The University of New Hampshire and The New Hampshire College of Agriculture and the Mechanic Arts

Durham, New Hampshire

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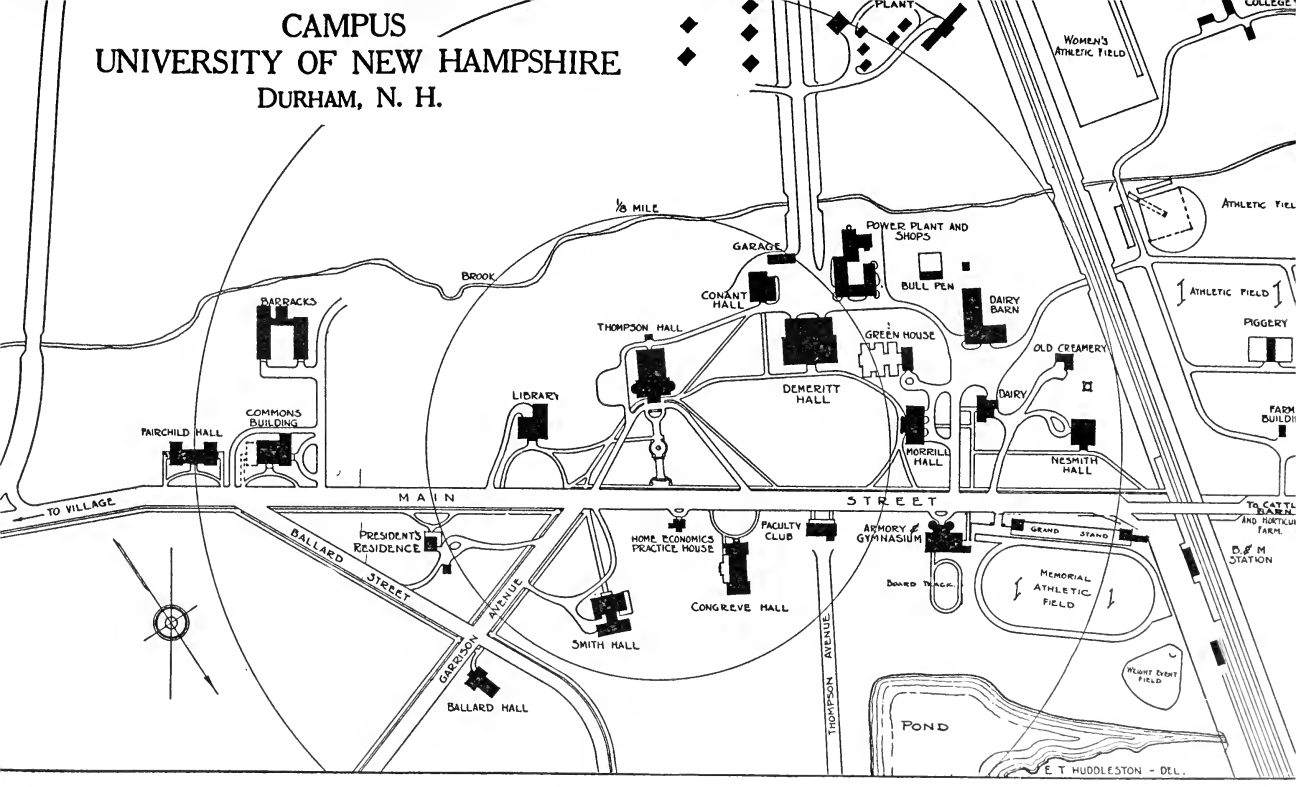
VOL. XVI MARCH, 1925 No. 6

CAMPUS
UNIVERSITY OF NEW HAMPSHIRE
DURHAM, N. H.



This map shows the buildings of the University and the immediately adjacent grounds. It does not include the farms, forests, gardens or orchards.

CALENDAR

1925

JANUARY							FEBRUARY							MARCH							APRIL						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
..	..	..	..	1	2	3	1	2	3	4	5	6	7	1	2	3	4	5	6	7	..	..	..	..	1	2	3	4
4	5	6	7	8	9	10	8	9	10	11	12	13	14	8	9	10	11	12	13	14	5	6	7	8	9	10	11
11	12	13	14	15	16	17	15	16	17	18	19	20	21	15	16	17	18	19	20	21	12	13	14	15	16	17	18
18	19	20	21	22	23	24	22	23	24	25	26	27	28	22	23	24	25	26	27	28	19	20	21	22	23	24	25
25	26	27	28	29	30	31	..	..	..	..	..	..	..	29	30	31	..	..	..	..	26	27	28	29	30	..	..
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MAY							JUNE							JULY							AUGUST						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
..	..	..	..	..	1	2	..	1	2	3	4	5	6	..	..	..	1	2	3	4	..	..	..	..	..	..	1
3	4	5	6	7	8	9	7	8	9	10	11	12	13	5	6	7	8	9	10	11	2	3	4	5	6	7	8
10	11	12	13	14	15	16	14	15	16	17	18	19	20	12	13	14	15	16	17	18	9	10	11	12	13	14	15
17	18	19	20	21	22	23	21	22	23	24	25	26	27	19	20	21	22	23	24	25	16	17	18	19	20	21	22
24	25	26	27	28	29	30	28	29	30	..	..	..	..	26	27	28	29	30	31	..	23	24	25	26	27	28	29
31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	30	31	..	..	..	..	..

SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
..	..	1	2	3	4	5	..	..	..	..	1	2	3	1	2	3	4	5	6	7	..	..	1	2	3	4	5
6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14	6	7	8	9	10	11	12
13	14	15	16	17	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21	13	14	15	16	17	18	19
20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28	20	21	22	23	24	25	26
27	28	29	30	..	..	..	25	26	27	28	29	30	31	29	30	..	..	..	..	..	27	28	29	30	31	..	..
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1926

JANUARY							FEBRUARY							MARCH							APRIL						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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3	4	5	6	7	8	9	7	8	9	10	11	12	13	7	8	9	10	11	12	13	4	5	6	7	8	9	10
10	11	12	13	14	15	16	14	15	16	17	18	19	20	14	15	16	17	18	19	20	11	12	13	14	15	16	17
17	18	19	20	21	22	23	21	22	23	24	25	26	27	21	22	23	24	25	26	27	18	19	20	21	22	23	24
24	25	26	27	28	29	30	28	..	..	..	..	..	..	28	29	30	31	..	..	..	25	26	27	28	29	30	..
31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

MAY							JUNE							JULY							AUGUST						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
..	..	..	..	..	..	1	..	..	1	2	3	4	5	..	..	..	..	1	2	3	1	2	3	4	5	6	7
2	3	4	5	6	7	8	6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14
9	10	11	12	13	14	15	13	14	15	16	17	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21
16	17	18	19	20	21	22	20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28
23	24	25	26	27	28	29	27	28	29	30	..	..	..	25	26	27	28	29	30	31	29	30	31	..	..	..	..
30	31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
..	..	..	1	2	3	4	..	..	..	..	..	1	2	..	1	2	3	4	5	6	..	..	..	1	2	3	4
5	6	7	8	9	10	11	3	4	5	6	7	8	9	7	8	9	10	11	12	13	5	6	7	8	9	10	11
12	13	14	15	16	17	18	10	11	12	13	14	15	16	14	15	16	17	18	19	20	12	13	14	15	16	17	18
19	20	21	22	23	24	25	17	18	19	20	21	22	23	21	22	23	24	25	26	27	19	20	21	22	23	24	25
26	27	28	29	30	..	..	24	25	26	27	28	29	30	28	29	30	..	..	..	..	26	27	28	29	30	31	..
..	..	..	..	..	..	..	31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

UNIVERSITY CALENDAR

1925–1926

SUMMER SESSION

June	29	Monday	Registration Day
June	30	Tuesday	Classes begin 8 A.M.
Aug.	7	Friday	Summer Session closes 4 P.M.

FALL TERM

1925

Sept. 9, Registration Day
For Freshman Class Only

Sept.	9	Wednesday	Registration Day—Freshman class
Sept.	15	Tuesday	Registration Day—Upper classes
Sept.	16	Wednesday	Recitations begin at 8 A.M.
Oct.	14	Wednesday	Annual Meeting of Board of Trustees
Oct.	27	Tuesday	Mid-Term Warnings to be filed, 5 P.M.
Nov.	24	Tuesday	Thanksgiving recess begins at 6 P.M.
Nov.	30	Monday	Thanksgiving recess ends at 8 A.M.
Dec.	17–23	Thurs.–Wed.	Fall Term Examinations
Dec.	23	Wednesday	Fall Term closes at 4 P.M.

WINTER TERM

1926

Jan.	4	Monday	Registration Day
Jan.	5	Tuesday	Recitations begin at 8 A.M.
Jan.	13	Wednesday	Meeting of Board of Trustees
Feb.	12	Friday	Mid-Term Warnings to be filed, 5 P.M.
Feb.	22	Monday	Washington's Birthday
Mar.	9	Tuesday	Town Meeting—classes dismissed at 10 A.M.
Mar.	17–23	Wed.–Tues.	Winter Term Examinations
Mar.	23	Tuesday	Winter Term closes at 4 P.M.

SPRING TERM

1926

Mar.	31	Wednesday	Registration Day
Apr.	1	Thursday	Recitations begin at 8 A.M.
Apr.	14	Wednesday	Meeting of Board of Trustees
May	5	Wednesday	New Hampshire Day (Subject to change)

May	13	Thursday	Mid-Term Warnings to be filed, 5 P.M.
May	30	Sunday	Memorial Day
June	14–18	Mon.–Fri.	Spring Term Examinations
June	16	Wednesday	Senior examinations close at 4 P.M.
June	19	Saturday	Alumni Day
June	20	Sunday	Baccalaureate Day
June	21	Monday	Class Day
June	21	Monday	Meeting of Board of Trustees
June	22	Tuesday	Commencement Day

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Oct. 29, 1915, to Oct. 31, 1927	
Hon. Eugene S. Daniell	Greenland
June 14, 1916, to July 12, 1925	
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June 14, 1916, to June 14, 1925	
Hon. Andrew L. Felker	Laconia
July 17, 1917, to July 17, 1926	
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Dec. 1, 1924, to Dec. 1, 1927	

* Elected by the Alumni.

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HELEN M. HILTON, *Stenographer*
MARY E. LAWLESS, *Stenographer*
MURIEL E. MURRAY, *Stenographer*

EXTENSION SERVICE

(Agriculture and Home Economics)

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HON. W. H. CALDWELL, B.S.	Peterborough
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J. C. KENDALL, B.S., *Director of Extension Work*
E. P. ROBINSON, B.S., *County Agent Leader*
DAISY D. WILLIAMSON, *State Home Demonstration Leader*
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C. B. WADLEIGH, B.S., *State Leader Boys' and Girls' Club Work*
G. L. WAUGH, B.S., *Agent in Dairying*
H. B. STEVENS, A.B., *Executive Secretary*
MARY L. SANBORN, *Asst. State Leader Boys' and Girls' Club Work*
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HOWARD A. ROLLINS, B.S., *Extension Assistant in Horticulture*

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D. A. O'BRIEN, *Coös County*
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J. A. PURINGTON, M.S., *Rockingham County*
W. L. FUNKHOUSER, B.S., *Cheshire County*
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UNIVERSITY OF NEW HAMPSHIRE

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ELIZABETH E. MEHAFFEY, *Mailing Clerk*
MARTHA E. FISHER, *Secretary to the County Agent Leader*
MARION V. PALMER, *Secretary to the Agent in Dairying*
NELLIE E. STACKPOLE, *Secretary to Boys' and Girls' Club Leaders*
EDITH LITTLE, *Secretary to Home Demonstration Leaders*

HISTORICAL SKETCH

The New Hampshire College of Agriculture and the Mechanic Arts was created by an act of the New Hampshire legislature in 1866 and was established at Hanover as a state institution, in connection with Dartmouth College. The first class entered in 1868. Before the college was founded, the state legislature of 1863 had accepted the conditions of an act of the federal congress of July 2, 1862, entitled "An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts."

In 1893 the college was moved from Hanover to Durham. This action followed the death of Benjamin Thompson, a farmer of Durham, who died January 30, 1890, and left to the college his entire estate, with the exception of a few minor reservations. The legislature accepted this bequest March 5, 1891, and appropriated the necessary money for the first buildings.

Shortly before the state accepted this gift of Mr. Thompson's, the legislature further provided for the college by accepting the provisions of an act of congress known as the Morrill Bill. This legislation made available federal appropriations "for instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic science, with special reference to their applications in the industries of life, and to the facilities for such instruction."

Although the college was able to make use of the Thompson land as early as 1893, it was not until 1910 that the income from this endowment of almost $800,000 became available. At present the college has an annual income from the Thompson funds of nearly $32,000. It also receives the moneys which are available as the result of the acts of congress referred to, and the biennial appropriations of the state legislature.

On May 4, 1923, the state legislature passed an act incorporating the *University of New Hampshire*, the act to take effect July 1, 1923. The new corporation includes the present corporation known as the *New Hampshire College of Agriculture and the Mechanic Arts* and also provides for a *College of Technology* and a *College of Liberal Arts*. The trustees of the *New Hampshire College of Agriculture and the Mechanic Arts* serve as the trustees of the University.

The University administration is in charge of a board of thirteen trustees. The governor of the state and the president of the college

are *ex officio* members. The alumni elect two trustees, and the others are appointed by the governor with the advice and consent of the council.

EXPERIMENT STATION

A branch of the University, known as the Agricultural Experiment Station, was established by the state, August 4, 1887, under an act of congress in March of that year. Its purpose is to acquire agricultural knowledge and to bring its information to the people of the state. The station is actively engaged in this work not only in Durham but throughout the commonwealth. Members of the faculty of the college of agriculture serve on the station staff.

EXTENSION SERVICE

In addition to its functions of teaching resident students and conducting research investigations, the University has been developing rapidly during the past few years its function of carrying information and assistance in agriculture and home economics into all parts of the state. The first financial aid for non-resident teaching, or extension work, came in 1911 when the New Hampshire legislature appropriated a sum of money for this purpose. In May of the same year the board of trustees recognized the extension activities of the college as of prime importance and appointed a director of extension work.

The passage of the Smith-Lever act by congress on May 8, 1914, gave a decided impetus to this type of teaching. Under the provisions of this act, New Hampshire, like every other state, receives the sum of $10,000 annually from the federal government for supplementing and strengthening the extension work of the Agricultural College. In addition to this sum, New Hampshire shares in increased allotments for seven years in the proportion which its rural population bears to the total rural population of all the states, provided the state shall appropriate an equal sum. During the year 1924–1925 the federal appropriation under this act amounted to $23,028, and the off-set provided by the state amounted to $13,028.

Under a triangular coöperative arrangement between the United States Department of Agriculture, the University, and the counties of the state, a field force of extension agents has been placed in the various counties to carry on an educational campaign in agriculture and home economics. Towards the development of this work, the county delegations at the legislative session of 1923 appropriated an annual sum of

$40,975 for the next biennium. A supplementary act of congress, passed in July, 1919, also provided under the same terms as the Smith-Lever act, funds which in New Hampshire amounted to $4,131 for the year 1924–1925. The State Legislature made an additional appropriation of $14,000.

As a result of these appropriations the extension staff of the University has been increased until there are now twenty-nine members giving full time to the service. The members of the University and station staffs also render valuable assistance in carrying out the extension program.

SMITH-HUGHES WORK

The enactment by the federal government of the Smith-Hughes law in 1917 made available to the state of New Hampshire $10,000, federal moneys to be matched by an equal amount of state or local moneys. One third of this is to be used in the training of teachers of agriculture, home economics, and industrial education. Two thirds of the amount is to be used in partial payment of the salaries of teachers of these subjects in those public secondary schools which meet the requirements as established by the Federal Board for Vocational Education in regard to teachers, equipment, etc. The New Hampshire State Board of Education has designated the University of New Hampshire as the institution which shall do the teacher training work provided for in this act.

SITUATION

Durham, the home of the University, is an attractive village on the Portland division of the Boston and Maine railroad, sixty-two miles from Boston, fifty-four from Portland, and five from Dover, a city of 15,000 population. Good train service makes the University easily accessible from all parts of the state.

Durham, organized in 1732, is one of the historic towns of New Hampshire. In the early days it was the home of a prosperous ship-building industry. Situated at the head of tidewater on the Oyster River, it served as a distributing center for the interior of the state. During the Revolutionary War it was famous as the home of General John Sullivan. Near his home, in the village, the state has erected a fitting monument to his memory.

BUILDINGS AND EQUIPMENT

BUILDINGS

Thompson Hall is the main administration building, and from its eminence it commands a view of the entire campus. It contains, besides recitation rooms, the offices of the president, dean, registrar, business secretary, bookstore, and headquarters of the departments of modern languages, English, education and psychology, zoölogy, economic entomology, and home economics. The gymnasium for women is also in this building.

Morrill Hall is the headquarters of the College of Agriculture and it contains also the office of the director of the experiment station and the experiment station library. In this building are the laboratories and lecture rooms of the departments of agricultural chemistry, agronomy, animal husbandry, horticulture, poultry husbandry, forestry, and a cattle-judging room. The third floor provides quarters for agricultural extension workers, a reading room for agricultural students, and the agricultural club room.

DeMeritt Hall.—The engineering building is the most prominent of the engineering group, and houses the departments of mechanical engineering, electrical engineering, physics, drawing and mathematics. It contains lecture, recitation, drawing, and office rooms for the several departments; also electrical, mechanical and physical laboratories, each one adapted to and equipped for its specific work.

Conant Hall is devoted to the department of chemistry. So rapid has been the growth of the University that the building though of substantial construction and equipment is no longer adequate for the needs of the department. Some relief of a temporary nature has been recently achieved by fitting up additional laboratories in the shop building and in Morrill Hall. The University is called upon to carry on chemical courses in technology, arts, agriculture and home economics and it has an instruction staff covering all of these courses.

The Library.—In accordance with an act of consolidation, the University library and the Durham public library are shelved in one building, forming the Hamilton Smith Library. This consolidation is an especially good one, the University collection of the more serious works in science and in literature supplementing well the lighter and more popular books of the town library. The entire collection numbers 48,000 volumes.

The library as a whole receives 400 periodicals, 200 of which are kept in the periodical and children's rooms and the rest in the various departmental libraries. Forty daily and weekly papers are received.

Aside from the main library, each department has its working library of the more technical books and journals. The departments of sociology, of history and political science, and of economics, are located in the library building.

The Dairy Building is well arranged and equipped for purposes of dairy instruction. It contains a commercial creamery, with refrigeration plant, milk room, separator room, churning room, cold storage and hardening rooms, laboratories for instruction in milk testing, milk inspection, farm butter and cheese-making, and bacteriology. It also contains a class room, and offices.

The Shop Buildings consist of a woodworking shop, a machine shop, a forge room, a foundry, the boiler house, and a general repair shop connected with the power and service department.

An extensive addition was made to the shops by the carpentry and concrete sections of the New Hampshire College U. S. Army Training Detachment during the fall of 1918. These additions have given opportunity for much needed development of wood and machine shop instruction. One large room is devoted to the display of farm tools and machinery. Lockers are provided for the students.

Nesmith Hall is occupied by the departments of chemistry and botany of the experiment station, and by the laboratories of the department of

botany of the University. The third floor is occupied by the department of music.

The Armory and Gymnasium contains a large drill hall and gymnasium and the offices of the Military, and Physical Education Departments.

President's House.—The present structure is a substantial, attractive residence, erected in 1904 to replace the original wooden structure which was burned in 1903.

Commons Building.—The Commons Building, constructed during 1918–1919, at a cost of $110,000 is a handsome brick structure of Georgian style, and modern in every respect. The main dining room, served by a modern cafeteria, has a seating capacity of 300, but is sufficiently large to serve under the cafeteria system a much greater number. There is also a small private dining room. The dormitory on the third floor houses twenty-eight students and permits accommodations for eight or ten guests.

Fairchild Hall.—This building, erected in 1916, was named in honor of the late president of the University. It is a brick structure of colonial design, furnishing accommodations for about 150 men.

Ballard Hall, built at a cost to the state of only $12,000, furnishes desirable accommodations for 73 men.

Barracks A and B are frame buildings which were erected by the college in 1918 for the housing of soldiers in the Students' Army Training Corps and have since been partitioned off into moderate-sized rooms, furnished in the same way as are those of the other dormitories. An addition has recently been added to Barracks B accommodating 72 men. These buildings supply comfortable quarters at a low cost for 232 men.

Smith Hall was made possible by the generosity of Mrs. Shirley Onderdonk, of Durham, who gave $16,000 as a memorial to her mother, Mrs. Alice Hamilton Smith. The remainder of the cost, $10,000, was provided by the state. By the aid of the carpentry and concrete divisions of the Training Detachment National Army an annex was added to the rear of the hall, greatly increasing the rooming facilities. The hall now accommodates 68 women.

Congreve Hall.—Through the will of Mrs. Alice Hamilton Smith of Durham, a sum of money amounting to approximately $110,000 was received by the University. The board of trustees appropriated this fund to the erection of a women's dormitory, which has been constructed

in the Georgian style of architecture to conform to that already adopted for all the University dormitories. During the summer of 1922 a wing was added, completing the original design. It now accommodates 100 students and contains large social rooms, a suite of rooms for the dean of women, and other features that make it an attractive home for women.

Practice House.—A modern house owned by the University and conveniently located on the campus has been fitted up as a practice house for home economic students. Here they live during eight weeks of their senior year, taking their turn at performing, under competent supervision, the varied tasks of the household. The house is also used as a laboratory for the teaching of household management and food preparation.

Farm Buildings.—Besides the above, there are numerous large, well-equipped farm and other buildings adapted to the needs of the several departments.

EQUIPMENT

Agronomy.—For the teaching of agricultural engineering, this department is provided with drainage levels for laying out drains, plane tables for making farm maps, polar planimeters for measuring plotted areas, a dynamometer and several other pieces of apparatus for studying draft problems. For farm crops work it has a very complete collection of dried specimens of the different forage crops, and of the more important varieties of corn, wheat and oats. Seed testing apparatus, grass charts, and other illustrative material form a part of the equipment.

The lecture room is equipped with a combined lantern and reflectoscope, together with a large number of lantern slides.

The soil physics laboratory contains soil bins, a compacting machine, chemical and torsion balances and various kinds of physical apparatus for the study of soils, including that for the determination of specific gravity and for the making of mechanical analyses.

The agricultural museum contains the original "Daniel Webster plow" and other primitive models. It also contains many of the latest types of farm machinery, including plows, cultivators, harrows, mowers, planters, corn and grain binders, a thresher, a tractor, a manure spreader, a multiple hitch, various makes of woven wire fences, etc.

The farm, with its 900 acres of land, has a variety of soils suited for the growth of various farm crops.

Animal Husbandry.—The new stock barn is thoroughly equipped with modern appliances. It houses a number of horses of the draft

type, including a well-bred Percheron stallion and several mares and colts of the same breed. There are two small herds of beef cattle, milking Shorthorns, and Herefords, and also good individuals of the Devon breed, as well as a flock of pure-bred Shropshire sheep, and a herd of Berkshire hogs.

The modern piggery accommodates a small herd of Berkshires and individuals of the Duroc Jersey and Chester White breeds.

In Morrill Hall a large room is fitted up for the judging of live stock. The class room is provided with a stereopticon lantern, and lantern slides are used to show the leading individuals of the different breeds of live stock.

The herd books of the most prominent breeds are used for the purpose of familiarizing the students with the methods of tracing pedigrees and with the practices of breeders' associations.

Architecture and Drawing.—The department of architecture and drawing is well equipped to meet the needs of the subjects offered. The drafting rooms are supplied with tables and lockers, and the free-hand studio with suitable stands and easels. For engineering and machine drawing there is an excellent collection of working models and machine parts, and various machines in other departments are available for this work. For free-hand drawing there is a good supply of geometric models, and for advanced work in charcoal drawing the nucleus of a good collection of plaster casts exists, consisting of historic ornament, details of plant and animal life and of the human form. For special work in this subject there is available the museum of casts, consisting of examples of antique and modern sculpture. For work in architectural drawing an excellent library of books and periodicals, and blue prints of all classes of buildings, are available for reference and use in the drafting rooms, while a goodly collection of samples of building materials is being added from time to time.

Botany.—The department of botany has the usual laboratory equipment to meet the needs of the courses in general botany, plant physiology and bacteriology. In the advanced courses, owing to the connection of the department with the experiment station, students will find both the laboratory and greenhouse equipment ample for critical studies of plant diseases and plant nutrition.

Chemistry.—The several chemical laboratories are fairly well equipped. Each is supplied with most of the forms of apparatus required for its particular work. Besides all necessary glass and porcelain ware, this

includes water baths, drying ovens, combustion furnace, muffle and assay furnaces, platinum dishes and crucibles, polariscope, spectroscope, balances, etc.

Dairy Husbandry.—The dairy husbandry department offers excellent opportunities for instruction in technical and practical dairy work. The creamery is well equipped. Electric motors furnish power for the different machines. Milk from the college herd, and milk and cream from neighboring farms, give sufficient material for the different laboratories. In the farm dairy room are hand separators, and hand and small power churns. The milk testing and milk inspection laboratory is equipped with Babcock testers and other apparatus. The bacteriological laboratory has equipment necessary for instruction in dairy bacteriology.

The dairy herd of 70 animals consists of representatives of the Guernsey, Jersey, Ayrshire, and Holstein breeds. Use is made of the herd for laboratory instruction in dairy and animal husbandry subjects.

Electrical Engineering.—The laboratories for electrical engineering occupy the ground floor of the south end of DeMeritt Hall. The main laboratory is used for testing electrical machinery, and contains a large distribution switchboard on which are mounted instruments, switches, circuit breakers, and plugging devices. These devices are so arranged that by making the proper connections thereto, direct current, and single-phase, two-phase and three-phase alternating current of different voltages and frequencies, can be supplied to the various panels in the laboratory and to the lecture rooms in the building.

