.** Credit, 1 course. Mr. Couch and assistant. Laboratory fee, \$4.00. Hours: Lectures, 11:00 daily, and 2:00 P. Laboratory, 2:00 to 5:00 M., T., W., and Th. Prerequisite, General Botany.

Courses for Graduates and Advanced Undergraduates

- s114. **Morphology and Development of Fungi.** Credit, 1 course. Mr. Couch. Hours to be arranged. Laboratory fee, \$4.00.

CHEMISTRY

Courses for Undergraduates

- s2. **General Chemistry.** Credit, 1 course. Mr. Williams. Hours: Lectures, 8:00 daily. Laboratory 2:00 and 4:00 daily. Laboratory fee, \$5.50.
- s62. **Organic Chemistry. Aromatic Series.** Credit, 1 course. Mr. Wheeler. Hours: Lectures, 8:00 daily. Laboratory, 9:00 and 10:00 daily. Laboratory fee, \$10.00. Prerequisite, Chemistry 61.

Courses Primarily for Graduates

- s361, and s381. **Research in Organic Chemistry and in Physical Chemistry.** Mr. Wheeler. Laboratory fee, \$10.00.

COMMERCE

Courses for Undergraduates

- s72. **Principles of Accounting.** Credit, 1 course. Mr. Sherill. Laboratory fee, \$3.00. Hours: 2:00 to 5:00 daily.

ECONOMICS

Courses for Undergraduates

- s32. **General Economics (continued).** Credit, 1 course. Mr. Evans. Hours: 8:00 and 12:00 daily.
- s35b. **Evolution of Economic Institutions.** Credit, $\frac{1}{2}$ course. Mr. Evans. Hour: 10:00 daily.
- s82. **Banking.** Credit, 1 course. Mr. Woosley. Hours: 9:00 and 11:00 daily.

Courses for Graduates and Advanced Undergraduates

- s191. **An Introduction to the Labor Problem.** Credit, 1 course. Mr. Wolf. Hours: 8:00 and 10:00 daily.
- s196. **The Economics of The National Recovery Program.** Credit, $\frac{1}{2}$ course. Mr. Wolf. Hour: 12:00 daily.
- s197. **Government and Business.** Credit, 1 course. Mr. Hobbs. Hours: 9:00 and 11:00 daily.

Courses Primarily for Graduates

- s882. **Seminar in Banking and Finance.** Credit, $\frac{1}{2}$ course. Mr. Woosley. Hour: 12:00 daily.

EDUCATION

Courses for Undergraduates

- s31b. **Introduction to Educational Psychology.** Credit, $\frac{1}{2}$ course. Mr. Hunter. Hour: 9:00 daily.
- s71b. **Educational Psychology.** Credit, $\frac{1}{2}$ course. Mr. Hunter. Hours: Lecture, 12:00 M., Tu., Th., F. Laboratory 2:00 and 3:00 M.
- s98b. **General Methods in Secondary Education.** Credit, $\frac{1}{2}$ course. Mr. King. Hour: 11:00 daily.
- s99b. **Principles of Secondary Education.** Credit, $\frac{1}{2}$ course. Mr. King. Hour: 8:00 daily.

Courses for Graduates and Advanced Undergraduates

- # s101. **Introductory Course in School Administration.** Credit, $\frac{1}{2}$ course. Mr. Howard. Hour: 10:00 daily
- # s103. **Elements of Statistical Methods.** Credit, $\frac{1}{2}$ course. Mr. Munch. Hour: 12:00 daily.
- # s105. **Guidance and Administration of Pupils.** Credit, $\frac{1}{2}$ course. Mr. Morrison. Hour: 8:00 daily.
- s142b. **Historical Foundations of Modern Education.** Credit, $\frac{1}{2}$ course. Mr. Hollingsworth. Hour: 9:00 daily.
- s143b. **Social and Educational History of The United States.** Credit, $\frac{1}{2}$ course. Mr. Hollingsworth. Hour: 11:00 daily.
- s162. **Teaching Pupils How to Study.** Credit, 1 course. Mr. McKee. Hours: 10:00 and 11:00 daily.