In addition to this main laboratory there are others devoted to photometry, storage batteries, and high potential experiments. The laboratories are also provided with an instrument room and a mechanician's room.

The general equipment includes various dynamos and motors for direct and alternating current, transformers, rectifiers, rotary converters, telephone and telegraph instruments, wireless telegraph apparatus, an Evans demonstration equipment, arc lamps, storage batteries, and the necessary measuring instruments adapted to the needs of students taking this course.

The lecture rooms of the department are equipped with small panel boards connected directly with the switchboard in the main laboratory, thus making it possible to supplement lectures with demonstrations.

Farm Department.—The College of Agriculture has a large, well-

equipped farm. It serves as a laboratory for much of the instruction in agriculture where approved methods and practices may be seen and where many students may gain experience by actually performing the work with their own hands.

The farm proper consists of about 510 acres, of which about 110 are in forest and woodland, about 70 are occupied by the campus and athletic field, about 160 are hay and tillage land, and about 170 are pasture land. A part of both the pasture and tillage land is utilized by the agronomy, horticulture, and animal husbandry departments.

A second farm of 120 acres, purchased in 1916, adjacent to the main farm and having a complete set of buildings is occupied by the horticultural department. This farm contains one of the best orchard sites in this part of the state, about 20 acres of forest, and about 50 acres of pasture.

Another tract of land of about 300 acres, located 1½ miles south of the campus, was purchased in 1923. This consists largely of woodland, forest and pasture.

The farm buildings consist of a large dairy barn, a horse barn, a stock barn, two sheep barns, a new up-to-date piggery, and four general storage barns. The dairy barn has a 125 ton silo, storage capacity for about 120 tons of hay, and a well-appointed, sanitary stable accommodating 40 cows and a large and valuable complement of young stock. A separate building, with individual yards, is used for housing the herd bulls.

Forestry.—The department of forestry offers a course of instruction which is intended to provide not only a special training in forestry, but also a broad general training in other lines of agriculture closely related to it. For those who desire to make forestry their life work, every encouragement and assistance will be given. Additional work at some graduate school of forestry is now almost a necessity, owing to the large number of men entering the profession.

Durham is well situated with reference to the study of woodlot forestry. All types of native second-growth forests are found nearby, and the college owns a tract of 60 acres of old-growth timber where exceptional opportunities are given for the study of mature forests. There are other areas where practice will be given in establishing plantations of forest trees by various methods. A nursery for the growing of seedling forest trees has been established.

All the necessary instruments for making forest maps and measure-

ments, together with collections of wood specimens, lantern slides and photographs, are available in connection with this work.

Students in the forestry course go into camp for a period during the summer of their junior year in order to get practical experience in camp life and in the survey, valuation, and management of large tracts of woodland.

Home Economics.—The home economics department is located in two large rooms in Thompson Hall. The food laboratory is furnished with individual desk equipment and additional cupboards for extra utensils and supplies. Electricity, gas and oil are used as fuels. (In the Practice House the students have a chance to use a coal and wood range.) The sewing laboratory is equipped with tables, cupboards, and various types of sewing machines.

Mechanical Engineering Department.—This department is located in DeMeritt Hall. On the second floor is the drafting room which is given over to advanced drawing and designing. In addition to the drafting room there are two lecture rooms, and department offices. One of the lecture rooms is equipped with stereopticon lantern and screen, so that illustrated lectures may be given at any time.

In the basement is located the mechanical engineering laboratories, in the north end of which is the materials testing laboratory which is equipped with the apparatus needed in making analyses of flue gases, for the making of calorimetric determinations of the heat values of solid and liquid fuels, and for conducting the usual tests of cements and mortars. There is also apparatus needed in determining the viscosity and flash points of lubricants as well as an oil testing machine for determining the lubricating and wearing qualities of lubricants. This laboratory is also equipped with an electric oven for the heat treatment of steel and with torsion, tension and compression testing machines for determining the strengths of materials.

The main room is given over to the testing of steam, gas and hydraulic machinery as well as of air compressors, air conditioning and heat transfer apparatus. This laboratory is well equipped with machinery needed for such testing and includes a 25 H. P. Corliss steam engine, one 25 H. P. high speed automatic cut-off steam engine, one 15 H. P. plain slide valve engine, one condenser, one two-stage air compressor, a centrifugal pump direct connected to a 30 H. P. electric motor, a motor driven triplex power pump, a steam pump and the necessary Venturi meters, weirs, etc., needed in testing hydraulic machinery. The labora-

tory is also equipped with fans for fan testing, air conditioning and heat transfer apparatus needed in studying heating and ventilating problems. There is also an ample supply of steam and gas engine indicators, gauges, calorimeters, and other small apparatus needed in conducting various tests and for the conducting of research work in various lines.

Military Department.—Recognizing in military training a source of physical, mental, and moral development for the individual and a future safeguard for the nation, the University maintains two units of the Reserve Officers Training Corps. This corps, which is described in the later pages of the catalog, consists of over fifty thousand students in all of the principal educational institutions of the country. It was organized by congress in 1916 to provide systematic military training in civil institutions and to train specially selected students as reserve officers in the military forces of the United States.

The training of the corps is under the supervision of the Secretary of War. Officers and non-commissioned officers of the regular army are detailed at the University for carrying on this training. The War Department loans all the necessary equipment of the latest type, so that with the exception of a few text-books required by advanced students, members of the R.O.T.C. are put to no expense for arms or equipment.

In addition to the infantry and artillery equipment furnished by the government, there is a 20-yard indoor rifle and pistol gallery, and a 200- and 300-yard rifle range available for the use of students. The rolling country in the vicinity furnishes opportunity for extended order drill and field exercises, and the athletic field for close order drill.

The cadets wear, when on duty of a military character, the olive drab cloth uniform prescribed by standing orders of the War Department and furnished by the government.

Upon the graduation of each class, the names of those students who have shown special aptitude for military service are reported to the adjutant-general of the army, and to the adjutant-general of the state, and they receive a special certificate for military proficiency.

Physics.—The department of physics is housed in the west end of DeMeritt Hall. In the basement is located the introductory physics laboratory with apparatus room, a photographic laboratory, a switchboard hall, a storage room and two small dark rooms for the individual work of the instructors. On the first floor is located the general physics laboratory and apparatus room, a recitation room and the department office. On the second floor is located the lecture room, with adjoining apparatus room.

Instruction in physics is given primarily by recitations and laboratories, with frequent lectures, examinations, written reports and personal conferences. The aim of the department is to develop student minds capable of doing independent thinking in the science of physics. There is a small but well chosen and growing collection of apparatus for use in laboratories and lectures.

Poultry Husbandry.—The equipment of the poultry plant consists of a permanent laying house housing 1,000 birds; a 30 by 30 laying house housing 300 birds; twenty-four colony houses capable of brooding 12,000 chickens; two incubator cellars, one containing a Mammoth Incubator 4,800 egg capacity and a smaller cellar containing eight small machines of three different makes; a feed house containing an egg room, storage room enough for a carload of grain; twelve colony brooders of five different makes including both oil and coal burners.

The hens number 1,200 and consist of Barred Plymouth Rocks, Single Comb Rhode Island Reds, and Single Comb White Leghorns.

The whole plant is run on a strictly commercial basis demonstrating the methods and systems used at a successful, money-making poultry plant. The poultry plant is self-supporting, proving that the theories taught are sound.

Shopwork.—The wood shop is equipped with thirty-three benches, and complete sets of tools for 160 students. Each bench is equipped with modern vises. Other equipment consists of a universal pattern maker's saw, board-planer, buzz-planer, band saw, speed-lathes and a large pattern maker's lathe with boring attachment. The shop has recently been equipped with shavings and dust removal apparatus.

The equipment of the machine shop consists of thirteen engine lathes, one speed-lathe, a vertical drill, planer, large universal milling machine, plain milling machine, shaper, power hack saw, tool grinder, twelve benches with vises and bench lathes and a large number of small tools, including micrometers, calipers and gages necessary for accurate work.

In the forge shop are seventeen Sturtevant down-draft forges, with anvils and necessary tools. The blast to the forges is furnished by a No. 4 blower, and the smoke is carried away by a 60-inch exhauster. These are driven by an electric motor.

Zoölogy.—The University is favorably situated geographically for the study of zoölogy. Within a few minutes' walk of the laboratory, the Oyster River meets the tide water from Great Bay. This furnishes a graduation of salt, brackish and fresh water with an abundance of their

characteristic fauna. Great Bay, the Piscataqua River and the open ocean are within easy access, and have their own peculiar, characteristic forms. On the other hand, there are numerous bodies of fresh water, with typical fresh water forms.

The department of zoölogy is prepared to offer courses in systematic zoölogy, physiology and sanitation, philosophical zoölogy, and anatomical zoölogy.

The equipment for the work in systematic zoölogy consists of a well-lighted laboratory, provided with tables, charts, dissecting and compound microscopes. All of the latest books and periodicals on systematic zoölogy are at the student's disposal. The lecture room is fitted with a new reflectoscope capable of projecting opaque objects, text-book figures, or lantern slides. There is a fairly complete collection of local invertebrates, and a very good collection of the birds of New Hampshire. The work in systematic entomology is greatly aided by a large and complete collection of insects which is the property of the experiment station.

The proximity to both salt and fresh water renders the work in advanced systematic zoölogy unusually attractive. In addition to the regular collecting equipment, nets, aquaria, etc., advanced students also have the use of rowboats and a gasoline launch.

In the work in physiology, hygiene and sanitation, the department is provided with an unusually fine collection of injected preparations of the human body, and with numerous charts. The same laboratory and equipment is used in this work as noted above.

For work in evolution and experimental zoölogy the department has a very complete library. Studies in ecology in Great Bay and vicinity are encouraged, for which purpose the students have the use of a camera equipment. In addition to the study of evolution under natural conditions the department also furnishes aquaria for laboratory study and experiments.

The work in anatomical zoölogy is greatly facilitated by an abundance of fresh material which may be collected as needed. For the study of human and comparative anatomy a full set of skeletons and preserved material is provided. Students interested in histology have access to a private collection of some two thousand microscope slides.

Museum.—The museum had for a nucleus the collection made during the state geological survey. To this, additions have been made from various sources. Specimens are being collected to illustrate the zoölogy of New Hampshire, and New Hampshire collectors and naturalists are invited to make the museum the permanent depository of their collections.

GENERAL INFORMATION

EXPENSES

Estimate of Freshman Expenses

	High *	*Average* *	*Low*
Tuition	$75.00	$75.00	.....
Fees	54.50	54.50	$54.50
Books	35.00	30.00	25.00
Room	110.00	72.00	63.00
Board	300.00	210.00	180.00
Laundry	30.00	18.00	12.00
Uniform †	.....	.....	.....
Incidentals ‡	100.00	60.00	40.00
Health fee	4.50	4.50	4.50
Total	$710.00	$525.00	$380.00
Expenses, Fall Term §	$300.00	$210.00	$160.00

Tuition and Fees—Four-Year Students.—Tuition is $75 a year for residents of New Hampshire and $150 for non-residents; incidental fees are $54.50 a year. Tuition is payable in advance in three equal installments, one on the first day of each term.

Fees are payable in advance, $21.50 the first term and $16.50 for each of the other two terms. A diploma fee of $5 is charged upon graduation. Charges will be assessed for extraordinary breakage or damage. No laboratory or course fees are charged. Payment of the incidental fees entitles the student (four-year, two-year or special) to admission to all varsity athletic games and contests.

Tuition and Fees—Two-Year Students.—Tuition and fees for two-year students in agriculture are as follows: for out-of-state students,

* If a non-resident, add $75 to high and average and $150 to low. If a resident and not holding a scholarship, add $75 to low.

† Uniform for members of the Reserve Officers' Training Corps is provided by the federal government. A deposit of $15 is required in advance.

‡ Expenses for travel, clothing, etc., vary with the individual student, and should be added. The subscription price to the *New Hampshire*, the college paper, is $2.00 per year. Subscriptions are taken during registration at the opening of the college year. Provision should also be made for participation in other student enterprises.

§ Fees, board, incidentals, etc., are largest the Fall Term, and deposit for uniform is required then. Hence the greater proportional expense.

tuition $100, general fees $38.00; for residents of the state of New Hampshire, tuition $50, general fees $38.00. Tuition is payable in advance in two equal installments, and fees are payable in advance, $21.50 the first term and $16.50 the second term.

Books.—Students may purchase books, drawing instruments, gymnasium equipment, materials etc., at the University bookstore in Thompson Hall.

Rooms.—The University has three dormitories for women and four for men. All rooms are heated, lighted and furnished. Bed linen, quilts and towels, however, are provided by the individual student. Each women's dormitory is equipped with a laundry. In many cases, three students occupy a suite of rooms. Prices range from $63 to $100 a year for each student. Applications for rooms in the dormitories should be addressed to The Registrar, University of New Hampshire, Durham.

A Five Dollar ($5.00) Room Deposit must accompany each application, this deposit to be forfeited if the room accepted is not occupied by the applicant. The deposit is held as a guarantee against breakage and will be returned upon the payment of any bills for damage at the close of the year or upon withdrawal.

Room rent is payable in advance in three equal installments, one on the first day of each term except as noted below.

Rooms reserved will be held only until ten days before the registration date noted in the current college catalog unless one-third of the annual rent is paid before that date.

Rooms paid for and not occupied one day after registration may be declared vacant and the room rent returned, unless the individual having the reservation makes a written request to the Registrar to hold the room until a later date. The advance payment for the room will not be returned to those making this special request. No room will be reserved more than ten days after the registration date. Early application is necessary in order to secure a choice of rooms. Rooms in private dormitories or families may be secured for about the same prices as for those in college dormitories.

Women students, unless living at home, are required to room in one of the women's dormitories, or in approved houses. A competent matron is in charge of each women's dormitory.

Board.—The University operates on a self-service basis a modern, well-appointed Commons Dining Hall. Both regular weekly board and cafeteria service are provided. Exact cost records are kept and prices

are adjusted in such manner as to give students the advantage of changing cost. It is desirable that all freshman students take their meals there.

Health Service.—The object of this department is the prevention of sickness and the maintenance of the physical health and efficiency of the students. Emphasis is placed upon the great importance of early treatment of trivial ailments. The health of the students is cared for by the University Physician who is also health officer.

A fee of $1.50 a term is charged each student and medical advice and treatment by the physician is free. Office hours are from 8 to 9 A. M., 1 to 3 and 7 to 8 P. M. in term time. All students are examined, records are kept of their physical condition and advice is given for remedying deficiencies.

As health officer the physician is responsible for the sanitary condition of the University. A house has been leased and renovated as an infirmary with a competent matron in charge. In addition the services of a trained nurse have been secured.

Checking Accounts.—Students are earnestly urged to arrange checking accounts in their home banks in order to avoid possible loss resulting from keeping on hand considerable amounts of money. The Business Office will accept and cash all student checks. Such banking arrangements will also facilitate payment of registration bills which are strictly due and payable on registration day.

Self-Support.—Students obtain considerable financial aid by janitorships, by work in private families, at various restaurants, on the farm, and in the greenhouse. They also find employment with the power and service department and with the experiment station. However, so much depends upon the individuality of the student that the University can guarantee nothing in any particular case. For several years, the student employment bureau has been handled by the Christian Associations. Address all inquiries relative to self-support to the Secretary, Christian Work, Inc., Durham, N. H.

Withdrawal from University.—Students desiring to withdraw from the University should apply to the Registrar for permission and request papers of honorable dismissal. Students withdrawing without permission will have their grades reported as zero at the end of the term and all refunds withheld until notice of such withdrawal has been filed with the Registrar.

UNIVERSITY AIDS TO STUDENTS

Scholarships.—A limited number of scholarships are awarded annually for the purpose of aiding deserving students. Recently the large increase in student attendance has utilized in full all scholarships thus far provided. However, the trustees are anxious to supply scholarships to as many as possible of the really needy young men and women in New Hampshire. In order to do this most equitably they require full information of all applicants relative to the necessity for scholarship aid. Scholarship application blanks will be provided upon request to the Dean of the Faculty.

These scholarships will be forfeited at any time for misconduct. They will also be withdrawn from students in four-year courses who fail to secure an average grade of 60 during any one term, and only in cases of special financial necessity will they be restored by the President.

In general, scholarships granted to juniors and seniors will be treated as loans on interest after graduation.

A more detailed description of the several classes of scholarships follows:

Conant Scholarships.—There are twenty-four Conant scholarships, one for each town in Cheshire County and two for Jaffrey. Because of the largely reduced income from the Conant investments, these scholarships, for the present, will pay only the tuition of $75 ($50 for two-year students), plus a sum not exceeding $20, if the income allows. They are to be given to young men taking agricultural courses.

These scholarships are assigned annually and are good for one year only.

Application should be made direct to the Dean of the Faculty.

Grange Scholarships.—In order to equalize to some extent the distribution of scholarships throughout the state, each subordinate and Pomona Grange in New Hampshire is permitted to recommend each year a candidate for a scholarship paying the tuition charge of $75 ($50 for a two-year student). This scholarship may be used either by a four-year or two-year student and will be good for one year only. Application for the same must be made direct to the officers of the grange. The secretary of each grange will be furnished with an application form and this must be used by the approved candidate. The conditions laid down on the application form must be carefully observed. After being filled out and properly signed, it should be sent to the Dean of the Faculty. Upon approval, a scholarship will be forwarded to the candidate. The appli-

cations will be approved upon satisfactory evidence that the candidates will be unable to attend without the aid of the proposed scholarships. Candidates need not be members of the grange, but they must be resident within the state and within the jurisdiction of the appointing grange, or of that adjacent thereto. Scholarships will be held for the respective granges until July 15 each year. Those not then granted may be assigned by the University.

Hunt Scholarship.—A special scholarship paying tuition has been established by the trustees at the request of the United States War Department for the benefit of soldiers, or sons and daughters of soldiers, in the Regular Army. This scholarship is named in honor of Major William E. Hunt, New Hampshire College, 1899, and Colonel Charles A. Hunt, New Hampshire College, 1901, who have rendered conspicuous and gallant service as officers of the Regular Army before and during the World War. This scholarship will be granted each year and will be good for one year only. Application should be made direct to the Dean of the Faculty. An application form will be furnished which must be used by the candidate. The conditions laid down on this form must be carefully observed. After being filled out and properly signed, it should be sent to the Dean of the Faculty. Upon approval, a scholarship will be forwarded to the candidate. The application cannot be approved without satisfactory evidence that the candidate will be unable to attend without the aid of the proposed scholarship. Preference will be given to a New Hampshire soldier.

Lougee Scholarships.—Beginning in 1921 the interest on $5,000 bequeathed by Amos Lougee of Somersworth, N. H., is to be expended for scholarships of $75 each ($50 for two-year students). They will be assigned each year and will be good for one year only. No applications can be approved without satisfactory evidence that the candidates will be unable to attend without the aid of the proposed scholarships. Until July 15 of each year, preference will be given to residents of Strafford County.

Applications should be made direct to the Dean of the Faculty. Application forms will be furnished which must be used by the candidates.

Senatorial Scholarships.—By vote of the trustees, twenty-four scholarships have been set aside, one for each senatorial district in the state. They are to be assigned each year, one by each state senator, in accordance with University regulations and as the senators may severally determine. Each scholarship will pay the tuition of $75 ($50 for a two-year student) and be good for one year only. Application must be

made direct to the senator of the district in which the candidate is a resident. Application forms will be sent to each senator and these must be used by the approved candidates. The conditions laid down on these forms must be carefully observed. After being filled out and properly signed, the applications should be sent to the Dean of the Faculty. Upon approval, scholarships will be forwarded to the candidates.

The applications will be approved upon satisfactory evidence that the candidates will be unable to attend without the aid of the proposed scholarships.

Scholarships will be held for the respective Senatorial districts until July 15 of each year. Those not then granted may be assigned by the University.

State Scholarships.—By act of the Legislature a limited number of state scholarships, each paying tuition of $75 ($50 for a two-year student) may be granted to those students, residents of New Hampshire, who furnish satisfactory evidence that they would be unable to attend without such aid. These scholarships will be assigned each year and will be good for one year only. Application should be made direct to the Dean of the Faculty. Application forms will be furnished which must be used by candidates. The conditions laid down on these forms must be carefully observed. In order to assure an equitable distribution of these scholarships, none will be actually assigned until after July 15 of each year.

State Federation Scholarships.—By vote of the trustees, five scholarships have been set aside for the State Federation of Women's Clubs to be assigned each year by the Executive Committee of that organization, in accordance with University regulations and as the committee may determine. Each scholarship will pay the tuition of $75 and be good for one year only. Application must be made direct to the president of the State Federation, who will be supplied with application forms which must be used by applicants. The conditions laid down on these forms must be carefully observed.

After being filled out and properly signed, the applications should be sent to the Dean of the Faculty. Upon approval, scholarships will be forwarded to the candidates.

The applications will be approved upon satisfactory evidence that the candidates will be unable to attend without the aid of the proposed scholarships. Candidates must be residents of New Hampshire. Scholarships will be held for the disposal of the State Federation until

July 15 of each year. Those not then granted may be assigned by the University.

Valentine Smith Scholarships.—Through the generosity of the late Mr. Hamilton Smith of Durham, the sum of $10,000 has been given to establish the Valentine Smith scholarships.

"The income thus accruing shall be given to the graduate of an approved high school or academy who shall, upon examination, be judged to have the most thorough preparation for admission."

These scholarships yield $100 annually, and will be forfeited if an average rank of 75 per cent. is not maintained for each term.

Competitive examinations for this scholarship will be held June 25 and 26 in Durham, Keene, Laconia, Lancaster, Manchester and West Lebanon. Contestants must present credentials fulfilling the requirements for entrance, and must pass examinations in English, American history, algebra through quadratics, plane geometry and either physics or chemistry.

Requests for examinations should be forwarded to the Dean of the Faculty at least one week before the beginning of the examination period, and must state the names and addresses of the students, the places at which they will present themselves, and the examinations desired.

Examinations are not restricted to residents of the state.

Class Memorial Scholarships.—At the annual meeting of the Alumni Association in June 1922 the following communication was presented to the Trustees:

"DURHAM, N. H., June 11, 1922"

"*To the Trustees of The New Hampshire College:*

Believing in the establishment of Living Memorials and believing that the future graduating classes of New Hampshire College will want to be connected with our newly dedicated Memorial; we, the New Hampshire College Alumni Association, hereby

Resolve, that we will immediately begin the development of a Memorial Scholarship Fund; and

That we will urge each graduating class to accept the responsibility of creating an endowment fund as rapidly as possible. We will urge each class to pledge themselves during the last of their senior year to the establishment of a fund of not less than $3,000, to be raised in its entirety within two years from the commencement period of any class; and

That this sum of money be turned over to the Trustees of New Hamp-

shire College to be held in trust, and the interest of such to be used in payment of the given class yearly scholarship; and

That it is our purpose to ultimately create a scholarship in commemoration of every person to whom Memorial Field is dedicated;

Provided, that such scholarships will be granted only upon the final recommendation of a committee consisting of the President of the College, the President of the Alumni Association and the Secretary-Treasurer of the Alumni Association; and

That the minimum value of each scholarship shall be the tuition fee, and the maximum never to exceed $500 per year; and

That all scholarships shall be limited to candidates of the highest moral standards, physically sound, and that preference shall be given to those who require financial aid in order to continue their education; and

Provided, further, that the holding of these scholarships shall be dependent upon the same factors as govern other scholarships as regards grades."

Memorial Field was constructed through pledges of members of the classes from 1871 through 1921. It seemed particularly appropriate to connect the future classes with the work of these first 51 classes of New Hampshire College, who pledged an average of $34.32 per individual. Memorial Field is dedicated to the names of eighteen New Hampshire College men who died in the service of their country. Accordingly, a plan of eighteen (18) class scholarships to be raised by the eighteen classes to be graduated from New Hampshire State, beginning with 1922, seemed to be the most logical connecting link between the former classes and those to come.

This plan was presented to the class of 1922 at one of their class meetings. The class voted unanimously to raise funds for such a Class Endowment Fund, and dedicated their scholarships to Forest Eugene Adams of the class of 1919. The 1922 scholarship is in service and is assigned this year, for the first time, to Miss Frances F. Fairchild, daughter of former President Edward T. Fairchild.

Following is a list of the 18 New Hampshire College men who died in the service of their country:

Forrest Eugene Adams		1919
Frank Booma		1920
Armand Alfred Brien	2 yr.	1917
Paul Edward Corriveau		1915
George Henry Elam	2 yr.	1916

John Humiston	2 yr.	1916
Cyril Thomas Hunt		1919
Donald Whitney Libby		1918
Earl Roger Montgomery		1915
George Downes Parnell		1917
John William Powers		Trainer
William Henry Robinson	2 yr.	1913
Ralph Wellington Shirley		1919
Otis Edmund Soper		1919
Daniel Chase Stimson	2 yr.	1905
Fred Weare Stone		1921
William Hervey Thomas		1917
Pitt Sawyer Willand		1916

Loan Fund.—In accordance with an act of the New Hampshire Legislature of 1921, the loan fund is being largely augmented by repayment of scholarship loans granted to juniors and seniors. Money will be loaned to needy students who are economical in their expenditures and who are working to pay a portion of their expenses. As the amount received is limited, loans will be granted usually to upperclassmen only. Emergency cases will, however, be considered on their merits.

All loans will be secured by notes, bearing interest after graduation or leaving the University, but no additional signatures or security will be required. When repaid, the money will pass into a revolving fund which will be limited strictly to loan fund purposes.