- s163b. Evaluating Classroom Instruction.** Credit, $\frac{1}{2}$ course. Miss Marks. Hour: 12:00 daily.
- # **s171. The Psychology of Adolescence.** Credit, $\frac{1}{2}$ course. Mr. Jordan. Hour: 11:00 daily.
- # **s185. Materials and Methods of Teaching High School History.** Credit, $\frac{1}{2}$ course. Mr. King. Hour: 9:00 daily.
- # **s187. Materials and Methods of Teaching High School Latin.** Credit, $\frac{1}{2}$ course. Mr. Gwynn. Hour: 10:00 daily.
- # **s189. Materials and Methods of Teaching High School Mathematics.** Credit, $\frac{1}{2}$ course. Mr. Munch. Hour: 11:00 daily.
- # **s194. Measurements in Secondary Education.** Credit, $\frac{1}{2}$ course. Mr. Morrison. Hour: 11:00 daily.
- s196b. The High School Principalship.** Credit, $\frac{1}{2}$ course. Mr. Howard. Hour: 8:00 daily.
- # **s197. Social Policy and Education.** Credit, $\frac{1}{2}$ course. Mr. McKee. Hour: 8:00 daily.

Courses Primarily for Graduates

- # **s201. Procedures in Educational Research.** Credit, $\frac{1}{2}$ course. Mr. Morrison. Hour: 10:00 daily.
- s204b. Educational Finance.** Credit, $\frac{1}{2}$ course. Mr. Howard. Hour: 12:00 daily.
- s272b. Problems in Educational Psychology.** Credit, $\frac{1}{2}$ course. Mr. Jordan. Hour: 9:00 daily. Laboratory fee, \$1.00.

ENGLISH

Courses for Undergraduates

- # **s22. English Literature.** Credit, $\frac{1}{2}$ course. Mr. Bailey. Hour: 9:00 daily. Prerequisite, English 1-2-3.
- s44a. Public Speaking.** Credit, $\frac{1}{2}$ course. Mr. Olsen. Hour: 10:00 daily.
- s50b. Shakespeare.** Credit, $\frac{1}{2}$ course. Mr. Olsen. Hour: 8:00 daily.
- s79b. Recent English Literature: Poetry from the Late Eighties to The World War.** Credit, $\frac{1}{2}$ course. Mr. Howell. Hour: 9:00 daily.
- # **s82.** Credit, $\frac{1}{2}$ course. Mr. Adams. Hour: 10:00 daily.
- s100b. Directed Readings.** Credit, $\frac{1}{2}$ course. Mr. Olsen. Hours to be arranged.

Courses for Graduates and Advanced Undergraduates

- # **s103. Chaucer.** Credit, $\frac{1}{2}$ course. Mr. Sharpe. Hour: 9:00 daily.
- # **s111. English Literature of The Renaissance.** Credit, $\frac{1}{2}$ course. Mr. Sharpe. Hour: 8:00 daily.

- s121a. **English Literature, 1600-1650.** Credit, ½ course. Mr. Howell. Hour: 10:00 daily.
- s131. **English Literature, 1700-1780.** Credit, ½ course. Mr. MacMillan. Hour: 11:00 daily.
- s141a. **English Literature of The Romantic Period.** Credit, ½ course. Mr. MacMillan. Hour: 10:00 daily.
- s143a. **Victorian Literature.** Credit, ½ course. Mr. Bailey. Hour: 12:00 daily.
- s153. **Literature of The South.** Credit, ½ course. Mr. Adams. Hour: 11:00 daily.

Courses Primarily for Graduates

- s340. **Special Readings.** Credit, ½ course. Messrs. Adams, Bailey, Howell, MacMillan, Sharpe. Hours to be arranged.
- s341. **Special Research (Thesis Course).** Credit, ½ course. Messrs. Adams, Bailey, Howell, MacMillan, Sharpe. Hours to be arranged.