Prizes.—*Bailey Prize.*—Dr. C. H. Bailey of Gardner, Mass., and E. A. Bailey, B.S., of Keene, N. H., offer a prize of ten dollars for proficiency in chemistry.

Erskine Mason Memorial Prize.—Mrs. Erskine Mason of Stamford, Conn., has invested one hundred dollars as a memorial to her son, a member of the class of 1893, the income of which is to be given, for the present, to that member of the senior class who has made the greatest improvement during his course.

Parker Debating Cup.—The University of New Hampshire Debating League was reorganized in 1921, and is under the direction of the instructor in debating and public speaking in the University. Any secondary school of the state is eligible for membership. Preliminary contests are conducted at the schools, and a final contest is held at the University to determine the winner of the League. A prize cup, the gift of Walter M. Parker, Treasurer of the University, is awarded in

rotation to the winners. Badges are awarded to the individual debaters and engraved certificates to the schools.

Inter-scholastic Prize Speaking Contest for students of any accredited high school of the state (provided they have not already won the first prize in a previous year) was first held in May, 1912. Three medals of the value of thirty dollars are provided by the University for the winners. The contest is under the direction of the instructor in oral English.

University Inter-Fraternity Scholarship Cup for Men.—Through the generosity of Wilford A. Osgood '14, a cup is donated which is to be awarded each year to that four-year University fraternity whose members have the highest scholastic standing as certified by the Registrar.

The cup will belong permanently to that fraternity winning it three times in succession.

Fraternities eligible to compete for this cup must have been members of Casque and Casket for at least two years and must have been active on the campus during that length of time.

Second Inter-Fraternity Scholarship Cup for Women is given by the Alpha Xi Delta fraternity to the women's fraternity having the highest average in scholarship throughout the year. It was awarded first for the year 1920–1921. At the end of five years it is to be given to that women's fraternity which has held it the greatest number of times out of the five.

Diettrich Cup.—This cup was given by the class of 1916 in memory of Rosina Martha Diettrich, a member of that class, who died a few weeks before graduation. The cup is to be awarded each year to the girl who attains the highest scholarship in her junior year. The cup is to remain in her possession throughout her senior year and until the next winner is named.

The University Of New Hampshire Military Honor Medal.—This medal is made possible through the generosity of Major S. G. Eaton and the members of the S.A.T.C., on duty in December, 1918. Article 2, of the special order announcing the gift, reads as follows:

"From the sum of money given there shall be expended each year a sufficient amount to purchase an appropriate gold medal. The said medal will be awarded to that student who has taken military training during the preceding year and who has proved himself in the opinion of the board above provided to be the best soldier. The Student's Army Training Corps wishes it to be clearly understood that it does not wish the medal awarded on a basis of perfection at drill but rather on the strength of such qualities as physique, force of character, energy,

mentality, courage, leadership, and in general such characteristics as advertise the owner to be of greatest value to his country in a military sense in the advent of another war."

Katherine DeMeritt Memorial Prize.—Dean Elizabeth P. DeMeritt has offered a prize of $20, in memory of her daughter of the class of 1908, to that Junior girl who, during her three years in college, has shown the greatest aptitude for helpful leadership and cheerful loyalty combined with strength of character and scholastic attainments. (Established 1923.)

Bartlett Prize.—Former Governor John H. Bartlett (University of New Hampshire, 1920, honorary) of Portsmouth, N. H., offers a prize of $50 each year, to be awarded at Commencement to that New Hampshire student, a member of the junior class, who ranks highest in scholarship for the year among those young men who have earned at least one-half their expenses since entering the University. This prize was awarded first in June, 1921.

Chase-Davis Memorial Medals.—In the spring of 1909 the Glee Club voted to present a gold and a silver medal yearly in memory of Carl Chase, '09, of Webster, an enthusiastic member of the University football team and the Glee Club, and of John Worthen Davis, '11, of Concord, who were drowned in Great Bay, December 7, 1908.

According to the terms of this gift, the medals are awarded at commencement to seniors on a prescribed basis of athletic and scholarship achievement.

Chi Omega Prize.—The Chi Omega sorority of the University offers a prize of ten dollars for the best thesis written by a woman student in Sociology on a subject approved by the head of the sociology department. The theses submitted will be graded by a joint committee composed of the heads of the departments of sociology, English, and economics or history.

Phi Mu Medal.—The local chapter of Phi Mu offers a gold medal to the senior girls, to be awarded on the following basis: 50 points for excellence in physical education, determined by both skill and the spirit in which the work is carried; the remaining 50 points must be attained by evidence of unusual scholastic capacity, democracy, loyalty, and helpfulness in college associations and activities. No candidate will be considered who does not have an average grade for her college work above 80.

Pi Gamma Prize.—In order to promote high scholarship in Biology and the allied sciences, the Pi Gamma honorary fraternity offers a prize

of $25 to be awarded at Commencement to that senior who shall rank highest in biological subjects throughout the entire four years of collegiate work. The amount of work carried in Biology, together with the average grade in all other subjects shall be considered in making this award. First offered, June, 1922.

Hood Prizes.—Through the kindly interest and generosity of Mr. Charles H. Hood of the class of 1880, thirty shares of the preferred stock of H. P. Hood & Sons, Inc., were given to the University in December, 1921 the income thereof to be used by the trustees for the encouragement, aid and benefit of deserving students upon such conditions and under such regulations as said trustees may from time to time prescribe and establish.

A second bequest of $3,000 in cash was made by Mr. Hood to the University, in December, 1924, with the expressed wish that this money be invested and the income therefrom be applied in the same manner as the income from the stock previously given.

In accordance with the terms of the trust and carrying out the suggestions of the donor, the trustees announce that for the present the income will be expended as follows:

First. *Hood Achievement Prize.*—A gold medal will be awarded annually to that member of the senior class whom the members of the three upper classes choose as giving the greatest promise of becoming a worthy factor in the outside world through his character, scholarship, physical qualifications, personal popularity, leadership and usefulness as a man among men.

Second. *Hood Dairy Prizes.*—A part of the Hood income will be devoted each year to paying a portion of the expenses of the members of a team or teams chosen for excellence in judging dairy cattle and sent to participate in intercollegiate or other dairy contests. Also suitable medals will be provided for the individual members of such teams.

Third. *Hood Supplementary Bequest.*—By a supplementary bequest in December, 1921, Mr. Charles H. Hood gave $20 for the purchase of suitable medals for the three students constituting the dairy cattle judging team in the fall of 1921 and $190 for the purchase of a suitably designed trophy to become the property of the University. The names of the winners of the prizes in dairy cattle judging are to be inscribed annually upon this trophy which will thus serve as a permanent record to the institution of their skill and accomplishments.

Thomas J. Davis Prize.—Thomas J. Davis, late of Duluth, Minn., a native and former resident of Durham, has provided funds, the present

income of which is $30, for the establishing of Dairy and Household Science prizes as follows:

First,—$15 for competitive judging of dairy cattle by "Short Course Students," excluding all four-year students, and allowing a suitable handicap in favor of students who are taking a course of not more than four months.

Second,—$15 to young women taking a short course for competitive bread baking as a half unit and for dairy butter making as another half unit.

STUDENT ORGANIZATIONS

Student Publications.—The *New Hampshire*, a weekly newspaper giving undergraduate and alumni news. Subscription price, $1.50 per year.

The *Granite*, an annual issued by the Junior class.

Student Council is an organization of senior students, one from each fraternity and one from the non-fraternity men, which regulates intramural activities.

Young Men's Christian Association sums up its program by the terms "Christian Life" and "Community Service." Christian life is actively promoted by associate student membership in the community church; campus meetings addressed by able Christian statesmen; attendance at Intercollegiate Christian summer conferences, such as Silver Bay; and religious education and Bible study classes.

Young Women's Christian Association through its cabinet and large membership conducts a number of discussion groups, promotes social service work, annually sends a large number of delegates to the summer conference at Silver Bay, N. Y., and is active in general meetings in coöperation with the Y.M.C.A.

Christian Work.—Christian community service is encouraged by various activities, including a reception to new students; publishing a handbook which is given to all new students; operating an employment bureau; providing a second-hand text-book exchange; and maintaining a club room. Outside the campus such service includes work with boys and girls. It involves the obtaining of leaders for young people's groups, deputations of students for visiting nearby communities. These deputations speak to young people's organizations, and frequently conduct entire church services.

The Advisory Board for Christian Work employs an interchurch students' pastor and a woman secretary. They coöperate with the

Y.M.C.A. and Y.W.C.A. in the promotion of their work, as well as in carrying definite responsibility for the pastoral work among the students. Generous contributions are received yearly from the Congregational, Methodist Episcopal and Presbyterian organizations. Everything possible is done in a social and pastoral way for the students of all religious denominations, whether Protestant, Catholic or Jewish.

Young People's Organization, a movement of, for, and by the students, meets each Sunday evening at the community church to discuss vital religious topics and campus problems. A social hour is always enjoyed in connection with these discussions.

Athletic Association is an organization composed of students of the University. Every undergraduate student automatically becomes a member of the association upon enrollment in the University by paying the regular fees. This entitles each student to free admission to all home athletic games.

Men's Glee Club is an organization formed for the purpose of assisting in the development of music and in the bringing together those men who have ability to sing or who desire to develop their voices. Candidacy for the club is open to all men students. It is customary each year for the club to take an extensive trip through the state, visiting many cities and towns and giving concerts in each.

Girls' Glee Club was established for the purpose of promoting interest in, and knowledge of, choral singing. It has been the custom of the organization to give operettas or Shakespearean plays at Commencement time, besides the annual concerts given in the middle of the year. Invitations are accepted from time to time to give concerts in surrounding towns and cities.

Orchestra is an organization formed for the purpose of furthering the musical ambitions of students desiring such an opportunity.

Agricultural Club is the common meeting-ground of all the agricultural students. Its primary object is to discuss agricultural topics of scientific interest, and to familiarize its members with the use of parliamentary law. An incidental object is to secure the social and literary advantages of a club organization. It has a large and well equipped club room on the third floor of Morrill Hall.

Mask and Dagger is an honorary dramatic society organized in 1915. The casts of the plays presented by this society are filled by a series of competitive tryouts for which all students are eligible. Students are

elected to the society from the casts of the plays upon the basis of merit. The society plans to present three plays each year.

Book and Scroll is a literary society which was organized in 1915, for the study of poetry. It is an honorary society, for both men and women, membership being granted only to those seniors and juniors who attain an average of 80, or over in three elective subjects. Two contests are held each year, one of these being an original poetry contest. The open meetings are in charge of different members of Book and Scroll, and interesting programs dealing with the works of not only classical poets but also modern writers are enjoyed.

Engineering Society was organized in 1915. Its membership includes students in engineering and the engineering faculty. The object of the society is to get its members in touch with various engineering problems for which there is seldom time for discussion in the class room. This is accomplished through lectures by professional men, student demonstrations, and motion pictures furnished by manufacturing concerns. At least two meetings each year are devoted to promoting fellowship among the members.

Alpha Chi Sigma was founded at the University of Wisconsin in December, 1902. It is composed of men who are to take up some branch of chemistry as their life work. Mu chapter was established in the University in 1911.

Alpha Zeta is the professional fraternity of agricultural students. Granite chapter was organized here in 1903. It is not a social fraternity, and no student is eligible until after the first term of his sophomore year. Membership then is conditional upon the student's ranking in the upper two fifths of his class and upon his future promise of a successful career in some line of agricultural work.

Pi Gamma, an honorary biological fraternity, was organized in 1916 for the purpose of promoting high scholarship and special study for the advancement of research work in zoölogy and other allied subjects. Four regular meetings are held each month, two of which are devoted to scientific discussions.

Phi Lambda Phi was organized by the department of physics in 1919. The members are students of high standing who are interested in some phase of physics. The object of the club is to hold discussions intended to result in a broader understanding of physics and to create a sense of good fellowship between instructor and student.

Le Cercle Français, an honorary society, was established in the spring of 1919 to offer competent students an opportunity to acquire a speaking knowledge of the French language and to awaken a real interest in all things pertaining to the French nation.

Phi Kappa Phi is a national honorary fraternity founded in 1897 for the purpose of promoting the highest grade of scholarship.

A chapter was established at this University in 1922. Its membership consists of the upper 15 per cent of the senior class. Members are elected at the beginning of the first and third terms.

At the same time honorary members are chosen from alumni and faculty.

Casque and Casket was organized in 1915 by representatives of the fraternities who felt that the influence of the several fraternities could be strengthened if a closer union between them could be secured. The fraternity is composed of students of the upper classes, having an equal number of members from each fraternity. They are associated together to lend what influence and assistance is possible in the advancement of the University interests. There are now nine fraternities represented in the membership.

Pan Hellenic, established in 1905, is an organization which transacts all business of common interest to the five women's fraternities. Pan Hellenic is composed of two members from each fraternity.

Band is organized for the purpose of presenting suitable band music at athletic games, military drill, and other important events. Standard marches, operatic selections, college songs, and the better type of popular songs constitute the repertory. To those men who can play a band instrument it affords opportunity for developing that ability under competent leadership. Credit of one term-hour is given those men who qualify as Bandsmen, and who are constant in attendance upon rehearsals and public performances. Since the number of band instruments owned by the University is limited, students who can do so, should utilize their own.

Forestry Club is an organization to bring together students who are interested and are specializing in the study of Forestry.

International Club was organized in 1920 for the purpose of promoting the mutual interests, locally and internationally of University students of foreign birth.

Mathematics Club is an organization of students majoring in mathematics for the purpose of cultivating further knowledge of the science and its applications.

Radio Club is an organization which was founded in 1919 for the purpose of pursuing scientific research work in the field of the wireless telegraph and telephone.

Phi Delta is a student debating club organized in 1923. Participation in the debates held by the society upon local and national questions qualifies any student for membership. The society also directs all intercollegiate debates, and its members may be called upon to assist the University in the management of the Interscholastic Debating League. Many of the meetings of Phi Delta are open to the public.

Rifle Club is an organization which was established in 1921 for the purpose of promoting rifle marksmanship at the University of New Hampshire. All men students of the University are eligible to membership in the club. Contests are held with other colleges and handsome medals are awarded those students who make the team.

METHODS OF ADMISSION

The University of New Hampshire will admit without examination all candidates who are graduates of high schools or academies of New Hampshire that are approved by the State Board of Education, provided the entrance requirements are met.

Graduates of schools specially approved by the University will be admitted on the same terms as graduates of approved schools in New Hampshire.

Graduates of other high schools and academies may be admitted on passing examinations in fifteen units. However, the University cannot agree to give examinations in certain vocational subjects involving mainly practical work. Instead, it may require special certification in such subjects.

The University reserves the right to restrict the number of out of state students by scholarship or other extra tests.

Cases not covered by the above statements will be decided by the entrance committee of the faculty.

Candidates for advanced standing may be admitted on the basis of the work completed at the institutions from which they come.

COLLEGE UNIT REQUIREMENTS

There are three colleges included within the University of New Hampshire: the College of Agriculture, the College of Liberal Arts, and the College of Technology. These colleges are defined and described elsewhere in this announcement.

An entrance unit represents one study of four or five recitations a week for one year. It is assumed that two hours of manual training or laboratory work are equivalent to one hour of classroom work.

Candidates for admission to the freshman class of each college must show evidence, either by credential or by examination, that they are prepared in fifteen units as indicated in the following table:

Required Units		College of Agriculture	College of Liberal Arts	College of Technology
Group A	English,	3	3	3
*Group B**	Mathematics,	2	2	3

*A candidate for admission to the College of Liberal Arts who offers two units in a single foreign language may substitute for the two units required in Mathematics two additional units in subjects named in groups A, C, D and E above.

Group C	Social Science and History,	1	1	1
Group D	Natural Science,	1	1	1
Group E	Foreign languages,	0	0	0
Group F	Vocational subjects,	0	0	0
		7	7	8
	Elective Units	8	8	7
	Total for admission,	15	15	15

Elective units may be offered from all groups.

The credentials to be rendered by Headmasters or Principals must state the time of graduation, the subjects studied, the number of entrance units in each, the grades attained by the student, and the passing grade of the school.

The credential forms to be used will be furnished on application to the Registrar.

Entrance by Examination.—Examinations will be given at the University at the time of opening in September. They will also be given in connection with the Valentine Smith examinations in June. Requests for these examinations should be forwarded to the Dean of the Faculty at least one week in advance.

ENTRANCE REQUIREMENTS

GROUP A. ENGLISH

The examination paper in English will be based upon the principle that the way to learn to write is to read.

All candidates will be required to write a series of short themes which will show an adequate knowledge and thorough appreciation of certain great English classics as literature—as "the life blood of the mind." The classics selected are as follows: Shakespeare's Merchant of Venice, Henry V, and Macbeth; one novel each by Scott, Dickens, George Eliot, Stevenson, Cooper and Hawthorne; one essay each by Macaulay, Ruskin and Lowell; the subject-matter and nature of the poetry of Wordsworth, Byron, Tennyson, Longfellow and Whittier.

Students entering the College of Technology must offer 15 units, three of which should be in Mathematics including Algebra, Plane and Solid Geometry, but students offering only two units of Mathematics including Algebra and Plane Geometry may be admitted conditioned in one unit of Mathematics.

As a special test in spelling, grammar, punctuation and paragraphing, the candidate will be required to write a short theme upon some subject pertaining to the home or school life of the average high school senior.

An optional question will be offered for the purpose of discovering the candidate's familiarity with the best modern periodical literature.

GROUP B. MATHEMATICS

1. **Elementary Algebra.**—The four fundamental operations for rational algebraic expressions. Factoring, determination of highest common factor and least common multiple by factoring. Fractions, including complex fractions, and ratio and proportion. Linear and quadratic equations, both numerical and literal. Problems depending on linear and quadratic equations. Radicals, including the extraction of the square root of polynomials and of numbers. Exponents, including the fractional and negative.

2. **Advanced Algebra.**—The formula for the nth term and the sum of the terms of arithmetical and geometrical progressions, with applications. The theory and use of logarithms, without involving the use of infinite series. The binomial theorem for positive integral exponents. Complex numbers, with graphical representation of sums and differences. Determinants limited to simple cases. The elements of the theory of equations.

3. **Plane Geometry.**—The usual theorems and constructions of good text-books, including the general properties of plane rectilineal figures; the circle and measurement of angles; similar polygons; areas; regular polygons, and the measurement of the circle. The solution of numerous original exercises, including loci problems. Applications to the measurement of lines and plane surfaces.

4. **Solid Geometry.**—The usual theorems and constructions of good text-books, including the relations of lines and planes in space; the properties and measurement of prisms, pyramids, cylinders and cones; the sphere and the spherical triangle. The solution of numerous original exercises, including loci problems. Applications to the measurement of surfaces and solids.

5. **Plane Trigonometry.**—The subject-matter of plane trigonometry as presented in good text-books, including the solution and use of trigonometric equations of a simple character, the use of logarithms, the solution of right and oblique triangles, and practical applications.

6. Review Mathematics.—A general mathematics review during half of senior year is recommended, especially for students preparing for college engineering courses. A certificate covering the work of not more than one unit will be accepted for entrance. No examinations will be given.

GROUP C. SOCIAL SCIENCE AND HISTORY

This group includes history, political economy, and commercial law.

Although there are excellent text-books in history, an adequate preparation can not be obtained by text-book work alone. Some collateral work is necessary, whatever text-book is used, and with certain text-books a large amount is necessary. The details of the preparatory work in history are fully stated in "A History Syllabus for Secondary Schools," by the New England History Teachers' Association, published by D. C. Heath & Co., Boston, 1904. Details are also stated in "Standard Program for the Secondary Schools of New Hampshire, Department of Public Instruction, Concord, N. H."

1. Ancient History.—This may include the earliest nations and the period to 800 A.D., or it may be limited to Grecian History and Roman History to the fall of the Western Roman Empire.

2. Mediaeval and Modern History.

3. English History.

4. American History and Civics.—The work may conform to the course in American constitutional history described in the "Standard Program" or to the course in American history developed in nearly a hundred pages of the "Syllabus." It is assumed that in any case a reasonable amount of time is to be given to the study of the Constitution of the United States.

5. Political Economy.—(1) The study of a standard text. (2) At least six topics investigated by outside reading.

6. Commercial Law.—(1) Study of a standard text. (2) The study of a total of not less than thirty-six specific cases.

GROUP D. NATURAL SCIENCE

A notebook, carefully kept and examined by the teacher, is an essential part of all laboratory work in science.

1. Botany.—The work in botany should consist of (1) the study of a standard text; (2) four or five exercises a week, at least one of which should be laboratory work. Either a half or the whole of a year's work will be accepted.

2. Chemistry.—Elementary inorganic chemistry should cover (1) the more common nonmetallic and metallic elements with their most important compounds, together with an introduction to the general theoretical principles; (2) calculations based upon changes of gaseous volumes and chemical equations. A year's work should consist of four or five exercises per week, at least one of which should be laboratory work.

3. Physics.—The standard work in physics should consist of (1) the study of a standard text; (2) not less than forty experiments worked out in the laboratory by each student and properly recorded in a suitable notebook.

4. Zoölogy.—A study of the fundamental principles of animal structure and the dissection of type forms. The student should become familiar with the characteristics of the various phyla of the animal kingdom. The study should consist of four or five exercises a week, at least one of which should be laboratory work. Either a half or the whole of a year's work will be accepted.

5. General Science.—To meet a recent movement in the disposition of the science work in the high schools, a course in general science which amounts to at least four exercises a week for one year will be accepted. Such a course may include something of the biologic and earth sciences, the sciences employed in household economy, and the more common phenomena of physics and chemistry.

GROUP E. FOREIGN LANGUAGES

1. French.—Work of the first year should include (1) careful drill in pronunciation, (2) drill upon the rudiments of grammar, (3) abundant translation of simple English prose into idiomatic French, (4) reading of from 100 to 175 pages of French prose, (5) writing French from dictation. Work of the second year should include (1) the reading of from 250 to 400 pages of easy modern prose, (2) constant practice in translating from English into French variation of the text read, (3) frequent paraphrases of the text read, (4) dictation.

2. German.—Work of the first year should include (1) careful drill in pronunciation, (2) drill upon the rudiments of grammar, such as the inflection of the articles, the common nouns, adjectives, pronouns and strong and weak verbs; upon the uses of the prepositions, the model auxiliaries, and the rules of syntax and word order, (3) writing from dictation, (4) the reading of from 75 to 100 pages of prose, (5) translation

from English into German. Work of the second year should include (1) the reading of from 150 to 200 pages of prose, (2) constant practice in translating from English into German variations of the text read, (3) dictation, (4) continued drill upon the rudiments of grammar, (5) frequent paraphrases of the text read.

3. Latin, Elementary.—Grammar and the equivalent of four books of Caesar. Two years' work.

4. Latin, Advanced.—Equivalent of Virgil, six books, and Cicero, six orations.

GROUP F. VOCATIONAL SUBJECTS

1. Agriculture.

Agronomy.—A text-book or lecture and recitation subject upon the formation, classification, composition, physical properties and tillage of soils; the kinds, use, value, and function of different chemical fertilizers; the use, composition, and preservation of farm manures; the planting, cultivating, harvesting, use, and marketing of the different kinds of field crops. The text-book and lecture work should be supplemented by field and laboratory exercises. Four or five periods a week for one year.

Animal Husbandry and Dairying.—A text-book and recitation subject upon the types and breeds of horses, cattle, sheep, swine, and poultry with practical exercises in stock judging; a study of the principles of feeding, the classification of animal foods, with practice in computing and mixing rations. Also a subject upon the composition, properties, care and handling of milk, with practical exercises in testing milk, cream, and butter with the Babcock test. Four or five exercises a week for one year.

Horticulture.—A text-book or lecture and recitation subject upon the classes and varieties of fruits; the location and fertilization of orchards; the pruning, grafting, and spraying of fruit trees, with some study of fungous and insect pests. Practical exercises in picking, packing, and marketing of fruit. Also a study in vegetable growing, in which each student learns the classes, varieties, uses, and adaptations of our most important vegetables. Practical gardening work in growing vegetables. Four or five exercises a week for one year.

Rural Economics and Farm Management.—A text-book, lecture and recitation subject upon the economic relations of land, labor, and capital. A detailed study of the cost of producing and marketing farm and garden crops. Also a study of the business end of farming, buying and

selling methods, types of farming, systems of rotation, the keeping of farm accounts, and the making of inventories. Four exercises a week for one year.

2. Commercial Subjects.—Bookkeeping, commercial arithmetic, commercial geography, stenography and typewriting.

3. Domestic Arts.—Foods and cookery, dressmaking, household sanitation and mechanical appliances, household economics, household design and decoration.

4. Mechanic Arts.—Casting, drawing, forging, machine work, molding, pattern-making, woodwork.

SPECIAL COURSES

A mature student who is not a candidate for a degree may be admitted as a special student for one year upon the approval of the entrance committee and the dean of the college in which he desires to work. In addition, each application for a subject must have the approval of the head of the department whose work the applicant desires to take. No credit earned by a special student shall count toward a degree except upon recommendation of the entrance committee and the vote of the appropriate college faculty.

ADVANCED DEGREES

Two types of advanced degrees are conferred: (a) Master of Science and Master of Arts, given only in course, and (b) the professional degrees, Mechanical Engineer and Electrical Engineer, conferred only upon graduates of this institution, and based upon the quality of their professional work and the presentation of a satisfactory thesis.

Granting of the professional degrees referred to under (b) is temporarily suspended pending the standardization of requirements for these degrees.

REQUIREMENTS FOR THE MASTER'S DEGREE

Residence.—A minimum of one full academic year or four summer sessions in residence is required. If a graduate student is serving as a member of the instructional staff or of the experiment station staff, the Master's degree cannot be earned in less than two years, of which at least one year or four summer sessions must be in residence, and then only upon completion of the other requirements for the degree.