GEOLOGY

Courses for Undergraduates

- s12. **Historical Geology.** Credit, 1 course. Mr. Douglas. Laboratory fee, \$3.00. Hours: Lectures, 8:00 daily. Laboratory, 2:00 to 5:00 four days a week.
- s14. **The Principles of Physical Geography.** Credit, 1 course. Mr. MacCarthy. Hours: Lecture, 11:00 daily. Laboratory eight hours a week.
- s57. **Geography of North America.** Credit, 1 course. Mr. MacCarthy. Hours: Lectures, 9:00 daily. Laboratory eight hours a week, to be arranged.

Courses for Graduates and Advanced Undergraduates

- s308. **Special Research.** Credit, 1 course. Hours to be arranged. Special research in geography and geology.

GERMAN**

Courses for Undergraduates

- s2. **Elementary Course.**
- s4. **Intermediate Course.**
- s22. **Introduction to German Literature.**

**The following courses will be offered in the second term if the demand warrants.

HISTORY

Courses for Undergraduates

- s2. **Foundations of Modern Europe.** Credit, ½ course. Mr. Pegg. Hour: 8:00 daily.

s3. **Foundations of Modern Europe.** Credit, $\frac{1}{2}$ course. Mr. Pegg.
Hour: 9:00 daily.

s48. **American History: General Course.** Credit, 1 course.

s65. **Europe in the Crusading Age (1000-1300).** Credit, 1 course.
Mr. Russell. Hours: 11:00 and 12:00 daily.

Courses for Graduates and Advanced Undergraduates

s101a. **Period Studies in Greek History.** Credit, $\frac{1}{2}$ course. Mr. Caldwell. Hour: 9:00 daily.

s102a. **Period Studies in Roman History.** Credit, $\frac{1}{2}$ course. Mr. Caldwell. Hour: 8:00 daily.

s135. **Rise of Democracy and Nationalism in Modern Europe.** Credit, 1 course. Mr. Wagstaff. Hours: 9:00 and 10:00 daily.

s156. **Recent American History, 1898-1920.** Credit, 1 course. Mr. Pierson. Hours: 11:00 and 12:00 daily.

Courses Primarily for Graduates

s201a. **Historiography.** Credit, $\frac{1}{2}$ course. Mr. Caldwell. Hours to be arranged.

s323. **Seminar in English History.** Credit, $\frac{1}{2}$ course. Mr. Wagstaff. Hours to be arranged.

s341. **Seminar in American History.** Credit, $\frac{1}{2}$ course. Mr. Pierson. Hours to be arranged.

GOVERNMENT

Courses for Graduates and Advanced Undergraduates

s155. **The Constitution of The United States.** Credit, 1 course. Mr. Jenkins. Hours: 8:00 and 9:00 daily.

Courses Primarily for Graduates

s321. **Seminar in American Government.** Credit, $\frac{1}{2}$ course. Mr. Jenkins. Hours to be arranged.

LATIN

Courses for Undergraduates

s1. **Beginners' Course.** Credit, $\frac{1}{2}$ course. Mr. Gwynn. Hour: 8:00 daily.

Courses for Graduates and Advanced Undergraduates

s105. **The Roman Novel.** Credit, $\frac{1}{2}$ course. Mr. Sanders. Hour: 10:00 daily.

s122. **Roman Satire.** Credit, $\frac{1}{2}$ course. Mr. Sanders. Hour: 9:00 daily.

s154. **Studies in the Literature of the Classical Period.** Credit, $\frac{1}{2}$ course. Mr. Gwynn. Hour: 12:00 daily.

- s187. **Materials and Methods of Teaching High School Latin.** Credit, $\frac{1}{2}$ course. Mr. Gwynn. Hour: 10:00 daily.

Courses Primarily for Graduates

- s302. **Latin Seminar: Study of a Roman Writer, or a Type of Literary Work, Etc.** Credit, $\frac{1}{2}$ course. Mr. Sanders. Hour: 10:00 daily.