Credits.—A minimum of 45 credit hours is required, of which not less than 25 or more than 30 shall be devoted to a "major" and a thesis,

and not less than 9 or more than 15 to a "minor." Work in allied departments may be accepted as part of the major requirements if such work is properly correlated with the major subject. Not over 15 credits may be given for a thesis, and at least 15 credit hours must represent work regularly scheduled in classes. Of the total credit hours, not more than half will be accepted from another institution.

Selection of Thesis Subject.—Before the close of the first term in residence, the candidate must file with the graduate committee for their approval a statement of the thesis subject as approved by the head of the major department.

Approval of Candidacy.—At least three months previous to the time of granting the degree, an application for admittance to candidacy for the degree, properly approved by the head of the major and minor departments, must be submitted to the graduate committee for their approval.

Examinations.—All candidates must meet the regular requirements as to examinations in the subjects for which they are registered. Before a candidate may be recommended for the Master's degree, he must pass an oral examination before a special committee designated by the graduate committee and including the heads of the departments in which the "major" and "minors" have been taken. At least four weeks previous to the date at which the degree is sought, an application for examination approved by the head of the major and minor departments must be filed with the graduate committee.

Thesis.—The thesis must be typewritten upon standard paper, eight and one-half by eleven inches, medium weight, neatly bound in black cloth, and gilt-lettered on the first cover with title, name of author, degree sought, and year of graduation. The title page should bear the following statement:

"A thesis submitted to the University of New Hampshire in partial fulfillment of the requirements for the degree of Master of Arts (Master of Science)."

Whenever a thesis is printed in any periodical, it must be designated as having been accepted as a Master's thesis by the University of New Hampshire.

Two bound copies must be filed before commencement day, one with the Librarian and one with the head of the department in which the major work is done.

For details concerning the regulations governing the conferring of degrees, send for the bulletin of Graduate Study.

UNDERGRADUATE DEGREES

The University confers two undergraduate degrees: Bachelor of Science and Bachelor of Arts.

The degree of Bachelor of Science is conferred upon students graduating from the College of Agriculture, from the College of Technology, and upon students graduating from the College of Liberal Arts, who have elected the Home Economics Course, the Arts Course in Chemistry, or who have majored in any one of the following Departments: Architecture and Drawing, Botany, Economics and Accounting, Education and Psychology, Entomology, Mathematics, Physics, Sociology, Zoölogy, Geology. The degree of Bachelor of Arts is conferred upon students graduating from the General Arts Course who have majored in the Departments of English, Languages, or History and Political Science.

College of Agriculture Requirements

The completion of 216 term hours.*

The completion of the subjects required in any one of the four-year agricultural courses.

Students graduating from the four-year courses in agriculture must present to the dean of the College of Agriculture, on or before the second Tuesday preceding commencement, satisfactory evidence of having had practical experience in farm work, either through having lived on a farm for at least two years subsequent to the age of 12, or through having worked on a farm for at least six months subsequent to the age of 16.

Students graduating from the Forestry Course must have spent at least three months in practical forest work, which time will be counted as a part of the six months' requirement.

Students graduating from the Horticultural Course or the Poultry Course must have spent five months, including the spring term of the junior year, in supervised practice work on a farm of recognized standing.

College of Liberal Arts Requirements

Group Requirements

The work of this College is organized on a modified elective system. A part of every student's curriculum is prescribed. Each student is

* A term hour is one recitation or one laboratory period per week for one term.

required to lay sufficiently broad foundations in English, other languages, the physical sciences, the social sciences, inclusive of history, and mathematics. The remainder of the student's work is elective.

Each Liberal Arts student shall elect at least 27 term hours in each of the following groups:

Group I.—Art, History, Language, Literature: English, French, German, History, Household Arts, Industrial and Fine Arts, Latin, Library Science, and Spanish.

Group II.—Mathematics and Natural Science: Agricultural* subjects, Architecture, Astronomy, Botany, Chemistry, Drawing and Descriptive Geometry, Electrical and Mechanical* Engineering, Entomology, Geology, Household Science, Mathematics, Advanced Military Science, Physics, Zoölogy.

Group III.—Social Science: Economics, Education, Political Science, Psychology, Social Science, Sociology.

Major Requirements

Each Liberal Arts student shall, at the beginning of the first term of his second year, select a department to be known as his major department.

In this major department he shall complete 27 term hours in which he shall make a grade of 75 or better.

In case of departments in which less work is offered than the amount required for the major, the shortage may be made up from such other related departments as the head of his major department may prescribe.

Minor Requirements

Each student shall, with the approval of the head of his major department, elect, for a minor, 27 term hours of subjects related to his major.

Course Requirements

1. General Arts

   The completion of 216 term hours,† of which an average of 18 may be required each term.

   The completion of English 1.5–a, 2.5–b, 3.5–c‡, 4–a, 5–b, 6–c.

   The completion of the military and physical education requirements or their equivalent.

* Part of minor only.

†A term hour is one recitation or one laboratory period per week for one term.

‡ Does not count towards major, minor or group requirements.

The completion of the major, minor and group requirements.

2. Home Economics.
   The completion of 216 term hours.*
   The completion of the subjects required in one of the Home Economics courses.
3. Arts Course in Chemistry.
   The completion of 216 term hours.*
   The completion of the subjects required in the Arts Course in Chemistry.
4. Arts Course in Architecture.
   The completion of 216 term hours.
   The completion of the subjects required in the Arts Course in Architecture.
5. Business Fundamentals Course.
   The completion of 216 term hours.
   The completion of the subjects required in the Business Fundamentals Course.
6. Pre-Medical Course.
   The completion of 216 term hours.
   The completion of the subjects required in the Pre-Medical Course.

College of Technology Requirements

The completion of 216 term hours.*
The completion of the studies in any one of the engineering courses.

THESES

The preparation of a thesis upon some subject connected with the work of the University may be required by the committee on degrees.

The subject of a thesis, together with a written approval by the head of the department concerned, must be filed with the registrar within one week of the opening of the second term of the senior year. The thesis is to be submitted to the head of the department not later than the second Tuesday preceding Commencement day.

It is to be typewritten or printed upon standard thesis paper, eight and one-half by eleven inches, medium weight, and must be neatly bound in black cloth, and gilt-lettered on the first cover with title, name of author, degree sought, and year of graduation. This bound copy is to be filed with the librarian before Commencement day.

* A term hour is one recitation or one laboratory period per week for one term.

COURSES

The University is closely related to the public school system of the state. It continues the work of the high school and is open to both men and women. In accord with the origin and function of the University, its courses are essentially practical, leading directly to the student's preparation for a successful livelihood.

I. College of Agriculture.

a. Four-Year Courses.

1. General Agriculture.
2. Agricultural Chemistry.
3. Animal Husbandry.
4. Dairy Husbandry.
5. Forestry.
6. Horticulture.
7. Poultry Husbandry.
8. Teacher Training.

b. Two-Year Course in Agriculture.

c. Farmers' and Home Makers' Week.

II. College of Liberal Arts.

a. Four-Year Courses.

1. General Arts and Science.
2. Home Economics.
   - i. Teacher Training.
   - ii. Institutional Management.
   - iii. Extension Training.
3. Arts Course in Chemistry.
4. Arts Course in Architecture.
5. Business Fundamentals.
6. Pre-medical.

b. Extension.

III. College of Technology.

a. Four-Year Courses.

1. Chemical Engineering.
2. Electrical Engineering.
3. Mechanical Engineering.
4. Architectural Construction.
5. Industrial.
6. Teacher Training.

FOUR-YEAR COURSES

COLLEGE OF AGRICULTURE

FREDERICK W. TAYLOR, *Dean*

DEPARTMENTS

AGRICULTURAL CHEMISTRY
AGRONOMY
ANIMAL HUSBANDRY
BOTANY
DAIRY HUSBANDRY
ENTOMOLOGY
FORESTRY
HORTICULTURE
POULTRY HUSBANDRY

This division of the university offers a four-year course for the general education and scientific training of students in the various phases of agriculture. The lecture and recitation work of the classroom is supplemented largely by practical exercises in the laboratories. Seminar subjects are also given, especially for seniors and advanced students. During the freshman year all agricultural students take the same work. At the beginning of the sophomore year those desiring to major in Agricultural Chemistry or in Forestry must take certain prescribed subjects relating to those lines of work. Other students will continue the regular work of the sophomore year and will select their major course at the beginning of the junior year. The work of the first two years for all of the agricultural students consists mainly of subjects in the fundamental sciences of agriculture and of basic subjects in the various departments of applied agriculture.

Many of the graduates of the four-year course return to the farm for the purpose of putting into practice the knowledge and training of their college work, and many of them have become successful and prosperous citizens of their communities; others, who have no farms of their own, accept salaried positions as superintendents or foremen on the dairy, fruit, stock or poultry farms of large owners; still others take positions as teachers of science and agriculture in our secondary schools, or as assistants in our agricultural colleges, experiment stations or extension service work.

The courses from which the agricultural student may now make his selection are as follows:

1. General Agriculture.
2. Agricultural Chemistry.
3. Animal Husbandry.
4. Dairy Husbandry.
5. Forestry.
6. Horticulture.
7. Poultry Husbandry.
8. Teacher Training.

General Agriculture.—This course is offered especially for the student who wishes to secure a broad, general training in all the important branches of agriculture without specializing in any particular one. The fundamental sciences of chemistry, botany, biology, physics and economics are studied together with their application to the arts of field crop production, orcharding, dairying, farm management, poultry raising and the handling of the farm woodlot. The student, therefore, who expects to engage in general farming will find this so-called general course with its wide range of elective subjects a most profitable and interesting one.

Agricultural Chemistry.—This course is designed to meet the needs of those students who desire a working knowledge of chemistry in its relation to agriculture. It offers opportunity for students to obtain considerable training in the fundamental sciences as a basis for graduate work in the various lines of agricultural work which involve the applications of chemistry. Numerous electives are offered which enable the student to obtain a more general training or to elect considerable work in the applied departments of the division. Teaching, investigational and commercial positions are open to students trained in the chemistry of plants and animals, soils, fertilizers, insecticides, fungicides, foods and nutrition. The department is particularly fortunate in being associated with the experiment station and in that connection having charge of the chemical analysis of feeds, fertilizers, lime and insecticides and fungicides for the State Department of Agriculture. This furnishes an opportunity for the students to come in contact with the inspection work and research work of the department and to have the benefit of its equipment.

Animal Husbandry.—This course is offered to the student who wishes a specialized training in the practical and intelligent management, selection, breeding and feeding of livestock, including horses, beef and dual purpose cattle, sheep and swine. This work is arranged so that the student may elect a reasonable number of subjects in horticulture, forestry, dairying, poultry keeping and other branches of general farm activity, thus fitting him for the management of a general livestock farm. The course also serves to prepare students for the more specialized requirements of civil service and other public employment.

Dairy Husbandry.—The Dairy Husbandry Department offers subjects in dairy production (that is, the care, feeding and management of dairy cattle), and in dairy manufactures (that is, the manufacture,

the handling, and the distributing of dairy products). The department has at its disposal the dairy building, with modern equipment, and the college dairy herd of 70 pure bred animals. Excellent facilities are thus provided for teaching a dairy husbandry course.

Forestry.—By selecting the forestry course the student will be able to fit himself for practical work upon graduation, or to enter a graduate forest school. The first two years in the fundamental sciences, and the basic subjects in applied agriculture, furnish an excellent preliminary training for any forestry student. The college forest of sixty acres of old-growth pine and hemlock, and other areas of natural and planted growth, furnish the laboratory for the forestry student. Ample opportunity is given to study the various forest problems in the open as well as in the classroom.

Horticulture.—This course of study is arranged to teach the application of fundamental sciences, which the student has learned in his freshman and sophomore years, to the problems of growing fruit, vegetables and flowers. The study of insects and diseases (the control of which forms an important part of the work of the horticulturist) is required, as is also work in plant physiology which forms a basis for understanding the growth and development of plants. During the junior and senior years opportunity is given for the student to elect subjects in other branches of agriculture which may be helpful in meeting his own particular problem. The horticultural department is well equipped with gardens, orchards, greenhouses and laboratory, for the study of the different phases of this industry, especially fruit growing, which is so prominent in the agriculture of the state.

The horticultural department also has equipment and facilities for instruction in the handling of bees and in the production of honey, and is now offering work along these lines to both four-year and two-year students.

Poultry.—This course of study is designed for those students who desire the necessary information and training to teach poultry husbandry, or to operate a poultry plant. The college plant, with a capacity of 1,400 hens, affords ample opportunities for laboratory work and for meeting all the practical problems of the industry which the poultryman may encounter. As a part of the prescribed work, the student will be required to spend five months, including the spring term of the junior year, at a commercial plant of recognized standing.

Teacher Training.—Under the provisions of the Smith-Hughes Act, the University of New Hampshire has been designated as the institution in this state for the training of teachers of agriculture. This course gives the young man a broad training in the fundamental sciences and in general agriculture. In addition, he receives professional training in such educational subjects as psychology, principles of education, methods of teaching and supervised practice teaching. Students who complete the course and who have had the requisite amount of practical experience on the farm will be accredited as teachers.

There is a rapidly increasing demand for teachers of agriculture in our secondary schools. Local school boards are beginning to appreciate more fully the value of instruction in agriculture for the boys of the community who will not have the opportunity to continue their studies at the University. As a result, there are many good paying positions open for the young men who wish to make the teaching of agriculture a profession.

COLLEGE OF AGRICULTURE

ALL COURSES

Freshman Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Eng. 1–a, 2–b, 3–c (*English Composition*)	3	3	3
Bot. 1–a, 2–b, 3–c (*Elementary Botany*)	3	3	3
Chem. 121–a, 122–b, 123–c (*Inorganic Chemistry*)	3	3	3
Chem. 5–c (*Qualitative Analysis*)			3
A. H. 1–a (*Breeds of Livestock*)	4		
Agric. 1–b (*Survey of Agriculture*)		1	
For. 1–a (*Principles of Forestry*)	4		
Math. 21–b (*Elements Math. Analysis*)		3	
Zoöl. 30–b, 31–c (*General Zoölogy*)		3	3
Mil. Sci. 1–a, 2–b, 3–c (*Military Art*)	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	½	½	½
	19	18	17

Sophomore Year

(All courses except Agricultural Chemistry and Forestry)

Agron. 1–a (*Agricultural Engineering*)	4		
Agron. 4–c (*Soils*)			4
Agr'l Chem. 1–a (*Organic Chemistry*)	3		
Agr'l Chem. 2–b, 3–c (*Agricultural Chemistry*)		3	3
Ento. 1–a (*Economic Entomology*)	4		
Poul. 1–a (*Farm Poultry*)	3		
Phys. 1–a, 2–b (*Introductory Physics*)	3	3	
Bot. 10–b, 11–c (*Bacteriology*)		3	3
D. H. 1–b (*Farm Diary*)		4	
Geol. 1–b (*Elementary Geology*)		3	
Hort. 1–c (*Vegetable Gardening*)			2
Hort. 3–c (*Practical Pomology*)			2
*A. H. 2–c (*Livestock Judging*)			2
*D. H. 2–c (*Dairy Cattle Judging*)			2
*Draw. 10–c (*Agricultural Drawing*)			2
*Hort. 19–c (*Beekeeping*)			2
*Shop 7–c (*Woodshop*)			2
Mil. Sci. 4–a, 5–b, 6–c (*Military Art*)	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	½	½	½
	19	18	18

* One of the five subjects noted must be taken; Teacher-Training students must take Woodshop.

Junior and Senior Years

Note 1.—At the beginning of the junior year students will choose their major course. Their registration card must then be approved by the head of the department in which the major is taken.

Note 2.—During the junior and senior years 6 credit hours of so-called cultural subjects must be taken by all students, except those in the Teacher-Training course.

Note 3.—Subjects starred are recommended, but not required.

Note 4.—A total of 216 credit hours is required of all students for graduation.

COLLEGE OF AGRICULTURE

GENERAL AGRICULTURE

Junior Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Agron. 2–a (*Forage Crops*)	3		
Econ. 1–a, 2–b (*Elementary Economics*)	3	3	
Agron. 3–b (*Cereal Crops*)		3	
Econ. 5–b (*Rural Economics*)		3	
Agron. 7–c (*Farm Accounting*)			3
Eng. 60–c (*Public Speaking*)			3
Elective	12	9	12
	18	18	18

Senior Year

Agron. 8–a (*Farm Management*)	4		
A. H. 3–a (*Feeds and Feeding*)	3		
Eng. 73–a (*Expository Writing*)	3		
Agron. 6–b (*Fertilizers*)		3	
Elective	8	15	17
	18	18	17

AGRICULTURAL CHEMISTRY

Sophomore Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Chem. 20–a, 21–b, 22–c (*Organic Chem.*)	2	3	3
Chem. 18–b, 19–c (*Quan. Analysis*)		5	7
Agr'l Chem. 1–a, 2–b, 3–c (*Agr'l Chem.*)	3	3	3
Ento. 1–a (*Prin. of Econ. Ento.*)	4		
Phys. 1–a, 2–b, 3–c (*Introductory Physics*)	3	3	3
Math. 2–a, 3–b (*Algebra*)	3	3	
Mil. Sci. 4–a, 5–b, 6–c	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c	½	½	½
	17	19	18

Junior Year

Math. 1–a (*Trigonometry*)	3		
Geol. 1–b (*Elementary Geology*)		3	
Agron. 4–c (*Soils*)			4
Chem. 29–a, 30–b, 31–c (*Physical Chem.*)	3	3	3
Chem. 24–a, 25–b (*Organic Chem. Lab.*)	2	2	
Bot. 10–b, 11–c (*Agr'l Bacteriology*)		3	3
Agr'l Chem. 7–a, 8–b, 9–c (*Agr'l Analysis*)	4	4	4
Ger. or Fr.	3	3	3
Elective	3		1
	18	18	18

Senior Year

Econ. 1–a, 2–b (*Prin. of Economics*)	3	3	
Econ. 5–b (*Rural Economics*)		3	
Eng. 73–a (*Expository Writing*)	3		
Chem. 42–a (*Physical Chem. Lab.*)	2		
Eng. 60–c (*Public Speaking*)			3
Agr'l Chem. 13–a, 14–b, 15–c (*Thesis*)	3	3	3
Agr'l Chem. 4–b, 5–c (*Physiological Chem.*)		3	3
Elective	7	6	9
	18	18	18

Elective Subjects Recommended:	*Fall Term ("A")*	*Winter Term ("B")*	*Spring Term ("C")*
Agron. 2–a, 3–b	3	3	
A. H. 3–a	3		
Hort. 5–a	3		
Fr. or Ger. 4–a, 5–b, 6–c	3	3	3
Psy. 1–a, 2–b, 3–c	3	3	3
P. H. 1–a	3		
Agron. 6–b		3	
D. H. 1–b		4	
Bot. 4–b, 5–c		3	3
Math. 4–b, 5–c		3	3
Math. 6–c			3
Hort. 1–c, 3–c			4
Met. 1–b		3	

ANIMAL HUSBANDRY

Junior Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
A. H. 4–a (*Animal Anatomy*)	3		
Agron. 2–a (*Forage Crops*)	3		
Econ. 1–a, 2–b (*Elementary Economics*)	3	3	
Econ. 5–b (*Rural Economics*)		3	
Agr'l Chem. 4–b (*Physiological Chemistry*)		3	
Zoöl. 17–b (*Genetics*)		3	
A. H. 5–b, 6–c (*Animal Diseases*)		3	3
A. H. 9–c (*Sheep and Swine*)			4
A. H. 13–c (*Principles of Nutrition*)			2
Eng. 60–c (*Public Speaking*)			3
*D. H. 9–a (*Dairy Bacteriology*)	3		
*P. H. 5–a (*Poultry Management*)	4		
*Agron. 3–*b* (*Cereal Crops*)		3	
*P. H. 7–b (*Incubation and Brooding*)		3	
*Agron. 7–c (*Farm Accounting*)			3
*P. H. 9–c (*Poultry Feeding*)			3
*Zoöl. 41–c (*Embryology*)			3
	18	18	18

Senior Year

A. H. 3–a (*Feeds and Feedings*)	3		
A. H. 7–a (*Animal Breeding*)	4		
Agron. 8–a (*Farm Management*)	4		
Eng. 73–a (*Expository Writing*)	3		
A. H. 10–b (*Horses and Beef Cattle*)		4	
Agron. 6–b (*Fertilizers*)		3	
Ento. 3–b (*Insects of Domestic Animals*)		3	
A. H. 8–c (*Markets and Products*)			3
A. H. 12–c (*Seminar*)			2
*D. H. 3–a, 3.5–b (*Milk Production*)	4	3	
*For. 15–a (*Farm Woodlot*)	3		
*Hort. 6–b (*Commercial Pomology*)		3	
*Met. 1–b		3	
*Econ. 18–c (*Marketing*)			3
*Elec. Eng. 6–c (*Electricity on the Farm*)			3
	18	18	18

* Recommended electives.

DAIRY HUSBANDRY

Junior Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
D. H. 9–a (*Dairy Bacteriology*)	3		
Econ. 1–a, 2–b (*Elementary Economics*)	3	3	
D. H. 4–b (*Testing Dairy Products*)		3	
Agr'l Chem. 4–b (*Physiological Chemistry*)		3	
Econ. 5–b (*Rural Economics*)		3	
D. H. 7–a (*Butter Making*)	4		
Eng. 60–c (*Public Speaking*)			3
Agr'l Chem. 19–c (*Dairy Chemistry*)			3
*Agron. 2–a (*Forage Crops*)	3		
*A. H. 4–a (*Animal Anatomy*)	3		
*P. H. 5–a (*Poultry Management*)	4		
*Agron. 3–b (*Cereal Crops*)		3	
*A. H. 5–b, 6–c (*Animal Diseases*)		3	3
*Agron. 7–c (*Farm Accounting*)			3
*D. H. 11–c (*Judging Dairy Products*)			1
*A. H. 13–c (*Principles of Nutrition*)			2
Elective			3
	18	18	18

Senior Year

D. H. 3–a, 3.5–b (*Milk Production*)	4	3	
Agron. 8–a (*Farm Management*)	4		
Eng. 73–a (*Expository Writing*)	3		
D. H. 5–a (*Market Milk*)	4		
Agron. 6–b (*Fertilizers*)		3	
D. H. 6–c (*Ice Cream and Cheese*)			4
D. H. 10–c (*Adv. Dairy Husbandry*)			2
*A. H. 3–a (*Feeds and Feeding*)	3		
*A. H. 7–a (*Animal Breeding*)	4		
*For. 15–a (*Farm Woodlot*)	3		
*Ento. 3–b (*Insects of Domestic Animals*)		3	
*Hort. 6–b (*Commercial Pomology*)		3	
*Met. 1–b		3	
*A. H. 9–c (*Sheep and Swine*)			4
*Econ. 25–c (*Marketing*)			3
*D. H. 12–c (*Adv. Dairy Cattle Judging*)			2
*Elec. Eng. 6–c (*Electricity on the Farm*)			3
	18	18	18

FORESTRY

Sophomore Year[1]

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
For. 2–a, 2.5–b (*Dendrology and Wood Technology*)	3	3	
Phys. 1–a, 2–b (*Introductory Physics*)	3	3	
Agr'l Chem. 1–a, 2–b, 3–c (*Agr'l Chemistry*)	3	3	3
For. 3–a, 4–b, 5–c (*Silviculture*)	3	3	3
Math. 19–a, 20–c (*Surveying*)	3		3
Geol. 1–b (*Elementary Geology*)		3	
Home Econ. 63–a (*Forest Cooking*)	2		
Agron. 4–c (*Soils*)			4
Draw. 10–c (*Agricultural Drawing*)			2
Mil. Sci. 4–a, 5–b, 6–c (*Military Art*)	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c (*Phys. Education*)	½	½	½
	19	17	17

[1] Forestry students are required to spend the summer following their sophomore year working in the woods on some phase of Forestry or Lumbering.

* Recommended electives.

JUNIOR YEAR[1]

	Fall Term ("*A*")	*Winter Term* ("*B*")	*Spring Term* ("*C*")
Acct. 112–a, 113–b, 114–c (*Elem. Accounting*)	3	3	3
Bot. 6–a, 4–b, 5–c (*Histology and Physiology*)	3	3	3
Econ. 1–a, 2–b, 3–c (*Elem. Economics*)	3	3	3
Eng. 4–a (*Adv. Comp.*)	3		
Ento. 1–a, 13–c (*Economic and Forest Insects*)	4		3
For. 13–b (*Forest Utilization*)		3	
For. 6–b, 6.5–c (*For. Mensuration*)		3	3
Elective	3	3	3
	19	18	18

SENIOR YEAR

Eng. 73–a, 60–c (*Expository Writing and Pub. Speaking*)	3		3
Pol. Sci. 1–a (*Business Law*)	3		
Met. 1–b (*Elem. Meteorology*)		3	
Bot. 12–a, 13–b, (*Pathology*)	3	3	
For. 7–a, 8–b, 8.5–c (*Forest Management*)	3	3	3
For. 10–a, 11–b, 12–c (*Thesis*)	3	3	3
For. 14–b, 14.5–c (*Forest Practice*)		3	3
Elective	3	3	6
	18	18	18

HORTICULTURE

JUNIOR YEAR

	Fall Term ("*A*")	*Winter Term* ("*B*")	*Spring Term* ("*C*")
Econ. 1–a, 2–b (*Elementary Economics*)	3	3	
Ento. 2–a (*Insects of Garden and Orchard*)	3		
Bot. 12–a, 13–b (*Plant Pathology*)	3	3	
Econ. 8–b (*Rural Economics*)		3	
Hort. 21–c (*Practice*)			18
*Hort. 2–a (*Greenhouse*)	3		
*Hort. 20–a (*Beekeeping*)	2		
*Agron. 2–a (*Forage Crops*)	3		
*P. H. 5–a (*Poultry Management*)	4		
*Hort. 11–b (*Vegetable Forcing*)		3	
*Hort. 8–b (*Plant Propagation*)		3	
*Agron. 3–b (*Cereal Crops*)		3	
	18	18	18

[1] The junior year is followed by a six-weeks Summer Camp in the forest, which all Forestry juniors are required to attend. Five hours credit including the three hours of Forestry 21–a will be given for this work.

* Recommended electives.

SENIOR YEAR

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Hort. 5–a (*Fruit and Vegetable Survey*)	2		
Agron. 8–a (*Farm Management*)	4		
Eng. 73–a (*Expository Writing*)	3		
Hort. 12–a, 12.5–b (*Seminar*)	2	2	
‡Hort. 6–b (*Commercial Pomology*)		3	
Bot. 4–b, 5–c (*Plant Physiology*)		3	3
Hort. 10–c (*Evolution and Improvement of Plants*)			3
Hort. 7–c (*Landscape Gardening*)			3
Eng. 60–c (*Public Speaking*)			3
*Hort. 17–a (*Commercial Vegetable Gardening*)	3		
*Hort. 18–a (*Ornamental Shrubs*)	2		
*Hort. 22–a (*Fruit Judging*)	3		
*D. H. 3–a, 3.5–b (*Milk Production*)	4	3	
*Agron. 6–b (*Fertilizers*)		3	
*Met. 1–b		3	
*Zoöl. 17–b (*Genetics*)		3	
*Hort. 9–b, 9.5–c (*Floriculture*)		2	2
*Hort. 4–c (*Small Fruits*)			3
*A. H. 9–c (*Sheep and Swine*)			3
*Econ. 18–c (*Marketing*)			3
*Elec. Eng. 6–c (*Electricity on the Farm*)			3
	18	18	18

POULTRY HUSBANDRY

JUNIOR YEAR

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
P. H. 5–a (*Poultry Management*)	4		
Econ. 1–a, 2–b (*Elementary Economics*)	3	3	
P. H. 17–a (*Poultry Marketing*)	3		
P. H. 6–b (*Poultry Diseases*)		3	
Econ. 5–b (*Rural Economics*)		3	
P. H. 13–c (*Practical Work*)			18
*Agron. 2–a (*Forage Crops*)	3		
*A. H. 4–a (*Animal Anatomy*)	3		
*Agron. 3–b (*Cereal Crops*)		3	
*Hort. 11–b (*Vegetable Forcing*)		3	
*Zoöl. 39a–40b (*Embryology*)	3	3	
	18	18	18

SENIOR YEAR

P. H. 10–a (*Poultry Breeding*)	2		
P. H. 8–a (*Seminar*)	3		
Agron. 8–a (*Farm Management*)	4		
Eng. 73–a (*Expository Writing*)	3		
P. H. 14–a, 15–b, 16–c (*Poultry Research*)	3	3	3
P. H. 7–b (*Incubation and Brooding*)		3	
Eng. 60–c (*Public Speaking*)			3
P. H. 9–c (*Poultry Feeding*)			3
P. H. 22–c (*Poultry House Construction*)			1
*A. H. 3–a (*Feeds and Feeding*)	3		
*For. 15–a (*Farm Woodlot*)	3		
*Agr'l Chem. 4–b (*Physiological Chemistry*)		3	
*Agron. 6–b (*Fertilizers*)		3	
*Hort. 6–b (*Commercial Pomology*)		3	
*Met. 1–b		3	
*Zoöl. 17–b, 18–c (*Genetics*)		3	3
*Hort. 4–c (*Small Fruits*)			3
*Elec. Eng. 6–c (*Electricity on the Farm*)			3
*Econ. 18–c (*Marketing*)			3
	18	18	18

‡ Not required if Horticulture 17–a is taken.
* Recommended electives.

TEACHER TRAINING

Junior Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Agron. 2–a (*Forage Crops*)	3		
D. H. 13–a (*Dairy Management*)	4		
Econ. 1–a (*Elementary Economics*)	3		
Psy. 8–a (*Applied Psychology*)	3		
Agron. 3–b (*Cereal Crops*)		3	
Econ. 5–b (*Rural Economics*)		3	
P. H. 11–b (*Poultry for Teachers*)		2	
Shop 32–b (*Forging*)		3	
Agron. 7–c (*Farm Accounting*)			3
Educ. 15–c (*Class Room Management and Methods*)			3
Eng. 60–c (*Public Speaking*)			3
P. H. 12–c (*Poultry Brooding*)			1
Sociol. 3–c (*Rural Sociology*)			3
*Ento. 2–a (*Insects of Garden and Orchard*)	3		
*Econ. 2–b (*Elementary Economics*)		3	
*Educ. 14–b (*Secondary Education*)		3	
*A. H. 5–b (*Animal Diseases*)		3	
*Hort. 4–c (*Small Fruits*)			3
*Elec. Eng. 6–c (*Electricity on the Farm*)			3
*Econ. 18–c (*Marketing*)			3
	18	18	18

Senior Year

Agron. 8–a (*Farm Management*)	4		
A. H. 3–a (*Feeds and Feeding*)	3		
Bot. 12–a (*Plant Pathology*)	3		
For. 15–a (*Farm Woodlot*)	3		
Educ. 20–a (*History and Principles of Vocational Education*)	3		
Agron. 6–b (*Fertilizers*)		3	
Bot. 18–b (*Plant Pathology*)		1	
Ed. 35–b (*Agriculture in High School*)		3	
Educ. 36–c (*Practice Teaching*)			15
*A. H. 14–a (*Breeding and Management of Livestock*)	3		
*Hort. 6–b (*Commercial Pomology*)		3	
*Met. 1–b (*Meteorology*)		3	
*Educ. 27–c (*School Hygiene*)			3
*Psy. 9–b (*Psychology of Adolescence*)		3	
	18	18	18

* Recommended electives.

COLLEGE OF LIBERAL ARTS

ALBERT N. FRENCH, *Dean*

DEPARTMENTS

ECONOMICS AND ACCOUNTING	LANGUAGES
EDUCATION AND PSYCHOLOGY	MUSIC
ENGLISH	PHYSICAL EDUCATION FOR WOMEN
HISTORY AND POLITICAL SCIENCE	SOCIOLOGY
HOME ECONOMICS	ZOÖLOGY AND GEOLOGY

In the College of Liberal Arts the following courses are offered:

General Liberal Arts Course.—This course provides a general college training which especially prepares for citizenship, secondary school teaching, business, or graduate study. By means of the group system of elective studies an opportunity is given the student to major toward an A.B. or B.S. degree. (See Requirements for Degrees.)

Home Economics Course.—The course in home economics furnishes instruction in the branches that especially serve the need of women students. The work is planned to meet the demands of the day for scientific training in home making, to fit students to enter fields of professional activity in educational and institutional lines of work, and to provide thorough training for those students who wish to elect home economics in the Liberal Arts Course.

The technical work in household science is based upon the principles of physical, biological and social sciences. The subjects in foods, nutrition and dietetics require physics, chemistry and physiology; those in sanitation necessitate a knowledge of chemistry and bacteriology; home administration and the care and education of children demand a knowledge of the principles of human nutrition and dietetics, and of the principles of economics, psychology and sociology. The training in drawing, color, and design which is gained in the department of drawing is related to the work in costume design and house decoration. Three home economics courses are offered:

(1) Teacher Training Course. This is to train students for meeting state requirements for teaching in the high schools. (See Teacher Training Course.)

(2) Institutional Course. This is to train students for positions as dietitians or managers and assistants in public institutions, such as college dormitories, hospitals, tea rooms, cafeterias, etc. (See Institutional Course.)

(3) Extension Training Course. The purpose of this course is to train students to become Home Demonstration Agents and Boys' and Girls' Club Agents.

The Arts Course in Chemistry.—This is a general course in chemistry. It prepares for certain kinds of commercial chemistry, secondary science teaching, and affords a splendid basis for graduate work in medical schools. The considerable amount of electives permits the student to choose work in education, if professional preparation for teaching is desired.

The Arts Course in Architecture.—This is a general course in architecture affording a basis for advanced study in the more specialized schools of architecture and is made up of those fundamentals of a general education which cannot be studied systematically later when the student is absorbed in the exacting routine of the practical field. Moreover the economic and social forces which help to shape his opportunities must be understood if he is to interpret them with sympathy, intelligence and artistic judgment. To this end, literature, history, science, business administration, economics and kindred subjects are made a prominent part of the course.

The technical subjects in architecture are not in themselves sufficient to prepare the student for independent practice of architecture as a profession but are intended to supply him with the background for creative work with architectural design as a means for its fulfillment and to give a knowledge of the principles involved in the processes of safe and economical building construction.

Preparation of Secondary School Teachers.—Students preparing to teach in secondary schools should plan their courses so as to include 18–24 hours of Education and Psychology; also to include as electives, courses in Sociology and Public Speaking. The regulations of the New Hampshire State Board of Education provide that college graduates or other students with four years of post-secondary education will be given secondary licenses provided that their course included 15 semester hours of college work in Education. Education as stated here includes subjects in Education, Psychology, special methods courses, and Sociology. It is recommended to the students of the University of New

Hampshire that they plan their courses so as to meet these requirements which are indicative of what other states are specifying for certification to teach.

Business Fundamentals Course.—Students wishing to prepare for a business career should take the general business course. This course has been planned so as to offer the foundation for a broad cultural education during the first and second years of the course, and then to introduce the student to the more general business courses in the Junior and Senior years.

Premedical Course.—This course is offered to meet the needs of students who are preparing for the Medical profession.

It is highly desirable that they should spend four years in preparation for their Medical training at this institution. This will give them a good cultural foundation for their Medical Work.

If a student plans to do less than four years of work in preparation for medicine, he should correspond with the head of the Zoölogy Department.

Students will be granted entrance into any Class A Medical School under the following conditions:

a. Provided proper subjects have been elected to fulfill requirements of the particular school they plan to enter. Please note that the requirements of Medical Schools are not uniform and that the students should determine before coming to this institution the Medical School they plan to enter.

b. Owing to the crowded condition of most Medical Schools only those students standing in the upper third or half of their class during premedical work may be admitted. This restriction, however, does not apply to all Medical Schools.

EXTENSION COURSES FOR UNIVERSITY CREDIT

In response to the insistent demand of the teachers of the state the Trustees of the University have this year approved the giving of extension courses for university credit. Professors are sent out to centers within the state where there is a demand for classes to be formed. At present the courses offered will depend on the teaching schedules of the various departments.

SUMMER SCHOOL

The University of New Hampshire Summer School (the fourth session of which will be held from June 29 to August 7, 1925) offers courses in

most departments of all three colleges. The Summer School is designed to meet the needs of:

1. Teachers, superintendents and supervisors of secondary schools.

2. Students in the University of New Hampshire and in other colleges who desire to utilize the vacation period for the purpose of anticipating courses or supplying deficiencies.

3. Graduate students, who may earn the degree of Master of Arts or Master of Science for work done exclusively during summer sessions.

4. Candidates for admission to any of the colleges of the University who desire to obtain advanced standing or to complete some special requirement for admission.

For Summer School Bulletin, information as to particular courses, etc., address the Director of the Summer School, University of New Hampshire, Durham, N. H.

STUDENT ADVISERS

1. For Freshmen.

A staff of faculty members will be appointed by the dean of Liberal Arts to act as advisers for freshmen and the elective slip of each student must be approved by a member of the staff or by his dean.

2. For Sophomores, Juniors, and Seniors.

A student will have for his adviser the head of his major department; provided that, in case a student majors in a department outside the College of Liberal Arts, his elective slip shall also be approved by the dean of the Liberal Arts College.

COLLEGE OF LIBERAL ARTS

GENERAL LIBERAL ARTS COURSE

Freshman Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Eng. 1.5–a, 2.5–b, 3.5–c (*English Reading*)	3	3	3
*Mil. Sci. 1–a, 2–b, 3–c (*Military Science*)	1½	1½	1½
*Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	½	½	½
Elect subjects from 3 of the 4 groups A, B, C, D			
A. †Language (Latin, German, Spanish or French 1–a, 2–b, 3–c)	3	3	3
B. Science (Botany, Chemistry, Zoölogy or Physics 1–a, 2–b, 3–c)	3	3	3
C. ‡Mathematics (1–a, 2–a, 3–b or 1.5–a, 2.5–b, 3.5–c) (‡200–a)	3	3	3
D. Social Science (1–a, 2–b, 3–c)	3	3	3
Preferred Elective			
Science Survey 1–a, 2–b, 3–c	1	1	1
Free Electives	2	2	2
	18	18	18

Sophomore Year

§Mil. Sci. 5–a, 6–b, 7–c (*Military Science*)	1½	1½	1½
§Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	½	½	½
Eng. 4–a, 5–b, 6–c (*Advanced Composition*)	3	3	3
Free electives	13	13	13
	18	18	18

Junior Year

Free electives	18	18	18

Senior Year

Free electives	18	18	18

HOME ECONOMICS COURSES

TEACHER TRAINING COURSE
INSTITUTIONAL MANAGEMENT COURSE
EXTENSION TRAINING COURSE

Freshman Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Eng. 1.5–a, 2.5–b, 3.5–c (*English Reading*)	3	3	3
Social Science 1–a, 2–b, 3–c	3	3	3
Chem. 6–a, 7–b, 8–c (*Inorganic Chemistry*)	3	3	3
Math. 1.5–a, 2.5–b, 3.5–c, or Ger., Span. or Fr. 1–a, 2–b, 3–c)	3	3	3
P. E. 1–a, 2–b, 3–c	1	1	1
P. E. 13–a (*Health Problems*)	1		
H. E. 65–c (*Survey of Home Ec.*)			2
H. E. 1–a, 2–b, 3–c (*Textiles and Elementary Clothing*)	3	3	3
H. E. 64–b (*Food Selection*)		2	
Elective	1		
	18	18	18

* Physical Education 1–a, 2–b, 3–c and 13–a is required of all Freshman women.

† Students presenting two years of a language for entrance should secure departmental approval to register for 4–a, 5–b, 6–c.

‡ Mathematics 200–a. 6 recitations, credits applicable only for removal of an entrance condition.

§ Physical Education 4–a, 5–b, 6–c, giving 1 credit each, are required of women students instead of Military Science and Physical Education 54–a, 55–b, 56–c.

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
SOPHOMORE YEAR			
Eng. 4–a, 5–b, 6–c	3	3	3
Art 1–a, 2–b, 3–c (*Elem., Decorative, Advanced Design*)	2	2	2
Phys. 32–a, 33–b, 34–c (*Household Physics*)	3	3	3
Agr'l Chem. 1–a, 23–b, 24–c (*Organic, Physiological, Foods*)	3	3	3
H. E. 51–a, 52–b, 53–c (*Foods and Cookery*)	2	2	2
Zoöl. 33–a, 34–b, 35–c (*Physiology*)	3	3	3
P. E. 4–a, 5–b, 6–c	1	1	1
Elective	1	1	1
	18	18	18
JUNIOR YEAR			
*H. E. 4–a, 5–b, 6–c (*Adv. Clothing*)	2	2	2
*H. E. 7–a, 9–c (*Millinery*)	2		2
H. E. 10–b (*Laundry and House Care*)		2	
H. E. 60–c (*House Management*)			2
Arch. 20–a, 21–b, 22–c (*Domestic Arch.*)	2	2	2
Bot. 8–a, 8.5–b (*Bacteriology*)	3	3	
Econ. 1–a, 2–b, 3–c (*Elementary Economics*)	3	3	3
†Psy. 1–a, 2–b (*Introduction to Psychology*)	3	3	
‡Psy. 8–a (*Applied Psychology*)	3		
H. E. 54–c (*Meal Preparation*)			3
H. E. 57–c (*Nutrition and Dietetics*)			3
H. E. 62–a (*Home Nursing*)	2		
P. E. 7–a, 8–b, 9–c	1	1	1
*H. E. 12–b (*Home Furnishing and Decoration*)		2	
§Electives		2	
	18	18	18

Approved Electives: Teacher Training Course.
Educ. 15–c (*Classroom Management, etc.*)
Educ. 14–b (*Secondary Education*)

TEACHER TRAINING COURSE

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
SENIOR YEAR			
H. E. 12–b (*Home Furnishing*)		2	
H. E. 15–a (*Dress Design*)	2		
H. E. 56–a (*Experimental Cookery*)	2		
H. E. 101–a (*Teaching Home Ec.*)	3		
H. E. 102–b (*Home Ec. in High Schools*)		3	
H. E. 61–a or b (*Practice House*)	5	or 5	
H. E. 103–c (*Supervised Teaching*)			15
Educ. 20–a (*Vocational Ed.*)	3		
Educ. 27–c (*School Hygiene*)			3
Soc. 17–a (*Social Psychology*)	3		
Soc. 18–b (*Educational Sociology*)		3	
Psy. 9–b (*Psychology of Adolescence*)		3	
Electives	‖5 or 0	¶7 or 2	
	18	18	18

Approved Electives:
Educ. 14–b (*Secondary Education*)
Educ. 13–b (*History of Education*)

* Required of teacher training extension students only.
† Required of Institutional Juniors.
‡ Required of Teacher Training and Extension Juniors.
§ For Institutional students only.
‖ For students taking Practice House winter term.
¶ For students taking Practice House fall term.

INSTITUTIONAL MANAGEMENT COURSE

SENIOR YEAR

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
H. E. 56–a (*Experimental Cookery*)	2		
Zoöl. 13–a, 14–b, 15–c (*Hygiene and Sanitation*)	3	3	3
Ento. 4–c (*Household Insects*)			3
H. E. 58–a, 59–b (*Institutional Management*)	2	2	
H. E. 12–b (*Home Decoration*)		2	
Econ. 124–a, 125–b (*Household and Inst. Accounting*)	4	4	
H. E. 66–a, b, or c (*Institutional Practice*)	6	6	6
Electives	*1 or 7	*1 or 7	*6 or 12
	18	18	18

Approved Electives:
Educ. 14–b (*Sec. Educ.*)
Educ. 13–b (*Hist. of Educ.*)

EXTENSION TRAINING COURSE

SENIOR YEAR

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
H. E. 56–a (*Experimental Cookery*)	2		
H. E. 12–b (*Home Furnishing*)		2	
Zoöl. 13–a, 14–b (*Hygiene and Sanitation*)	3	3	0
H. E. 101–a (*Teach. Home Economics*)	3	0	0
H. E. 61–a or b (*Practice House*)	5 or	5	0
Agric. 2–b (*Extension Org. and Methods*)	0	3	0
Agric. 3–c (*Supervised Extension Work*)	0	0	16
H. E. 15–a (*Dress Design.*)	2	0	0
Electives	†3 or 8	†5 or 10	
	18	18	16

Approved electives:
Eng. 76–a (*Writing for Publication*)
H. E. 13–b (*Basketry*)
H. E. 19–b (*Embroidery*)
Hort. 7–c (*Landscape Gardening*)
D. H. 8–a (*Domestic Dairying*)
P. H. 3–b (*Home Poultry for Girls*)

ARTS COURSE IN CHEMISTRY

FRESHMAN YEAR

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Chem. 1–a, 2–b, 3–c (*Inorganic Chemistry*)	3	3	3
Math. 201–a, 202–b, 203–c (*Unified Math.*)	6	6	6
Ger. 1–a, 2–b, 3–c (*German*) or Fr. 1–a, 2–b, 3–c (*French*)	3	3	3
Eng. 1.5–a, 2.5–b, 3.5–c (*English*)	3	3	3
‡Mil. Sci. 1–a, 2–b, 3–c (*Military Science*)	1½	1½	1½
‡Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	½	½	½
	17	17	17

* Depending upon what term H. E. 66 is taken.
† If Practice House is taken.
‡ Physical Education for Women is required of women students instead of Military Science and Physical Education for Men as listed.

Sophomore Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Eng. 4–a, 5–b, 6–c (*English*)	3	3	3
Chem. 20–a, 21–b, 22–c (*Organic Chemistry*)	2	3	3
Chem. 10–a (*Qualitative Analysis*)	6		
Chem. 18–b, 19–c (*Quantitative Analysis*)		5	5
Ger. 4–a, 5–b, 6–c (*German*) or Fr. 4–a, 5–b, 6–c (*French*) or Bot. 1–a, 2–b, 3–c (*Botany*) or Econ. 1–a, 2–b, 3–c (*Principles of Economics*)	3	3	3
Math. 7–a, 8–b (*Calculus*)	3	3	
*Mil. Sci. 4–a, 5–b, 6–c (*Military Science*)	1½	1½	1½
*Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	½	½	½
Shop 60–c (*Machine Work*)			3
	19	19	19

Junior Year

Chem. 42–b, 43–c (*Physical Chemistry Laboratory*)		1	2
Chem. 29–a, 30–b, 31–c (*Physical Chemistry*)	3	3	3
Chem. 26–a, 27–b, 28–c (*Quantitative Analysis*)	4	4	4
Chem. 24–a, 25–b (*Organic Laboratory*)	2	2	
Phys. 6–a, 7–b, 8–c (*Physics*)	3	3	3
Phys. 9–a, 10–b, 11–c (*Physics*)	3	3	3
Electives	3	3	3
	18	19	18

Senior Year

Draw. 10–c			2
Chem. 32–a, 33–b, 34–c (*Advanced Inorganic Chemistry*)	3	3	3
Chem. 39–a, 40–b, 41–c (*Thesis*)	4	6	6
Chem. 38–a (*Advanced Quantitative Laboratory*)	2		
Electives	9	9	6
	18	18	17

ARTS COURSE IN ARCHITECTURE

Freshman Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Eng. 1.5–a, 2.5–b, 3.5–c (*English Reading*)	3	3	3
Social Sci. 2–b, 3–c (*Social Science*)		3	3
Draw. 5–a (*Mechanical Drawing*)	2		
Draw. 6–b, 7–c (*Graphics*)		2	2
Arch. 10–a, 11–b, 12–c (*Elements of Architecture*)	2	2	2
Art. 10–a, 11–b, 12–c (*Free-hand Drawing*)	3	3	3
Math. 2–a (*Algebra*)	3		
Math. 1–a (*Trigonometry*)	3		
Math. 4–b (*Analytic Geometry*)		3	
Math. 103–c (*Solid Geometry*)			3
Mil. Sci. 1–a, 2–b, 3–c (*Military Science*)	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	½	½	½
	18	18	18

* Physical Education for Women is required of women students instead of Military Science and Physical Education for Men as listed.

Sophomore Year

	Fall Term ("*A*")	*Winter Term* ("*B*")	*Spring Term* ("*C*")
Phys. 1–a, 2–b, 3–c (*Introductory Physics*)	3	3	3
Hist. 113–a, 128–b, 129–c (*The Ancient Orient; Greece; Rome*)	3	3	3
Arch. 50–a, 51–b, 52–c (*Architectural Design*)	3	3	3
Art. 13–a, 14–b, 15–c (*Free-hand Drawing*)	2	2	2
M. E. 14–a, 15–b, 16–c (*Mechanics*)	2	2	2
Fr. 1–a, 2–b, 3–c (*French Prose*) or Ger. 1–a, 2–b, 3–c (*German Prose*) or Eng. 4–a, 5–b, 6–c (*English*)	3	3	3
Mil Sci. 4–a, 5–b, 6–c (*Military Science*)	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	½	½	½
	18	18	18

Junior Year

Econ. 1–a, 2–b, 3–c (*Principles of Economics*)	3	3	3
Arch. 30–a, 31–b, 32–c (*Building Construction*)	3	3	3
Arch. 34–b (*Building Sanitation*)		1	
Arch. 53–a, 54–b, 55–c (*Architectural Design*)	3	3	3
Hist. 114–a, 130–b, 115–c (*The Middle Ages; Medieval and Renaissance; Renaissance and Reformation*)	3	3	3
Geol. 100–b (*Clay Products and Building Stone*)		2	
Math. 19–a, 20–c (*Surveying*)	3		3
Electives	3	3	3
	18	18	18

Senior Year

Arch. 56–a, 57–b, 58–c (*Architectural Design*)	6	6	6
Arch. 41–c (*Professional Relations*)			1
Arch. 45–c (*Contracts and Specifications*)			2
Arch. 23–a, 24–b (*Domestic Architecture*)	3	3	
Eng. 73–a (*Expository Writing*)	3		
Eng. 9–b (*Advanced Composition*)		3	
Eng. 60–c (*Public Speaking*)			3
Electives	6	6	6
	18	18	18

BUSINESS FUNDAMENTALS COURSE

Freshman Year

	Fall Term ("*A*")	*Winter Term* ("*B*")	*Spring Term* ("*C*")
Mil. Sci. 1–a, 2–b, 3–c (*Military Science*)	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	½	½	½
Eng. 1.5–a, 2.5–b, 3.5–c (*English Composition*)	3	3	3
A Modern Language (*French, German, Spanish*)	3	3	3
Math. 1.5–a, 2.5–b, 3.5–c (*Mathematics*)	3	3	3
A Science (*Botany, Chemistry, Physics, Zoölogy, Science Survey*)	4	4	4
Soc. Sc. 1–a, 2–b, 3–c (*Social Science*)	3	3	3
	18	18	18

Sophomore Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Mil. Sci. 4–a, 5–b, 6–c (*Military Science*)	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	½	½	½
English 4.5–a, 5.5–b, 6.5–c (*Business*)	3	3	3
Acct. 112–a, 113–b, 114–c (*Accounting*)	3	3	3
Econ. 1–a, 2–b, 3–c (*Principles of Economics*)	3	3	3
Hist. 104–a, 105–b, 106–c (*United States History*)	3	3	3
*A Modern Language or Psy. 1–a, 2–b, 3–c (*Psychology*)	3	3	3
	17	17	17

Junior Year

Acct. 115–a, 116–b, 117–c (*Accounting*)	3	3	3
Com. Law 71–a, 72–b, 73–c (*Commercial Law*)	3	3	3
Econ. 50–a (*Principles of Business*)	3		
Econ. 7–b, 8–c (*Economics and Commercial History*)		3	3
Econ. 22–a (*Corporations*)	3		
Econ. 14–b (*Money and Banking*)		3	
Econ. 18–c (*Marketing*)			3
†Elective	6	6	6
	18	18	18

Senior Year

Econ. 10–a (*Labor Problems*)	4		
Econ. 26–b (*Transportation*)		4	
Econ. 30–c (*Public Finance*)			4
M. E. 251–a (*Industrial Engineering*)	3		
Psy. 10–a (*Applied Psychology in Commerce and Industry*)	3		
Econ. 54–b (*Corporation Finance*)		3	
Econ. 57–c (*Salesmanship*)			3
Electives	9	12	12
	19	19	19

PREMEDICAL COURSE

Freshman Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Eng. 1.5–a, 2.5–b, 3.5–c (*English Reading*)	3	3	3
Fr. 4–a, 5–b, 6–c (*French Prose*) or Ger. 1–a, 2–b, 3–c (*Elementary German*)	3	3	3
Chem. 1–a, 2–b, 3–c (*Inorganic Chemistry*)	3	3	3
Zoöl. 1–a, 2–b, 3–c (*Principles of Zoölogy*)	3	3	3
Zoöl. 4–a, 5–b, 6–c (*Elementary Laboratory*)	1	1	1
‡Mil. Sci. 1–a, 2–b, 3–c (*Military Science*)	1½	1½	1½
‡Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	½	½	½
Math. 1.5–a, 2.5–b, 3.5–c (*Mathematics*) or Soc. Sci. 1–a, 2–b, 3–c (*Social Science*)	3	3	3
	18	18	18

* If a modern language is begun in the freshman year, the same language should be continued through the sophomore year. If an advanced language is taken in the freshman year, then the language requirement of the sophomore year might be omitted and Psychology taken in its place.