NOTE:—Mr. Caldwell's courses, given in the second term, may be counted for credit in Latin by arrangement with the Department. See under History, courses: s101a, s102a, and s201a.

MATHEMATICS

Courses for Undergraduates

- # s1. **College Algebra.** Credit, $\frac{1}{2}$ course. Mr. Browne. Hour: 9:00 daily.
- # s2. **Plane Trigonometry.** Credit, $\frac{1}{2}$ course. Mr. Hill. Hour: 11:00 daily.
- # s13. **Analytic Geometry.** Credit, $\frac{1}{2}$ course. Mr. Hill. Hour: 12:00 daily.
- s25. **Integral Calculus.** Credit, 1 course. Mr. Hoyle. Hours: 8:00 and 10:00 daily.

Courses for Graduates and Advanced Undergraduates

- # s141. **Differential Equations.** Credit, $\frac{1}{2}$ course. Mr. Hill. Hour: 9:00 daily.
- # s152. **Analytic Projective Geometry.** Credit, $\frac{1}{2}$ course. Mr. Browne. Hour: 11:00 daily.
- # s206. **Theory of Complex Variables.** Credit, $\frac{1}{2}$ course. Mr. Browne. Hour: 12:00 daily.

MUSIC

- s1. **Fundamentals of Music.** Credit, $\frac{1}{2}$ course. Mr. Troxell. Hour: 8:00 daily.
- s3. **Sight Singing.** Credit, $\frac{1}{2}$ course. Mr. Troxell. Hour: 9:00 daily.
- s26. **History of Music.** Credit, $\frac{1}{2}$ course. Mr. Williamson. Hour: 9:00 daily.
- s51. **Music Appreciation.** Credit, $\frac{1}{2}$ course. Mr. Williamson. Hour: 12:00 daily.
- s57. **Harmony (Advanced).** Credit, $\frac{1}{2}$ course. Mr. Williamson. Hour: 8:00 daily.
- s66. **Dalcroze Eurythmics.** Miss Gjerulff. Classes scheduled by appointment. (Extra fee.)

NOTE:—Piano, Organ, Violin, Orchestral Instruments, Voice available throughout both terms with or without credit by arrangement with the Department of Music. (Extra fee.)

Improvisation open to students of piano or organ desiring this experience and training should arrange with the Department of Music for lesson hour on the opening day of the session. (Extra fee.)

PHYSICS

Courses for Undergraduates

- s22. General Physics.** Credit, 1 course. Mr. Plyler and assistant. Laboratory fee, \$4.00. Hours: Lectures, 8:00 and 9:00 daily. Laboratory, 2:00 to 5:00 T. and Th. Prerequisite, Mathematics 1-2, and Physics s21.

Courses for Graduates and Advanced Undergraduates

- * **s102. Heat.** Credit, 1 course. Mr. Plyler. Hour: 10:00 and 11:00 daily.
- * **s202. Theory of Heat.** Credit, 1 course. Mr. Plyler. Hour: 10:00 and 11:00 daily.

*Either s102 or s202 will be given in the second term, depending on the enrollment.

PSYCHOLOGY

Courses for Undergraduates

- # **s22. General Psychology.** Credit, 1 course. Mr. Dashiell and assistant. Laboratory fee, \$4.00. Hours: 11:00 and 12:00 daily, and 2:00 and 3:00 on a day to be arranged.

Courses for Advanced Undergraduates and Graduates

- s190b. Contemporary Psychological Tendencies.** Credit, $\frac{1}{2}$ course. Mr. Dashiell. Hour: 9:00 daily. (Offered only in case of sufficient demand.)

PUBLIC ADMINISTRATION

Courses for Graduates and Advanced Undergraduates

- s160a. Introduction to Social Work.** Credit, $\frac{1}{2}$ course. Mr. Sanders. Hour: 11:00 daily.
- s164b. Family Case Work.** Credit, $\frac{1}{2}$ course. Mr. Lawrence. Hour: 9:00 daily.
- s198b. Juvenile Delinquency.** Credit, $\frac{1}{2}$ course. Mr. Sanders. Hour: 8:00 daily.

ROMANCE LANGUAGES

FRENCH

Courses for Undergraduates

- s2. Elementary Course.** Credit, 1 course. Mr. Wright. Hours: 8:00 and 12:00 daily. (Entrance credit only.)
- s4. Intermediate French.** (Continuation of s3, First term). Credit, 1 course. Mr. Linker. Hours: 8:00 and 12:00 daily.
- s22. Modern French Literature.** Credit, 1 course. Mr. J. L. Smith. Hours: 8:00 and 12:00 daily.

- # s51. **French Conversation and Composition.** Credit, $\frac{1}{2}$ course. Mr. Wiley. Hour: 11:00 daily.

Courses for Graduates and Advanced Undergraduates

- s145. **French Phonetics.** Credit, 1 course. Mr. Wiley. Hours: 9:00 and 10:00 daily.
- # s171. **French Literature of The Seventeenth Century.** Credit, $\frac{1}{2}$ course. Mr. Holmes. Hour: 11:00 daily.

Courses Primarily for Graduates

- # s221. **Old French.** Credit, $\frac{1}{2}$ course. Mr. Holmes. Hour: 12:00 daily.
- # s265. **French Literature of The Renaissance.** Credit, $\frac{1}{2}$ course. Mr. Holmes. Hour: 3:00 daily.
- s395. **Research.** Credit, $\frac{1}{2}$ course. (Research in a special field under the direction of a member of the department.)

SPANISH

Courses for Undergraduates

- s2. **Elementary Course.** Credit, 1 course. Mr. Shields. Hours: 8:00 and 12:00 daily. (Entrance credit only.)
- s4. **Intermediate Spanish.** Credit, 1 course. Mr. Hayes. Hours: 8:00 and 12:00 daily.

Courses for Graduates and Advanced Undergraduates

- # s111. **Modern Spanish Novelists.** Credit, $\frac{1}{2}$ course. Mr. Boggs. Hour: 12:00 daily.

Courses Primarily for Graduates

- s221. **Old Spanish.** Credit, 1 course. Mr. Boggs. Hours: 9:00 and 10:00 daily.
- s395. **Research.** Credit, $\frac{1}{2}$ course. (Research in a special field under the direction of a member of the department.)

RURAL SOCIAL-ECONOMICS

Courses for Undergraduates

- s53. **History of Agriculture and Rural Life.** Credit, $\frac{1}{2}$ course. Mr. Hobbs. Hour: 8:00 daily.
- s91. **Research in Rural Social-Economics.** Credit, $\frac{1}{2}$ course. Staff. Hours to be arranged.

Courses for Graduates and Advanced Undergraduates

- s101b. **North Carolina: Economic and Social.** Credit, $\frac{1}{2}$ course. Mr. Hobbs. Hour: 10:00 daily.

s101c. North Carolina: Economic and Social. Credit, $\frac{1}{2}$ course. Mr. Hobbs. Hour: 8:00 daily.

NOTE:—This course is being offered for the first time and may be taken by any student who has previously taken the first half (101a, first term) either in residence or Extension, and by those registered for 101b, second term.

Courses Primarily for Graduates

s301. Rural Economics. Reading and Research. Credit, $\frac{1}{2}$ course. Staff. Hours to be arranged.

s311. Rural Sociology. Reading and Research. Credit, $\frac{1}{2}$ course. Staff. Hours to be arranged.

SOCIOLOGY

Courses for Undergraduates

s42b. Social Problems. Credit, $\frac{1}{2}$ course. Mr. Meyer. Hour: 9:00 daily.

s152. Social Theory. Credit, 1 course. Mr. Vance. Hours: 10:00 and 11:00 daily.

s161b. The Family. Credit, $\frac{1}{2}$ course. Mr. Groves. Hour: 8:00 daily.

s198b. Social Pathology. Credit, $\frac{1}{2}$ course. Mr. Meyer. Hour: 11:00 daily.