† Psychology required if not taken in the sophomore year.

‡ Adjustments will be made for Military Science and Physical Education in the case of women students taking this course.

SOPHOMORE YEAR

	Fall Term ("*A*")	*Winter Term* ("*B*")	*Spring Term* ("*C*")
Eng. 4–a, 5–b, 6–c (*English*)	3	3	3
Fr. 7–a, 8–b, 9–c (*French*) or Ger. 4–a, 5–b, 6–c (*German*)	3	3	3
Chem. 20–a, 21–b, 22–c (*Organic Chemistry*)	2	3	3
Chem. 5–c (*Qualitative Analysis*)			3
Zoöl. 7–a, 8–b (*Comparative Physiology*)	3	3	
Zoöl. 10–a, 11–b (*Physiological Laboratory*)	1	1	
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	½	½	½
Mil. Sci. 4–a, 5–b, 6–c (*Military Science*)	1½	1½	1½
Zoöl. 45–a, 46–b, 47–c (*Comparative Anatomy*)	3	3	3
	17	18	17

JUNIOR YEAR

Chem. 24–a (*Organic Laboratory*)	2		
Agri. Chem. 4–b, 5–c (*Physiological Chemistry*)		3	3
Zoöl. 36–a, 37–b, 38–c (*Histology*)	3	3	3
*Phys. 1–a, 2–b, 3–c (*Physics*)	3	3	3
Electives	10	9	9

SENIOR YEAR

Bot. 8–a, 8.5–b (*Bacteriology*)	3	3	
Zoöl. 39–a, 40–b, 41–c (*Embryology*)	3	3	3
Electives	13	12	16
	19	18	19

If a two year premedical course is elected, the work is the same as the first two years of the four year premedical course except that Chemistry 5–c is added to the freshman year and Chemistry 24–c is added to the sophomore year.

If a one year predental course is elected, the work is the same as the first year of the four year premedical course except that Physics should be required if the student does not have credit for this subject from an approved high school.

* Required if not taken in an approved high school.

COLLEGE OF TECHNOLOGY

CALVIN H. CROUCH, *Dean*

DEPARTMENTS

ART, ARCHITECTURE AND DRAWING
CHEMISTRY
ELECTRICAL ENGINEERING
MATHEMATICS
MECHANICAL ENGINEERING
PHYSICS
SHOPS

The College of Technology offers the following four-year courses:

Chemical Engineering Course.—This course is intended to fit the student for the career of a professional chemist, and to give a good foundation for original and independent chemical research.

Instruction is imparted by lectures, recitations and a large amount of carefully supervised laboratory work. The laboratory study is largely an individual one, and the work of each student is conducted with reference not only to the particular object he may have in view, but also to the acquirement of a broad knowledge of chemical science. The student is given a thorough training in German and French to enable him to read with ease the chemical literature; a thorough grounding in mathematics, necessary for advanced theoretical chemistry or chemical engineering; a somewhat limited amount of special work in both mechanical and electrical engineering and a thorough undergraduate training in theoretical and applied chemistry. He is encouraged to develop the power of solving chemical problems by independent thought through the aid of the reference library and chemical periodicals.

Electrical Engineering Course.—The electrical engineering course is intended to meet the demands of young men fitting themselves for professional engineering in connection with the various applications of electricity.

By means of lectures, recitations and laboratory work, the subjects of the course are brought to the attention of the student in such a manner as not only to emphasize the present needs of the practitioner and engineer, but to give him the principles that will enable him to grasp and understand the constantly increasing number of new problems that require solution.

The instruction aims to impart a thorough knowledge of the modern types of electrical machines and appliances, and the methods of designing, building and operating them.

The rapid progress in recent years in the application of electricity to commercial uses renders it difficult, if not impossible, for one without a technical education to gain prominence in the work and assume the more responsible positions.

Mechanical Engineering Course.—The mechanical engineering course is intended to train young men for positions of responsibility in the field of the mechanical industries. The studies in the course are scientific, including mathematics, physics and chemistry; technical, including drawing, shop work, thermodynamics, hydraulics, machine design, electrical engineering, power engineering; and cultural, designed to fit him socially for his proper place in the world.

Instruction is given by means of recitations, lectures and laboratory work supplemented by illustrated lectures and assigned reading. Throughout the course the theoretical work is supplemented by actual practice in mechanical operation and scientific research, by training in the use of tools for working wood and metals, and by experimental tests and demonstrations in the mechanical, electrical, chemical and physical laboratories.

Architectural Construction Course.—The architectural construction course is semi-professional in character in that its aim is to prepare students in the fundamentals of building design and construction, and by means of related subjects to develop their imagination and creative powers. According to his natural ability and inclination, the student can prepare himself for active construction work as foreman or superintendent for contractors or architects; for salesmanship of building materials and supplies; or he may continue his study of design or architectural engineering in one of the larger schools of architecture with a view of actively engaging in the profession of architecture or contracting.

Industrial Course.—The College of Technology offers a four-year industrial course which is particularly designed to prepare for positions as salesmen, foremen, superintendents and managers in the fields of electrical and mechanical manufacturing and construction, and for the training of teachers of Mechanic Arts and related subjects in secondary schools. The Teacher Training course is specially designed to prepare for Smith-Hughes teaching positions.

The subjects offered in this course have been so chosen as to involve less mathematics, and more economics, accounting, English, etc., than is required in the regular four-year engineering courses. The basic work of the different branches of the industrial course is identical throughout the four years. Specialization is made possible in the junior and senior years and is provided for largely through selected groups of elective subjects.

Industrial Teacher Training Course.—The teacher training course is the same as the Industrial Course for the first two years, but differs in the last two years. It is specially designed to prepare for Smith-Hughes teaching positions.

COLLEGE OF TECHNOLOGY

ELECTRICAL AND MECHANICAL ENGINEERING COURSES

FRESHMAN YEAR

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Eng. 1–a, 2–b, 3–c (*English Composition*)	3	3	3
Chem. 111–a, 112–b, 113–c (*Inorganic Chemistry*)	3	3	3
Math. 201–a, 202–b, 203–c (*Unified Math.*)	6	6	6
Draw. 1–a, 1.5–b, 2–c (*Engineering Drawing*)	2	2	2
Shop 1–a, 2–b (*Woodwork*)	2	2	
Shop 31–c (*Forge Shop*)			2
Mil. Sci. 18–a, 19–b, 20–c (*Military Science*)	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	½	½	½
	18	18	18

SOPHOMORE YEAR

Chem. 11–a, 12–b (*Qualitative and Quantitative Anal. Lab.*)	3	3	
Math. 7–a, 8–b, 9–c (*Calculus*)	3	3	3
Phys. 6–a, 7–b, 8–c (*Physics*)	3	3	3
Phys. 9–a, 10–b, 11–c (*Physics Laboratory*)	3	3	3
M. E. 1–c (*Mechanics of Engineering*)			3
Draw. 3–a (*Machine Drawing*)	2		
Draw. 4–b, 4.5–c (*Descriptive Geometry*)		2	2
Shop 51–a, 52–b, 53–c (*Machine Work*)	2	2	2
Mil. Sci. 21–a, 22–b, 23–c (*Military Science*)	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	½	½	½
	18	18	18

Electrical Engineering

Junior Year

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
E. E. 1–a, 2–b, 3–c (*Dynamo Electric Machinery*)	4	4	4
M. E. 2–a, 3–b, 4–c (*Mechanics of Engineering*)	3	3	3
M. E. 51–b, 52–c (*Thermodynamics*)		3	3
M. E. 151–a (*Materials of Construction*)	3		
M. E. 152–a (*Kinematics*)	3		
M. E. 153–b (*Valve Gears and Boiler Design*)		3	
M. E. 154–c (*Machine Design*)			3
M. E. 201–a, 202–b, 203–c (*Mechanical Laboratory*)	2	2	2
Elective: Mil. Sci. 24–a, 25–b, 26–c or Econ. 1–a, 2–b, 3–c	3	3	3
	18	18	18

Senior Year

E. E. 7–a, 8–b (*Electrical Engineering Practice*)	3	3	
E. E. 9–c (*Transmission and Distribution*)			3
E. E. 11–a, 12–b, 13–c (*Electrical Laboratory*)	3	3	3
E. E. 18–b (*Design of Electrical Machinery*)		3	
Eng. 73–a (*Expository Writing*)	3		
Eng. 60–c (*Public Speaking*)			3
Math. 19–a, 20–c (*Surveying*)	3		3
M. E. 41–b, 42–c (*Hydraulics*)		3	3
M. E. 76–a, 77–b (*Power Plant Engineering*)	3	3	
*Elective: Mil. Sci. 27–a, 28–b, 29–c or Econ. 4–a, 10–b, 25–c	3	3	3
	18	18	18

Mechanical Engineering

Junior Year

E. E. 25–a, 26–b, 27–c (*Electrical Machinery*)	4	4	4
M. E. 2–a, 3–b, 4–c (*Mechanics of Engineering*)	3	3	3
M. E. 51–b, 52–c (*Thermodynamics*)		3	3
M. E. 151–a (*Materials of Construction*)	3		
M. E. 152–a (*Kinematics*)	3		
M. E. 153–b (*Valve Gears and Boiler Design*)		3	
M. E. 154–c (*Machine Design*)			3
M. E. 201–a, 202–b, 203–c (*Mechanical Laboratory*)	2	2	2
*Elective: Mil. Sci. 24–a, 25–b, 26–c or Econ. 1–a, 2–b, 3–c	3	3	3
	18	18	18

* Other electives may, with the approval of the Dean of the College of Technology, be offered in lieu of Economics.

SENIOR YEAR

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
M. E. 41–b, 42–c (*Hydraulics*)		3	3
M. E. 76–a, 77–b (*Power Plant Engineering*)	3	3	
M. E. 126–b (*Heating and Ventilating*)		3	
M. E. 155–a. 156–b, 157–c (*Machine Design*)	3	3	3*
M. E. 204–a, 205–b, 206–c (*Mechanical Laboratory*)	3	3	3*
M. E. 300–c (*Thesis*)			3–6*
Eng. 73–a (*Expository Writing*)	3		
Eng. 60–c (*Public Speaking*)			3
Math. 19–a, 20–c (*Surveying*)	3		3
*Elective: Mil. Sci. 27–a, 28–b, 29–c or Econ. 4–a, 10–b, 25–c	3	3	3
	18	18	18

CHEMICAL ENGINEERING COURSE

FRESHMAN YEAR

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Eng. 1–a, 2–b, 3–c (*English Composition*)	3	3	3
Fr. 1–a, 2–b, 3–c (*French*) or Ger. 1–a, 2–b, 3–c (*German*)	3	3	3
Chem. 1–a, 2–b, 3–c (*Inorganic Chemistry*)	3	3	3
Math. 201–a, 202–b, 203–c (*Unified Math.*)	6	6	6
Mil. Sci. 18–a, 19–b, 20–c (*Military Science*)	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	½	½	½
	17	17	17

SOPHOMORE YEAR

Chem. 4–a (*Inorganic Chemistry*)	3		
Ger. 4–a, 5–b, 6–c (*German*)	3	3	3
Chem. 20–a, 21–b, 22–c (*Organic Chemistry*)	2	3	3
Chem. 10–a (*Qualitative Analysis*)	6		
Chem. 18–b, 19–c (*Qualitative Analysis*)		5	5
Math. 7–a, 8–b, 9–c (*Calculus*)	3	3	3
Shop 60–c (*Machine Work*)		2	
Mil. Sci. 21–a, 22–b, 23–c (*Military Science*)	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	½	½	½
Draw 10–c (*Mechanical Drawing*)			2
	19	18	18

JUNIOR YEAR

Chem. 42–b, 43–c (*Physical Chemistry Laboratory*)		1	2
Chem. 29–a, 30–b, 31–c (*Physical Chemistry*)	3	3	3
Chem. 24–a, 25–b (*Organic Chemical Laboratory*)	2	2	
Chem. 26–a, 27–b, 28–c (*Quantitative Analysis*)	4	4	4
Phys. 6–a, 7–b, 8–c (*Physics*)	3	3	3
Phys. 9–a, 10–b, 11–c (*Physics*)	3	3	3
Chem. 32–a, 33–b, 34–c (*Advanced Inorganic Chemistry*) or Mil. Sci. 24–a, 25–b, 26–c (*Coast Artillery*)	3	3	3
	18	19	18

* Other electives may, with the approval of the Dean of the College of Technology, be offered in lieu of Economics.

SENIOR YEAR

	Fall Term ("*A*")	*Winter Term* ("*B*")	*Spring Term* ("*C*")
Eng. 73–a (*Expository Writing*)	3		
Eng. 60–c (*Public Speaking*)			3
Chem. 35–a, 36–b (*Industrial Chemistry*)	3	3	
Chem. 38–a (*Quantitative Analysis*)	2		
Chem. 39–a (*Thesis*)	4		
Chem. 40–b, 41–c (*Thesis*)		6	6
E. E. 15–a, 16–b, 17–c (*Industrial Electricity*)	3	3	3
M. E. 51–b, 52–c (*Thermodynamics*)		3	3
Electives	3	3	3
	18	18	18

ARCHITECTURAL CONSTRUCTION COURSE

FRESHMAN YEAR

	Fall Term ("*A*")	*Winter Term* ("*B*")	*Spring Term* ("*C*")
Eng. 1–a, 2–b, 3–c (*English Composition*)	3	3	3
Math. 201–a, 202–b, 203–c (*Unified Math.*)	6	6	6
Draw. 5–a (*Mechanical Drawing*)	2		
Draw. 6–b, 7–c (*Graphics*)		2	2
Art. 10–a, 11–b, 12–c (*Free-hand Drawing*)	3	3	3
Arch. 10–a, 11–b, 12–c (*Elements of Architecture*)	2	2	2
Mil. Sci. 18–a, 19–b, 20–c (*Military Science*)	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	½	½	½
	18	18	18

SOPHOMORE YEAR

Phys. 6–a, 7–b, 8–c (*General Physics*)	3	3	3
Phys. 9–a, 10–b, 11–c (*Physics Laboratory*)	3	3	3
Hist. 113–a, 128–b, 129–c (*History*)	3	3	3
Arch. 50–a, 51–b, 52–c (*Architectural Design*)	3	3	3
Art. 13–a, 14–b, 15–c (*Free-hand Drawing*)	2	2	2
M. E. 14–a, 15–b, 16–c (*Mechanics*)	2	2	2
Mil. Sci. 21–a, 22–b, 23–c (*Military Science*)	1½	1½	1½
Phys. Ed. 54–a, 53–b, 56–c (*Physical Education*)	½	½	½
	18	18	18

JUNIOR YEAR

Arch. 30–a, 31–b, 32–c (*Building Construction*)	3	3	3
Arch. 34–b (*Building Sanitation*)		1	
*Arch. 59–a, 60–b, 61–c (*Architectural Design*)	2	2	2
Hist. 114–a, 130–b, 115–c (*History*)	3	3	3
Geol. 100–b (*Clay Products and Building Stones*)		2	
Math. 19–a, 20–c (*Surveying*)	3		3
*M. E. 210–a, 211–b, 212–c (*Mechanical Laboratory*)	2	2	2
*Shop 4–a, 5–b, 6–c (*Woodwork*)	2	2	2
Elective	3	3	3
	18	18	18

* Any student who shows marked ability in free-hand drawing and desires to specialize in architectural design with a view of entering an architect's office as a draftsman may, with the approval of the head of the department and the Dean of the College of Technology elect advanced work in free-hand drawing and architectural design in place of those subjects starred.

SENIOR YEAR

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Arch. 41–c (*Professional Relations*)			1
Arch. 45–c (*Contracts and Specifications*)			2
*Arch. 36–a, 37–b (*Structural Design*)	6	6	
Arch. 38–c (*Architectural Thesis*)			9
*Arch. 23–a, 24–b (*Domestic Architecture*)	3	3	
E. E. 100–a (*Elements of Electricity*)	3		
Eng. 73–a (*Expository Writing*)	3		
Eng. 9–b (*Advanced Composition*)		3	
Eng. 60–c (*Public Speaking*)			3
M. E. 126–b (*Heating and Ventilating*)		3	
Elective	3	3	3
	18	18	18

ARCHITECTURAL CONSTRUCTION COURSE

Students entering the Architectural Construction Course prior to 1924 will take the following curriculum.

JUNIOR YEAR

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Arch. 30–a, 31–b, 32–c (*Building Construction*)	3	3	3
Arch. 34–b (*Building Sanitation*)		1	
Arch. 50–a, 51–b, 52–c (*Architectural Design*)	3	3	3
Arch. 53–a, 54–b, 55–c (*Architectural Design*)	2	2	2
Geol. 100–b (*Clay Products and Building Stones*)		2	
Math. 19–a, 20–c (*Surveying*)	3		3
*M. E. 210–a, 211–b, 212–c (*Mechanical Laboratory*)	3	3	3
Elective	4	4	4
	18	18	18

SENIOR YEAR

Arch. 41–c (*Professional Relations*)			1
Arch. 45–c (*Contracts and Specifications*)			2
Arch. 36–a, 37–b (*Structural Design*)	6	9	
*Arch. 38–c (*Architectural Thesis*)			9
M. E. 251–a (*Industrial Engineering*)	3		
*E. E. 100–a (*Elements of Electricity*)	3		
Eng. 73–a (*Expository Writing*)	3		
Eng. 9–b (*Advanced Composition*)		3	
Eng. 60–c (*Public Speaking*)			3
M. E. 126–b (*Heating and Ventilating*)		3	
Elective	3	3	3
	18	18	18

* Any student who shows marked ability in free-hand drawing and desires to specialize in architectural design with a view of entering an architect's office as a draftsman may, with the approval of the head of the department and the Dean of the College of Technology elect advanced work in free-hand drawing and architectural design in place of those subjects starred.

Approved Electives for Architectural Course

	Fall Term ("*A*")	*Winter Term* ("*B*")	*Spring Term* ("*C*")
Arch. 56–a, 57–b, 58–c (*Architectural Design*)	6	6	6
Art. 16–a, 17–b, 18–c (*Free-hand Drawing*)	3	3	3
Econ. 22–a (*Corporations*)	3		
Econ. 26–b (*Transportation*)		3	
Econ. 30–c (*Principles of Public Finance*)			3
Econ. 112–a, 113–b, 114–c (*Accounting*)	3	3	3
Eng. 17–b, 18–c (*Introduction to English Literature*)		3	3
Eng. 23–a, 24–b, 25–c (*American Literature*)	3	3	3
Fr. 1–a, 2–b, 3–c (*French*) or Sp. 1–a, 2–b, 3–c (*Spanish*)	3	3	3
M. E. 281–a (*Water Supplies and Purification*)	2		
M. E. 251–a (*Industrial Engineering*)	3	3	3
Pol. Sci. 1–a (*Laws of Business*)	3		
Mil. Sci. 24–a, 25–b, 26–c (*Coast Artillery*)	3	3	3
Mil. Sci. 27–a, 28–b, 29–c (*Coast Artillery*)	3	3	3

INDUSTRIAL COURSE

Freshman Year

	Fall Term ("*A*")	*Winter Term* ("*B*")	*Spring Term* ("*C*")
Eng. 1–a, 2–b, 3–c (*English Composition*)	3	3	3
Chem. 111–a, 112–b, 113–c (*Inorganic Chemistry*)	3	3	3
Math. 201–a, 202–b, 203–c (*Unified Math.*)	6	6	6
Draw. 1–a, 1.5–b, 2–c (*Engineering Drawing*)	2	2	2
Shop 1–a, 2–b (*Woodwork*)	2	2	
Shop 31–c (*Forge Shop*)			2
Mil. Sci. 18–a, 19–b, 20–c (*Military Science*)	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	½	½	½
	18	18	18

Sophomore Year

Chem. 11–a, 12–b (*Qualitative and Quantitative Anal. Lab.*)	3	3	
Econ. 1–a, 2–b, 3–c (*The Principles of Economics*)	3	3	3
Phys. 6–a, 7–b, 8–c (*Physics*)	3	3	3
Phys. 9–a, 10–b, 11–c (*Physics Laboratory*)	3	3	3
Draw. 3–a (*Machine Drawing*)	2		
Draw. 4–b, 4.5–c (*Descriptive Geometry*)		2	2
Shop 51–a, 52–b, 53–c (*Machine Work*)	2	2	2
Mil. Sci. 21–a, 22–b, 23–c (*Military Science*)	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	½	½	½
Elective			3
	18	18	18

JUNIOR YEAR

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
E. E. 25–a, 26–b, 27–c (*Electrical Machinery*)	4	4	4
M. E. 11–a, 12–b, 13–c (*Elements of Mechanics*)	3	3	3
Shop	2	2	2
Psy. 10–a (*Applied Psychology*)	3		
M. E. 81–a (*Boiler Design and Graphics*) or M. A. 24–a	3		
*M. E. 82–b, 83–c (*Power Plant, Machinery*)		3	3
‡Econ. 10–a (*Labor Problems*)	3		
‡Econ. 26–b (*Transportation*)		3	
‡Econ. 18–c (*Marketing*)			3
Elective		3	3
	18	18	18

SENIOR YEAR

Eng. 73–a (*Expository Writing*)	3		
Eng. 9–b (*Advanced Composition*)		3	
Eng. 60–c (*Public Speaking*)			3
M. E. 207–a, 208–b, 209–c (*Mechanical Laboratory*)	3	3	3
M. E. 251–a (*Industrial Engineering*)	3		
Acc't 112–a, 113–b, 114–c (*Elementary Accounting*)	3	3	3
Elective	6	9	9
	18	18	18

INDUSTRIAL TEACHER TRAINING COURSE

FRESHMAN YEAR

	Fall Term ("A")	*Winter Term ("B")*	*Spring Term ("C")*
Eng. 1–a, 2–b, 3–c (*English Composition*)	3	3	3
Chem. 111–a, 112–b, 113–c (*Inorganic Chemistry*)	3	3	3
Math. 201–a, 202–b, 203–c (*Unified Math.*)	6	6	6
Draw. 1–a, 1.5–b, 2–c (*Engineering Drawing*)	2	2	2
Shop 1–a, 2–b (*Woodwork*)	2	2	
Shop 31–c (*Forge Shop*)			2
Mil. Sci. 18–a, 19–b, 20–c (*Military Science*)	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	½	½	½
	18	18	18

SOPHOMORE YEAR

Chem. 11–a, 12–b (*Qualitative and Quantitative Anal. Lab.*)	3	3	
Econ. 1–a, 2–b, 3–c (*The Principles of Economics*)	3	3	3
Phys. 6–a, 7–b, 8–c (*Physics*)	3	3	3
Phys. 9–a, 10–b, 11–c (*Physics Laboratory*)	3	3	3
Elective			3
Draw. 3–a (*Machine Drawing*)	2		
Draw. 4–b, 4.5–c (*Descriptive Geometry*)		2	2
Shop 3–a, 4–b, 5–c (*Woodwork*)	2	2	2
Mil. Sci. 21–a, 22–b, 23–c (*Military Science*)	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	½	½	½
	18	18	18

*Students may, if their schedules permit, take M. E. 51–b, 52–c, 76–a and 77–b instead of the subjects starred.

‡Other subjects may with the approval of the Dean of the College of Technology be substituted for Economics.

JUNIOR YEAR

	Fall Term ("*A*")	*Winter Term* ("*B*")	*Spring Term* ("*C*")
E. E. 25–a, 26–b, 27–c (*Electrical Machinery*)	4	4	4
M. E. 11–a, 12–b, 13–c (*Mechanics*)	3	3	3
Shop 51–a, 52–b, 53–c (*Machine Shop*)	2	2	2
Psy. 8–a (*Applied Psychology*)	3		
Ed. 14–b (*Secondary Education*)		3	
Ed. 15–c (*Methods and Class Room Management*)			3
‡Econ. 10–a (*Labor Problems*)	3		
‡Econ. 26–b (*Transportation*)		3	
‡Econ. 18–c (*Marketing*)			3
Elective	3	3	3
	18	18	18

SENIOR YEAR

Eng. 73–a (*Expository Writing*)	3		
Eng. 9–b (*Advanced Composition*)		3	
Eng. 60–c (*Public Speaking*)			3
Ed. 20–a (*History and Principles of Vocational Education*)	3		
Ed. 27–c (*School Hygiene*)			3
Ed. 40–b (*Special Methods in Industrial Education*)		3	
Ed. 41–c (*Supervised Teaching in Industrial Education*)			9
Psy. 9–b (*Psychology of Adolescence*)		3	
Shop 8–a (*Practice Teaching*)	2		
Shop 33–a (*Forging*)	2		
Shop 54–a, 55–b (*Machine Work*)	2	2	
Elective	6	7	
Mil. Sci. or Practice Teaching			3
	18	18	18

INDUSTRIAL COURSE

Students entering the Industrial Course prior to 1923 will take the following curriculum:

SENIOR YEAR

	Fall Term ("*A*")	*Winter Term* ("*B*")	*Spring Term* ("*C*")
Eng. 9–b (*Advanced Composition*)		3	
E. E. 103–a, 104–b (*Electrical Machinery*)	3	2	
E. E. 105–a, 106–b, 107–c (*Electrical Laboratory*)	2	2	2
M. E. 213–a, 214–b, 215–c (*Mechanical Laboratory*)	2	2	2
Shop 51–a, 52–b, 53–c (*Machine Shop*)	2	2	
Electives from group 1, 2 or 3	9	7	14
	18	18	18

‡ Other subjects may with the approval of the Dean of the College of Technology be substituted for Economics.

INDUSTRIAL TEACHER TRAINING COURSE

Students entering the Teacher Training Course prior to 1923 will take the following curriculum:

SENIOR YEAR

	Fall Term ("*A*")	*Winter Term* ("*B*")	*Spring Term* ("*C*")
Eng. 9–b (*Advanced Composition*)		3	
E. E. 103–a, 104–b (*Electrical Machinery*)	3	2	
E. E. 105–a, 106–b, 107–c (*Electrical Laboratory*)	2	2	*2
M. E. 213–a, 214–b, 215–c (*Mechanical Laboratory*)	2	2	*2
Shop 51–a, 52–b, 53–c (*Machine Shop*)	2	2	*2
Ed. 20–a (*History and Prin. of Vocational Education*)	3		
Ed. 40–b (*Special Methods in Industrial Education*)		3	
Ed. 41–c (*Supervised Teaching in Industrial Ed.*)			15
Electives	6	4	3
	18	18	18

Students intending to specialize in manufacturing, industrial management or construction will take their electives from Group I, subject to the approval of the Dean of the College of Technology.

Students planning to specialize in salesmanship will take their electives from Group II listed below, with emphasis placed upon the subjects in Economics, English and Foreign Languages, subject to the approval of the Dean of the College of Technology.

APPROVED ELECTIVES

GROUP I

Manufacturing, Industrial Management or Construction

†Power Plant Machinery
†Shop Work (Forge or machine)
‡Shop Work (Machine shop)
Economics
English
Sociology
Military Science
Engineering subjects

GROUP II

Salesmanship

English
†Economics
†Foreign Languages—French or Spanish
Sociology
Military Science
Engineering subjects

* Elective, see group 2 listed below.
† Required to be taken in the Junior year.
‡ Required to be taken in the Senior year.

Students preparing to engage in teaching Mechanic Arts under the Smith-Hughes provisions will take their electives during their junior and senior years from Group III listed below, and must take the work in Education and Psychology as listed below.

GROUP III

Psychology (24–b)
Education (27–c)
Education (41–c)
Chemistry
Economics
English
Engineering subjects
Mathematics
Physics
Sociology
Military Science

DESCRIPTION OF SUBJECTS

(Alphabetically Arranged)

The title of each subject is given in black face type. The numeral designates the particular subject; and the letter (a, b, or c) designates the term in which the subject is given. The letter "a" indicates that a subject is given the first term; "b" the second term; and "c" the third term. A combination of the letters (a-b, b-c, or a-b-c) attached to a numeral indicates that the subject is given through the terms represented by the letters.

Following the title of each subject is the description of the work given, and the name of the instructor.

The next paragraph gives the following information in the order indicated: (1) prerequisites, if any; (2) in what courses the subject is required and the undergraduate year in which it should be taken; (3) the number of credits the subject will count toward graduation; (4) the number of lectures, recitations, or laboratory periods required a week. Lectures and recitations are fifty minutes in length. Laboratory periods are two and one-half hours in length.

All subjects unless otherwise noted are open to students who have passed the prerequisites.

An elective subject will be given only when there is a minimum of five students registered for the same.

ACCOUNTING

(See Economics)

AGRICULTURAL CHEMISTRY

THOMAS G. PHILLIPS, *Professor*
STANLEY R. SHIMER, *Instructor*
HAROLD F. SCHAEFFER, *Assistant*

Minor: 27 hours in Agricultural Chemistry.

1–a. **Agricultural Chemistry.** A study of the chemistry of the carbon compounds, with special emphasis upon those of most importance in agriculture. Mr. Shimer and Mr. Schaeffer.

Prerequisites: Chemistry 3–c and 5–c. Required of Sophomores in Agriculture and Home Economics. Elective for students in Liberal Arts. 3 credits: 2 recitations; 1 laboratory.

2–b. **Agricultural Chemistry.** The chemistry of the processes of growth and development of plants, plant compounds, crops and the factors influencing plant growth, such as air, soil, fertilizers, lime, manure, etc. Mr. Phillips and Mr. Schaeffer.

Prerequisite: Agricultural Chemistry 1–a. Required of Sophomores in Agriculture. 3 credits: 2 recitations; 1 laboratory.

3–c. Agricultural Chemistry. The chemistry of animal physiology, foods and dairy products and an introduction to quantitative analysis. Mr. Phillips and Mr. Schaeffer.

Prerequisite: Agricultural Chemistry 2–b. Required of Sophomores in Agriculture. 3 credits: 2 recitations; 1 laboratory.

4–b. Physiological Chemistry. The chemistry of animal physiology, including the chemistry of carbohydrates, proteins, fats, the cell, enzyme action, digestion, absorption, metabolism, etc. Mr. Shimer.

Prerequisite: Agricultural Chemistry 1–a, or at least 3 credits in Organic Chemistry. Required of Students in Animal Husbandry, Dairy Husbandry and Agricultural Chemistry. Elective for students in Liberal Arts and Agriculture. 3 credits: 2 recitations; 1 laboratory. (Given only in alternating years beginning with 1925–26.)

5–c. Physiological Chemistry. The qualitative and quantitative examination of blood and urine. Mr. Shimer.

Prerequisite: Agricultural Chemistry 4–b. 3 credits: 1 recitation; 2 laboratories. Required of Seniors in Agricultural Chemistry. Elective for other students.

6–a. Plant Chemistry. The chemistry of plant physiology, including the study of the colloidal state, the chemistry of the carbohydrates, proteins and fats, enzymes, plant acids, pigments and their relation to plant nutrition. Mr. Phillips.

Prerequisite: Agricultural Chemistry 3–c or at least 3 credits in Organic Chemistry and 5 credits in Quantitative Analysis. 4 credits: 2 recitations; 2 laboratories. Elective. (Given only in alternate years beginning with 1926–27.)

7–a, 8–b, 9–c. Agricultural Analysis. Analysis of plant materials, soils, fertilizers, feedstuffs, insecticides, fungicides, lime, foods and dairy products. Mr. Phillips and Mr. Shimer.

Prerequisites: At least 12 credits in Quantitative Analysis and 8 credits in Organic Chemistry. Required of Juniors in Agricultural Chemistry. Elective for Chemistry students and others having the prerequisites. 4 credits: 4 laboratories.

13–a, 14–b, 15–c. Thesis. Each student is given a special problem involving laboratory and library work. Mr. Phillips.

Prerequisite: Agricultural Chemistry 9–c. Required of Seniors in Agricultural Chemistry. 3 credits: 3 laboratories.

19-c. Dairy Chemistry. A study of the chemistry and methods of analysis of milk and other dairy products. Mr. Shimer.

Prerequisite: Agricultural Chemistry 3-c or at least 3 credits in Organic Chemistry and 5 credits in Quantitative Analysis. Required of Dairy Husbandry students. 3 credits: 1 recitation; 2 laboratories. (Given only in alternate years beginning with 1926–1927.)

23-b. Physiological Chemistry. The chemistry of human physiology, including enzyme action, digestion, absorption and metabolism. Mr. Shimer.

Prerequisite: Agricultural Chemistry 1a. Required of Sophomores in Home Economics. 3 credits: 2 recitations; 1 laboratory.

24-c. Food Chemistry. A study of the composition, properties, methods of analysis and detection of adulterants and preservatives of food materials. Mr. Shimer.

Prerequisite: Agricultural Chemistry 4-b. Required of Sophomores in Home Economics. 3 credits: 1 recitation; 2 laboratories.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

10-a, 11-b, 12-c. Advanced Biochemistry.

One of the following subjects may be given each term, depending upon the wishes of the majority of the students electing these subjects: (1) Physico-chemical methods applied to Biology; (2) Enzymes; (3) Proteins; (4) Carbohydrates; (5) Biochemical preparations. Credit to be arranged.

16-a, 17-b, 18-c. Seminar. 1 credit each.

AGRICULTURE

FREDERICK W. TAYLOR, *Professor*

1-b. Survey of Agriculture. A brief history of agriculture as a business and scientific profession in this country; a general discussion and survey of the various branches of agriculture and the opportunities for work which each affords. The subject is intended primarily to assist the student in selecting his technical subjects in the later years of his college course. Lectures on the several agricultural courses by the various heads of departments. Mr. Taylor.

Required of Freshmen in Agriculture. 1 credit: 1 lecture.

2-b. Extension Organization and Methods. A brief history of the origin and development of extension work, in agriculture and home economics in the state and nation. Lectures on extension methods and practices. Actual demonstrations as put on in different parts of the state will be given by members of the resident and extension staff. Purpose of the subject is to furnish a good understanding of the nature of extension organization, its coöperative relationships, and especially extension methods and the results to be attained in the field.

3 credits: 2 lectures: 1 demonstration. Subject to be given under the direction of J. C. Kendall, Director of Extension Work. Elective for Seniors in Agriculture and required of Seniors in Home Economics Extension Course.

3-c. Supervised Extension Work. During the third term of the senior year a limited number of students in agriculture and home economics with the approval of the Dean of the College and the Director of the Extension Service will be allowed to do supervised extension work in the state under the immediate direction of a member of the extension staff. At least twelve weeks will be devoted to this field work. Mr. Taylor and Mr. Kendall.

Prerequisite: Agriculture 2-b. Required of Seniors in Home Economics Extension Course. 16 credits.

AGRONOMY

FREDERICK W. TAYLOR, *Professor*
M. GALE EASTMAN, *Assistant Professor*

1-a. Agricultural Engineering. Lectures and recitations upon the mapping of farms; fencing; drainage; farm sanitation; tillage and harvesting machinery; concrete construction; silos; farm motors; roads and principles of draft. Practical work in map making, laying out drains, rope splicing, comparing farm machines, etc. Mr. Taylor.

Required of Sophomores in Agriculture. 4 credits: 3 lectures; 1 laboratory.

2-a. Forage Crops. Text-books, lectures, and recitations covering the history, use, value, and methods of producing forage crops, including grasses, legumes, and roots. Practical work in judging and identifying in the field and in the laboratory. Mr. Eastman.

Required of Juniors in certain courses. 3 credits: 2 lectures; 1 laboratory.

3–b. Cereal Crops. Text-books, lectures, and recitations covering the history, use, value and methods of producing cereal crops. Laboratory work in identifying and judging grain plants and their products.

Practically all the common field crops, including potatoes, tobacco, etc., will be considered in 2–a and 3–b. Plants will be studied with particular reference to New England conditions, but their distribution in the United States or elsewhere will also be noted as a measure of their general adaptability. Important crops not grown in our section, like cotton and rice, will be briefly surveyed. Mr. Eastman.

Required of Juniors in certain courses. 3 credits: 2 lectures; 1 laboratory.

4–c. Soils. Text-book and recitations upon the formation, kinds and physical properties of soils; the movements and conservation of soil moisture; the relation of heat and air to soil; the nature and physical effects of tillage and fertilizers; laboratory work and experimentation with soils to show the physical effects of different conditions and texture. Mr. Eastman.

Required of Sophomores in Agriculture. 4 credits: 3 lectures; 1 laboratory.

6–b. Fertilizers. Lectures, text-book and recitations upon the value, use and function of plant food materials, including manure, and upon the compounding and selection of fertilizers. Mr. Taylor.

Prerequisite: Agricultural Chemistry 1–a. Required of Seniors in certain courses. 3 credits: 3 recitations.

7–c. Farm Accounting. Lectures and reference work relating to the principles of accounting and their application to the farm business. Laboratory exercises will include sets of complete cost accounts taken from actual farms. Mr. Eastman.

Required of Juniors in certain courses. 3 credits: 1 lecture; 2 laboratories.

8–a. Farm Management. Text-book, lectures and recitations upon the development of farming as a business, types of farming, size of farms, cropping systems, livestock problems, the marketing of farm products, and the choosing and buying of a farm. Practical work will be given in laying out farms, and in studying survey records of individual farms in order to find the labor income; also in analyzing the farm business record for the purpose of determining the effect of efficiency factors on the profits made. Exercises will be given in the arrangement and

rearrangement of farm buildings, the plotting of the distribution of labor, and the taking of survey records. Mr. Eastman.

Required of Seniors in Agriculture, except in Forestry. 4 credits: 2 lectures; 2 laboratories.

9–b. Agricultural Statistics. An advanced subject for those who wish to familiarize themselves with proper methods of obtaining and tabulating statistics and experimental data. Lectures and laboratory work will deal with some of the common sources of error likely to affect scientific findings as well as everyday conclusions. Mr. Eastman.

Elective for Seniors. 2 credits: 1 lecture; 1 laboratory.

10–c. Types of Farming. A statistical study of the types of farming in the United States, with special reference to crop rotation, area in crops, use of machinery, efficiency of man and horse labor, adaptability of crops and animals, and relative profits. Mr. Eastman.

Prerequisite: Agronomy 8–a. Elective for Seniors. 2 credits: 1 lecture; 1 laboratory.

11–b, 12–c. Special Agronomy. Advanced work for students interested in some particular phase of agronomy. No class exercises. The hours and kind of work must be arranged with the department before the subject is elected. Mr. Taylor.

Prerequisites: Agronomy 1–a to 4–c inclusive. Elective for Seniors. 1 to 3 credits.

14–b. Agricultural Seminar. Library and reference work, the preparation of bibliographies, a study of the work and history of agricultural colleges and experiment stations. Mr. Taylor.

Elective for Seniors in Agriculture. 1 credit: 1 lecture.

17–b. Seed Testing. A study of the official method of analyzing agricultural seeds for purity and germination, involving studies in the identification of seeds, as well as the technique of using equipment in weighing, germinating, counting, estimating, etc. for official reports.

Prerequisite: Botany 3–c. Elective for a very limited number of students. Hours arranged. 2 credits: 2 laboratories.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

20–b. Farm Management and Accounting. Textbook, lectures, and laboratory work relating to the development, organization, and management of the farm. The theory and practice of farm cost-accounting

together with the factors underlying the development of specific types of farming will be studied. Open for students who have not had Farm Management 8–a or Farm Accounting 7–c. 6 credits: 3 lectures, 3 laboratories.

21–c. Advanced Farm Management. Problems in correlation, tabulation and farm accounting. Intended for those who are interested in research or demonstration work. Accounts on individual farms will be kept and surveys made. 2 credits: 2 laboratories.

22–a. History of Agriculture. Lecture and library work upon the history and development of agriculture from early Egyptian to modern times. Special attention will be given to such factors as soil, climate, crops, machinery, laws, and character of the people, which have affected this development. 2 credits: 1 lecture, 1 laboratory.

ANIMAL HUSBANDRY

JOHN C. MCNUTT, *Professor*
LORING V. TIRRELL, *Instructor*

1–a. Types and Breeds of Livestock. A study of the different breeds of horses, cattle, sheep, and swine in respect to their origin, history, development, characteristics, and adaptability to different conditions of climate and soil. One afternoon each week is devoted to judging the different breeds. Mr. McNutt and Mr. Tirrell.

Required of Freshmen in Agriculture. 4 credits: 3 recitations; 1 laboratory.

2–c. Livestock Judging. The work consists of a study of the principles and practice of judging horses, beef cattle, sheep, and swine, and of the market classes and grades of horses and meat animals.

For a part of the laboratory work, trips are taken to some of the best breeding establishments in New England. Mr. McNutt.

Prerequisite: Animal Husbandry 1–a. Required of Sophomores electing Animal Husbandry. 2 credits: 2 laboratories.

3–a. Feeds and Feeding. A study of the character, composition, and digestibility of feed stuffs, and the methods of feeding different kinds of farm animals. Numerous samples of grains and by-products are used for the purpose of familiarizing the students with the different feed stuffs. Practice is given in calculating rations for various purposes. Mr. Tirrell.

Required of Seniors in Animal Husbandry and Teacher Training courses. 3 credits: 2 recitations; 1 laboratory.

4–a. Anatomy of Farm Animals. Lectures and recitations upon the form and structure of the domesticated animals. Skeletons, various anatomical specimens, models, charts, and lantern slides are used to make the subject as practical as possible. The purposes of this subject are to show the relation between the skeleton and the form and function of the animal, and to serve as a foundation for the intelligent study of animal diseases and ailments. Mr. Tirrell.

Required of Juniors in Animal Husbandry. 3 credits: 2 recitations; 1 laboratory.

5–b. Animal Diseases. A study of the more common economic infectious diseases of farm animals, their prevention and treatment, and general sanitation. Mr. McNutt.

Prerequisite: Animal Husbandry 4–a. Required of Juniors in Animal Husbandry. 3 credits: 2 recitations; 1 laboratory.

6–c. Animal Diseases. Continuation of 5–b, together with a study of the common non-infectious diseases and ailments of farm animals, and their treatment: unsoundness of the horse; the principles of horseshoeing, and the practice of simple surgical operations. Mr. McNutt.

Prerequisite: Animal Husbandry 4–a. Required of Juniors in Animal Husbandry. 3 credits: 2 recitations; 1 laboratory.

7–a. Animal Breeding. A study of the principles and practices of breeding farm animals. Practice is given in tracing out and studying pedigrees. Mr. Tirrell.

Required of Seniors in Animal Husbandry. 4 credits: 3 recitations; 1 laboratory.

8–c. Livestock Markets and Products. A study of the various kinds of livestock markets and of the methods and regulations applying to the transportation of livestock. Some time will be spent in a study of the livestock centers, the stock yards, and the government inspection of animals before and after slaughter. The butchering of animals on the farm and the various cuts of meats will be discussed. References will be supplied to the student for individual work. Occasional trips will be taken to slaughter houses and packing plants. Mr. Tirrell.

Prerequisite: Animal Husbandry 1–a. Required of Seniors in Animal Husbandry. 3 credits: 3 recitations.

9–c. Sheep and Swine Husbandry. A consideration of the judging, breeding, feeding, management and preparation for the show ring of sheep and swine, with special reference to New Hampshire conditions. Mr. McNutt.

Prerequisites: Animal Husbandry 1–a and 3–a. Required of Juniors in Animal Husbandry. 4 credits: 3 recitations; 1 laboratory.

10–b. Management of Horses and Beef Cattle. Lectures and recitations upon the care of brood mares and cows, management of stallions and bulls, the breaking and training of colts, preparation of animals for the show ring, the management of pure bred beef herds, and the feeding and handling of steers. Mr. McNutt.

Prerequisites: Animal Husbandry 1–a and 3–a. Required of Seniors in Animal Husbandry. 4 credits: 3 recitations; 1 laboratory.

12–c. Animal Husbandry Seminar. Library and reference work and the preparation of papers on various animal husbandry subjects of timely importance. Mr. McNutt.

Prerequisites: Animal Husbandry 3–a, 5–b, 6–c, and 7–a. Required of Seniors in Animal Husbandry. 2 credits: 1 seminar; 1 laboratory.

13–c. Principles of Nutrition. The subject matter deals with the physiology of the digestive tract and its functions; the processes of digestion, absorption, and excretion. The relationship of energy to body activities and the balance between the nitrogen and energy of the feed and the requirement of the animal. Mr. Tirrell.

Prerequisite: Agricultural Chemistry 4–b. Required of Juniors in Animal Husbandry. 2 credits: 2 recitations.

14–a. Breeding and Management of Livestock. This subject is a brief consideration of the principles of breeding, feeding, marketing and management of beef cattle, horses, sheep and swine. Mr. McNutt.

Prerequisites: Animal Husbandry 1–a and 3–a. Offered and designed for students in the Teacher Training course only. Senior year. 3 credits: 2 recitations; 1 laboratory.

ARCHITECTURE AND DRAWING

ERIC T. HUDDLESTON, *Professor*
THOMAS J. LATON, *Assistant Professor*
PAUL H. SHRAMM, *Instructor*
CHESTER E. DODGE, *Instructor*

Major: 27 term hours of departmental subjects conforming to the requirements below.

Minor: 27 term hours of subjects taken in two departments approved by the advisor with not less than 9 hours in any one department.

Requirements: Major in Art. Those students who wish to prepare themselves as teachers of drawing and design in the public schools are required to take Art 1–a, 2–b, 3–c, or 10–a, 11–b, 12–c, and not less than 15 additional hours of Art, and 9 hours of Architecture.

Requirements: Major in Architecture. Those students who wish to major in Architecture either as a cultural course or as a preparation for more advanced study of architecture as a profession are required to take the Arts Course in Architecture. See curriculum.

Architectural and engineering students, except chemists, will be required to purchase their instruments. Other students may have instruments loaned to them upon a deposit, which will be returned to them with a small rental fee deducted, when the instruments are returned in good condition.

ARCHITECTURE

Schedule the following subjects as Arch. 10–a, 11–b, etc.

10–a, 11–b, 12–c. Elements of Architecture. Drafting room exercises in the study of the classic orders of architecture, and elementary studies in architectural composition and design. Mr. Huddleston.

Required of Freshmen in Architectural Construction and Freshmen in the Arts course in Architecture. 2 credits: 2 drawing periods.

20–a. Domestic Architecture. Lectures and recitations devoted to a brief study of the history of domestic architecture; the relation of the house plan to home making and to the individual family; its relation to the individual site, to the garden, to accessory buildings, and to the community; supplemented by drafting room exercises in the use of

drawing instruments as a preparation for further study in house planning. Mr. Huddleston.

Required of Juniors in Home Economics. 2 credits: 1 lecture; 1 drawing period.

21–b. Domestic Architecture. Drafting room exercises in architectural representation, followed by an analytical study of house plans. Problems are issued to the student for graphical solution such as would be presented to an architect by a prospective home builder. Mr. Huddleston.

Prerequisite: Arch. 20–a. Required of Juniors in Home Economics. 2 credits: 2 drawing periods.

22–c. Domestic Architecture. A continuation of Arch. 21–b, taking up the study of an individual building problem, and making working drawings for a small frame house designed by the student to conform to specified requirements. Mr. Huddleston.

Prerequisite: Arch. 21–b. Required of Juniors in Home Economics. 2 credits: 2 drawing periods.

30–a, 31–b, 32–c. Building Construction. Conferences, text-book study, and drafting room exercises in a comprehensive study of the fundamental principles involved in the different types of building construction, the different forms of elementary structures, and some idea of the typical proportions imposed by the use of different kinds of materials. Mr. Dodge.

Prerequisite: Draw. 7–c. Required of Juniors in Architectural Construction and Juniors in the Arts course in Architecture. 3 credits: 2 recitations; 1 drawing period.

34–b. Building Sanitation. A study of water, soil, waste, and vent pipe systems within the building; plumbing fixtures, traps, etc., and their installation, and the fundamentals of the layout of the above in different types of buildings. Mr. Dodge.

Required of Juniors in Architectural Construction and Juniors in the Arts Course in Architecture. 1 credit: 1 lecture.

36–a, 37–b. Structural Design. Graded problems in structural design of buildings, giving special consideration to the practical analysis of each problem and the structural details involved in its design. Typical detailed working drawings are made such as would be required to execute the work under contract. Mr. Huddleston and Mr. Dodge.

Prerequisite: Arch. 32–c and 52–c. Required of Seniors in Architectural Construction. 6 credits, 1st term; 9 credits, 2nd term; requiring a minimum of 15 and 23 hours per week respectively.

38–c. Architectural Thesis. A thesis will be required of each student, consisting of a set of original working drawings, complete in details and specifications, for a public building designed to meet certain specified requirements. This work must be done in the drafting room of the department and under the supervision of the instructor. Mr. Huddleston and Mr. Dodge.

Prerequisite: Arch. 37–b. Required of Seniors in Architectural Construction. 9 credits, requiring a minimum of 23 hours per week.

41–c. Professional Relations. Discussions and assigned reading covering the personal, ethical, business, and legal relations of the architect with clients, contractors, craftsmen, etc., and the relations that should exist between the architect and the community in which he lives. Mr. Huddleston.

Prerequisite: Arch. 37–b. Required of Seniors in Architectural Construction and Seniors in Arts course in Architecture. 1 credit: 1 recitation.

45–c. Contracts and Specifications. Discussions and assigned reading covering the principles and forms of building contracts and standard specifications. References are made to the various documents of the American Institute of Architects and to specifications which have been used in the construction of buildings. Mr. Huddleston.

Prerequisite: Arch. 37–b. Required of Seniors in Architectural Construction and Seniors in Arts course in Architecture. 2 credits: 2 recitations.

50–a, 51–b, 52–c. Architectural Design. A progressive series of problems in architectural planning and design, advancing from the small building to the more important classes of buildings and to the group problem. Mr. Huddleston.

Prerequisite: Arch. 12–c and Art 15–c. Required of Juniors in Architectural Construction and Sophomores in Arts course in Architecture. 3 credits, requiring a minimum of 8 hours per week.

53–a, 54–b, 55–c. Architectural Design. A continuation of 52–c with advanced problems in architectural design, composition and planning. Mr. Huddleston.

Prerequisite: Arch. 52–c. Required of Juniors in Arts course in Architecture. 3 credits, requiring a minimum of 8 hours per week.

56–a, 57–b, 58–c. Architectural Design. Competitive problems issued by the Beaux Arts Institute of Design will be used as a basis for advanced study of architectural design. Mr. Huddleston.

Prerequisite: Arch. 52–c. Elective by special permission. 6 credits, requiring a minimum of 18 hours per week.

59–a, 60–b, 61–c. Architectural Design. A continuation of 52–c with special emphasis placed on the constructive features rather than on those of pure design. Mr. Huddleston.

Prerequisite 52–c. Required of Juniors in architectural construction. 2 credits, requiring a minimum of 6 hours per week.

INDUSTRIAL AND FINE ARTS

Schedule the following subjects as Arts 1–a, 2–b, etc.

1–a. Elementary Design. Studio exercises in the fundamentals of design, for the purpose of developing the student's ability to draw. Studies in pencil, pen and ink, and brush of lines, space arrangement, proportion of line and form, symmetry and balance, and their adaptation to motifs for decoration according to the laws of beauty, harmony and construction. Mr. Shramm.

Required of Sophomores in Home Economics. 2 credits: 2 drawing periods.

2–b. Decorative Design. Studio exercises devoted to an analytical study of historic ornament, flower and plant forms, and the human figure, supplemented with the study of color theories, harmonies and qualities based on spectral colors; practice in tinting, contrasting, and harmonizing colors. Mr. Shramm.

Prerequisite: Art 1–a. Required of Sophomores in Home Economics. 2 credits: 2 drawing periods.

3–c. Advanced Design. An elective offered to give a broader working knowledge of design principles; these principles to serve as a guide and for practical application in selection, adaptation and composition (both structural and decorative) in interior decoration and costume design. Mr. Shramm.

Prerequisite: Art 2–b. Required of Sophomores in Home Economics. 2 credits: 2 drawing periods.

10–a, 11–b, 12–c. Elementary Free-hand Drawing. Studio exercises in the elements of design and the study of the principles of arrangement, proportion of line and form, symmetry and balance; followed by a study of the larger elements of design with brush and charcoal, and landscape composition in water color and pen and ink. Mr. Shramm.

Required of Freshmen in Architectural Construction and Freshmen in Arts course in Architecture. 3 credits: 3 drawing periods.

13–a, 14–b, 15–c. Free-hand Drawing. Studio exercises in pencil, charcoal, pen and ink, water color, and clay modeling from architectural details and plaster casts of the human form; sketching from nature and from memory. Mr. Shramm.

Prerequisite: Art 3–c or 12–c. Required of Sophomores in Architectural Construction and Sophomores in Arts course in Architecture. 2 credits: 2 drawing periods.

16–a, 17–b, 18–c. Advanced Free-hand Drawing. Studio work arranged to meet the needs of those students who show special ability and are judged capable of doing individual work of an advanced nature. Mr. Shramm.

Prerequisite: Art 15–c. Special permission must be obtained from the head of the department before registering in this subject. 3 credits: 3 drawing periods.

DRAWING AND DESCRIPTIVE GEOMETRY

Schedule the following subjects as Draw. 1–a, 2–c, etc.

1–a, 1.5–b, 2–c. Engineering Drawing. A study is made of the fundamentals of engineering drawing, including free-hand lettering, the use of drawing instruments, the solution of problems in orthographic projection, isometric drawing as an aid in sketching and representing the shape of machine parts, and different types of fastenings (bolts, screws, rivets, etc.) with reference to their use in machine drawing. Commercial drafting room methods are studied and employed in sketching machine parts, drawing from sketches, making of tracings and blueprints. Text: *Engineering Drawing*, by French. Mr. Laton.

Required of Freshmen in Electrical, Mechanical and Industrial Teacher Training courses. 2 credits: 2 drawing periods.

3–a. Machine Drawing. This subject covers the problem of developments and intersections as applied to sheet metal work, and a further

study of isometric, oblique and axiometric systems of drawing. Mr. Laton.

Required in Electrical, Mechanical and Industrial courses. 2 credits: 2 drawing periods.

4–b, 4.5–c. Descriptive Geometry. An application of the principles of descriptive geometry to the solution of problems in points, lines, planes and solids. Mr. Laton.

Prerequisite: Draw. 3–a. Required of Sophomores in Electrical, Mechanical and Industrial courses. 2 credits: 2 drawing periods.

5–a. Mechanical Drawing. A study of the fundamentals of mechanical drawing, including free-hand lettering, the use of drawing instruments and a brief study of orthographic and isometric projection. Mr. Dodge. Text: *Architectural Drawing* by Field.

Required of Freshmen in Architectural Construction and Arts course in Architecture. 2 credits: 2 drawing periods.

6–b, 7–c. Graphics. Exercises in constructive and descriptive geometry with applications to developments and intersections, shades and shadows, and perspective. Mr. Dodge.

Prerequisite: Draw. 5–a. Required of Freshmen in Architectural Construction and Arts course in Architecture. 2 credits: 2 drawing periods.

10–c. Mechanical Drawing. A study of the fundamentals of mechanical drawing, including free-hand lettering, the use of drawing instruments and a brief study of orthographic and isometric drawing. For Agricultural students, simple farm structures are designed, while for Chemistry students working drawings and isometric views are made of apparatus set up in the laboratory. Mr. Dodge.

Elective for Sophomores in Agriculture. Required of Seniors in Chemical Engineering and Arts Course in Chemistry. 2 credits: 2 drawing periods per week.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

101–a, 102–b, 103–c. Architectural History. A special research coördinated with the major subject elected. 3 credits each.

136–a, 137–b, 138–c. Structural Design. The design of special structures involving problems in reinforced concrete and steel frame construction. 9 credits each, requiring a minimum of 23 hours a week.

150–a, 151–b, 152–c. Architectural Design. The "Class A program of design problems of the Beaux Arts Institute of Design" will be followed throughout the year. 9 credits each, requiring a minimum of 23 hours a week.

BOTANY

ORMOND R. BUTLER, *Professor*
MABEL M. BROWN, *Assistant Professor*
L. J. KLOTZ, *Assistant Professor*

Major: 27 hours exclusive of Botany 1–a, 2–b and 3–c. Chemistry 1–a, 2–b and 5–c must be elected and will be counted as part of the major.

Minor: 27 hours. Work may be taken in two departments, but not less than 9 hours' work can be taken in any one department. The minor work may be taken in Language and Literature, Education, Chemistry, Mathematics, Physics, Zoölogy. Agriculture (plant industry subjects) can be offered only as part of a minor.

1–a. General Botany. An introductory study in plant biology designed to give a knowledge of cells; the structure and functions of roots, stems and leaves; nutrition; growth and the relations of plants to their environments and to human welfare. Miss Brown.

Required of Freshmen in Agriculture. 3 credits: 1 lecture; 2 laboratories.

2–b. General Botany. A continuation of 1–a. The study of selected types of algae, fungi, mosses and ferns in which the principles of nutrition, reproduction, sex, growth, adaptation and evolution are illustrated. Miss Brown.

Prerequisite: Botany 1–a. Required of Freshmen in Agriculture. 3 credits: 1 lecture; 2 laboratories.

3–c. General Botany. A continuation of 2–b. The study of the life histories of gymnosperms; the morphology and physiology of flowers, fruits, seeds and seedlings. Variation, heredity and evolution especially with reference to plants of economic importance are considered. Miss Brown.

Prerequisite: Botany 2–b. Required of Freshmen in Agriculture. 3 credits: 1 lecture; 2 laboratories.

4–b, 5–c. Plant Physiology. Structure and properties of the cell; absorption and movement of water; metabolism; growth and irritability. Mr. Klotz.

Prerequisite: Botany 3–c. Required of Juniors in Forestry and Seniors in Horticulture. 3 credits: 1 lecture; 2 laboratories.

6–a. **Plant Histology.** Characterization and differentiation of plant tissues; micro-technique. Mr. Klotz.

Prerequisite: Botany 3–c. Required of Juniors in Forestry. 3 credits: 3 laboratories.

8–a. **General Bacteriology.** The study of the morphology and physiology of bacteria and related organisms; the principles of sterilization; preparation of media; technique of staining; methods of isolation, cultivation and observation. Miss Brown.

Required of all Home Economics Juniors. 3 credits: 1 lecture; 2 laboratories.

8.5–b. **Applied Microbiology.** Standard methods of examination of milk and water; soil and sewage bacteria; the relation of microörganisms to the spoilage of food and food poisoning; organisms pathogenic to plants and animals. Miss Brown.

Prerequisite: Bacteriology 8–a. Required of all Home Economics Juniors. 3 credits: 1 lecture; 2 laboratories.

10–b, 11–c. **Agricultural Bacteriology.** A study of the morphology and physiology of the bacteria, and the practical application of bacteriology to agriculture, special attention being given to the relation of microorganisms to soil fertility, the dairy industry, diseases of plants and animals, and the maintenance of pure water supplies. Miss Brown.

Required of all Agricultural Sophomores. 3 credits: 2 lectures; 1 laboratory.

12–a. **Plant Pathology.** The bacterial and fungous diseases of plants; their symptoms, cause and prevention. Mr. Klotz.

Prerequisite: Botany 3–c. Required of Juniors in Horticulture and Seniors in Forestry and Teacher Training. 3 credits: 1 lecture; 2 laboratories.

13–b. **Plant Pathology.** A continuation of 12–a.

Prerequisite: Botany 12–a. Required of Juniors in Horticulture and Seniors in Forestry. 3 credits: 1 lecture; 2 laboratories.

15–a, 16–b, 17–c. **Advanced Botany.** The subject-matter will depend upon the training and desire of the student. It cannot be elected without previous consultation. Mr. Butler, Miss Brown and Mr. Klotz.

17–c required of Seniors in Forestry. Credit and hours by arrangement, one or more terms.

18–b. Plant Pathology. Lectures on the fungous diseases of our economic plants, their symptoms, cause, and prevention. Mr. Klotz.

Prerequisite: Botany 12–a. Required of Teacher Training Seniors. 1 credit: 1 lecture.

19–c. Systematic Botany. A study of the higher plants of our native flora. The student is required to prepare an herbarium of 60 specimens.

Field trips; laboratory work; occasional lectures. 2 credits.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

20–a, 21–b, 22–c. Seminar. A critical study of botanical investigations.

Elective. 1 credit per term.

23–b. Fungicides. Preparation and use of fungicides and a study of their effect upon the higher plants and the organisms parasitic upon them. 3 credits: 1 lecture; 2 laboratories.

24–b, 25–c. Advanced Plant Physiology. Mechanics of growth; influence of external conditions on growth; absorption and translocation; the food of plants; constructive and destructive metabolism; respiration and fermentation. 3 credits each: 1 lecture; 2 laboratories.

26–a. Plant Genetics. Lectures and readings on heredity, including Mendelism, neo-Mendelism, mutation and the chromosome theory with special reference to plants. 3 credits: 3 lectures.

27–b. Soil Bacteriology. A study of soil organisms and their economic importance in relation to soil fertility. 3 credits: 1 lecture; 2 laboratories.

28–c. Immunity and Infection. A course of lectures, recitations and readings on susceptibility, resistance and immunity. 3 credits: 3 lectures.

CHEMISTRY

CHARLES JAMES, *Professor*
GEORGE A. PERLEY, *Associate Professor*
MELVIN M. SMITH, *Assistant Professor*
WALTER S. FROST, *Assistant Professor*
HEMAN C. FOGG, *Instructor*
HERMAN M. PATRIDGE, *Assistant*
ANDREW C. RICE, *Assistant*
CARROLL C. HUBBARD, *Assistant*

1–a, 2–b, 3–c. Inorganic Chemistry. Lectures and recitations on general and theoretical chemistry. Solution of chemical problems will be required. Mr. James and Mr. Smith.

Required of Freshmen in chemistry courses. 3 credits: 2 lectures; 1 laboratory.

101–a, 102–b, 103–c. Inorganic Chemistry. Lectures and recitations on general chemistry and its application to everyday life. Mr. Perley and Mr. Smith.

Elective for Liberal Arts Students. 3 credits: 2 lectures; 1 laboratory.

111–a, 112–b, 113–c. Inorganic Chemistry. Lectures and recitations on general and theoretical chemistry. Mr. Smith and Mr. Hubbard.

Required of Freshmen in Mechanical, Electrical and Industrial Engineering. 3 credits: 2 lectures; 1 laboratory.

121–a, 122–b, 123–c. Inorganic Chemistry. Lectures and recitations on chemistry as applied to agriculture. Mr. Frost and Mr. Smith.

Required of Freshmen in Agriculture. 3 credits: 2 lectures; 1 laboratory.

4–a. Inorganic Chemistry. Continuation of Chemistry 3–c. Mr. James.

Required of Sophomores in Chemical Engineering. Prerequisite: Chemistry 3–c. 3 credits: 3 lectures.

5–c. Qualitative Analysis. Laboratory practice, with occasional lectures and recitations. The student is expected to become proficient in the separation and detection of the common acids and bases, and to keep a full set of notes. Mr. Fogg and Mr. Rice.

Prerequisite: Chemistry 122–b. Required of Freshmen in Agriculture. 3 credits: 3 laboratories.

105–a, 106–b, 107–c. Introductory Qualitative and Quantitative Analysis. Laboratory practice, with occasional lectures and recitations. Especially adapted to the needs and uses of the Liberal Arts students. Mr. Fogg.

Prerequisite: Chemistry 102–b: Elective for Liberal Arts students. 3 credits: 3 laboratories.

6–a, 7–b, 8–c. Inorganic Chemistry. Similar to Chemistry 1–a, 2–b, 3–c. Mr. Smith.

Required of Freshmen in Home Economics. 3 credits: 2 recitations; 1 laboratory.

10–a. Qualitative Analysis. Laboratory work, with occasional lectures and recitations. The work includes the detection of the more familiar acids and bases in both simple and complex mixtures.

Prerequisites: Chemistry 3–c. Required of Sophomores in Chemistry. 6 credits: 6 laboratories.

11–a. Qualitative Analysis. Similar to Chemistry 5–c, but adapted to the use of Sophomores in Electrical and Mechanical Engineering. Mr. Fogg and Mr. Rice.

Prerequisite: Chemistry 112–b. Required of Sophomores in Electrical and Mechanical Engineering. 3 credits: 3 laboratories.

12–b. Introduction to Quantitative Analysis. A brief course to acquaint the student with the fundamental principles and manipulations in quantitative analysis. Mr. Fogg and Mr. Rice.

Prerequisite: Chemistry 11–a. Required of Sophomores in Mechanical and Electrical Engineering. 3 credits: 3 laboratories.

15–a, 16–b, 17–c. Organic Chemistry. An introductory course in organic chemistry. Mr. James.

Elective. Prerequisite: One year Freshman Chemistry or 8–c. 3 credits.

18–b, 19–c. Quantitative Analysis. A preliminary study of quantitative analysis to familiarize the student with the general methods of chemical manipulation and analysis. Mr. Frost.

Prerequisites: Chemistry 10–a. Required of Sophomores in Chemistry. Elective for Sophomores, Juniors and Seniors in Liberal Arts, provided laboratory facilities permit. 5 credits: 5 laboratories.

20–a. Organic Chemistry. Lectures and recitations. A study of the chemistry of the carbon compounds. Mr. Fogg.

Prerequisite: Chemistry 3–c. Required of Sophomores in Chemistry. 2 credits: 2 lectures.

21–b, 22–c. Organic Chemistry. A continuation of 20–a. Mr. Fogg.

Prerequisite: Chemistry 20–a. Required of Sophomores in Chemistry. 3 credits: 3 lectures.

24–a, 25–b. Organic Chemistry Laboratory. The work in this subject consists mainly of laboratory practice in preparing and purifying organic compounds. Lectures and recitations will be held from time to time in connection with the practice. Mr. Perley.

Prerequisite: Chemistry 22–c. Required of Juniors in Chemistry. Elective for Liberal Arts students. 2 credits: 2 laboratories.

26–a, 27–b, 28–c. Advanced Quantitative Analysis. Mr. Frost.

Prerequisite: Chemistry 19–c. Required of Juniors in Chemistry. Elective for Liberal Arts students. 4 credits: 4 laboratories.

29–a, 30–b, 31–c. Physical Chemistry. Advanced study of chemical theory, covering vapor density, molecular weights, specific heat, diffusion of gases, solutions, ionization, catalysis, colloids, thermo chemistry, equilibrium, the phase rule, etc. Mr. Perley.

Prerequisite: Chemistry 3–c or one year Freshman Chemistry. Required of Juniors in Chemistry. Elective for Liberal Arts students. 3 credits: 3 lectures.

32–a, 33–b, 34–c. Advanced Inorganic Chemistry. Mr. James.

Prerequisite: Chemistry 3–c, for any term. Required of Seniors in the Arts course in Chemistry; and of Juniors in Chemical Engineering, unless they substitute Mil. Sci. 24–a, 25–b, and 26–c. 3 credits: 2 lectures; 1 laboratory.

35–a, 36–b. Industrial Chemistry. Mr. Perley.

Prerequisite: Chemistry 3–c. Required of Seniors in Chemical Engineering. Elective for students in the Arts course in Chemistry. 3 credits: 3 lectures.

38–a. Advanced Quantitative Laboratory. Gas analysis, etc. Mr. Frost.

Prerequisite: Chemistry 28–c. Required of Seniors in Chemistry. 2 credits: 2 laboratories.

39–a. Thesis. The time is devoted to some selected subject, and the student is required to present a thesis showing him to be a careful manipulator and a person of independent thought. Mr. James.

For Seniors in Chemistry who have completed Chemistry 28–c. Elective for Liberal Arts Seniors. 4 credits: 4 laboratories.

40–b, 41–c. Thesis. Continuation of Chemistry 39–a. Mr. James.

Required of students in Chemical Engineering and students in Arts course in Chemistry. 6 credits: 6 laboratories.

42–b. Physical Chemical Laboratory. Mr. Perley.

Prerequisite: Chemistry 29–a. Required of Juniors in Chemistry. 1 credit: 1 laboratory.

43–c. Physical Chemical Laboratory. Continuation of 42–b. Mr. Perley.

Required of Juniors in Chemistry. 2 credits: 2 laboratories.

46–a, 47–b, 48–c. Advanced Research Work. Open only to graduate students. Hours to be arranged. Mr. James.

Prerequisites: Chemistry 31–c, 34–c and 41–c.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

301. Practical Spectroscopic Analysis. The subject matter includes a study of absorption, spark, arc and phosphorescent spectra, together with the procedure for the detection of the rare elements, the preparation of vacuum tubes, and the calibration of a spectroscope.

3 credits: 3 laboratories.

302, 303, 304. General Chemistry. This will cover certain selected topics.

3 credits each: 2 recitations; 1 laboratory.

305. History of Chemistry.

3 credits: 3 recitations.

306, 307, 308. Quantitative Analysis. The complete analysis of complex minerals, and determinations presenting more than ordinary difficulties.

3 credits each: 3 laboratories.

309, 310. Chemistry of the Rarer Elements. An introduction to this field of chemistry.

3 credits each: 2 recitations; 1 laboratory.

DAIRY HUSBANDRY

JOHN M. FULLER, *Professor*
HEBER F. DEPEW, *Assistant Professor*
BERT E. HUGGINS, *Instructor*

1–b. Farm Dairying. A general survey of the field of dairy husbandry. Such topics as the use of the Babcock test, farm separators, farm butter making and farm cheese making, and marketing dairy products, are included. Mr. Fuller.

Required of Sophomores in Agriculture. 4 credits: 3 lectures; 1 laboratory.

2–c. Dairy Cattle Judging. Animals in the college herd and in nearby herds will be judged. Mr. Fuller.

All students interested in the dairy cattle judging team should elect this subject. Required of students in Dairy Husbandry. 2 credits: 1 lecture; 1 laboratory.

3–a, 3.5–b. Milk Production. The field of dairy husbandry in its relation to the producer. Feeding dairy animals; systems of herd feeding; silage and soiling; raising dairy animals; dairy herd development; dairy barns; advanced registry management; fitting dairy animals for show; dairy cattle judging. Mr. Fuller.

Required of Seniors in Dairy Husbandry. 3–a, 4 credits: 3 lectures; 1 laboratory. 3.5–b, 3 credits: 2 lectures; 1 laboratory.

4–b. Testing Dairy Products. A thorough study of the Babcock test, with special work in testing various dairy products for butter fat; acidity tests for milk and cream; moisture tests for butter and cheese; use of lactometer. Mr. DePew.

Prerequisite: Dairy Husbandry 1–b. Required of Juniors in Dairy Husbandry. 3 credits: 1 lecture; 2 laboratories.

5–a. Market Milk. Food value of milk; producing, handling, and distributing market and certified milk; dairy farm inspection; control of milk supply. Mr. DePew.

Prerequisite: Dairy Husbandry 1–b. Required of Seniors in Dairy Husbandry. 4 credits: 3 lectures; 1 laboratory.

6–c. Ice Cream and Cheese Making. (1) Lectures and laboratory work covering the manufacture of the more important types of cheese; (2) The making, handling, and marketing of ice cream and ices. Mr. DePew.

Prerequisite: Dairy Husbandry 1–b or 8–a. Required of Seniors in Dairy Husbandry. 4 credits: 2 lectures; 2 laboratories.

7–a. Butter Making. A study of the secretion and of the chemical and physical properties of milk; pasteurization; cream ripening, starters, churning; organization and operation of factories. Mr. DePew.

Prerequisite: Dairy Husbandry 1–b. Required of Juniors in Dairy Husbandry. 4 credits: 2 lectures; 2 laboratories.

9–a. Dairy Bacteriology. Methods of bacteriological analysis of milk and its products; relation of bacteria to milk and its products; study of effect on bacteria in milk of separation, clarification, pasteurization, aëration, and straining; and the application of bacteriological principles to the dairy industry. Mr. DePew.

Prerequisite: Botany 11–c. Required of Juniors in Dairy Husbandry. 3 credits: 1 lecture; 2 laboratories.

10–c. Advanced Dairy Husbandry. For students who are interested in some special phase of dairy husbandry. Requirements include a review of literature on subject chosen, together with original work by student. Proper arrangements must be made with department before subject is elected. Mr. Fuller.

Prerequisites: Dairy Husbandry 3–a and 3.5–b, or 5–b, or 6–c, or 7–c. Required of Seniors in Dairy Husbandry. 1 to 3 credits.

11–c. Judging Dairy Products. The various standards and grades of dairy products will be studied. Practice will be given in judging milk, butter, cheese, and ice cream. Mr. DePew.

Prerequisite: Dairy Husbandry 1–b. Elective for Agricultural students. 1 credit: 1 laboratory.

12–c. Advanced Dairy Cattle Judging. Comparative judging of dairy cattle. Written summary covering subject of judging. Mr. Fuller.

Prerequisite: Dairy Husbandry 2–c. Elective for Agricultural students. 2 credits: 1 lecture; 1 laboratory.

13–a. Dairy Management. Care and feeding of dairy animals; farm dairy buildings; dairy herd development; manufacturing and marketing of dairy products; cow test associations. Mr. Fuller.

Required of Teacher Training Juniors. 4 credits: 3 lectures; 1 laboratory.

ECONOMICS AND ACCOUNTING

HARRY W. SMITH, *Professor*
ARTHUR W. JOHNSON, *Assistant Professor*
ROBERT S. CORNISH, *Instructor*
LANGDON D. FERNALD, *Instructor.*

Major: 27 hours of Economics. (See departmental requirements below.)

Minor: 27 hours of History, Political Science, Sociology, Mathematics, English or a Modern Language.

Purpose: The broadest purpose of college instruction in Economics is to contribute to the public welfare by cultivating intelligent citizenship. In a narrower way the study of Economics should prove indispensable to those who intend to devote themselves to business, law, journalism, agriculture, social work or the public service.

Parallel Subjects: Collateral work in American History, Political Science, Sociology, Mathematics and Psychology would add greatly to the student's equipment for the most thorough work in Economics.

Departmental Requirements: Students majoring in the department of Economics are required to take the following courses as part fulfillment of their major requirements: one year's work in Principles of Economics, one year's work in Mathematics, one course in Economic History and any two courses of the following group: Labor Problems, Transportation, Money and Banking, and Corporations.

ECONOMICS

Introductory Subjects. Group A

1-a, 2-b, 3-c. **The Principles of Economics.** In this subject the following will be considered: characteristics of the present economic system; evolution of economic society; production and consumption; value and price; money, credit and banking; international trade; protection and free trade; the kinds and nature of wealth; its distribution in the form of rent, wages, interest and profits. In addition certain selected economic problems such as transportation, insurance, socialism, agricultural problems and problems in elementary public finance will be studied.

Required of all students majoring in Economics. Elective for other Sophomores, Juniors and Seniors. 3 credits: 3 recitations.

5-b. **Rural Economics.** Among the topics considered in this course are the following: the historic development of agriculture; agricultural labor; coöperation; agricultural credit; transportation; insurance; cold storage; marketing; conservation and taxation.

Prerequisite: Economics 1-a. Required of Juniors in Agriculture. 3 credits: 3 recitations. (Given as 8-b prior to 1923-24.)

7-b, 8-c. **Economic and Commercial History.** This subject will trace the commercial and economic development of Europe and the

United States. Special attention will be paid to this development during the last century.

Prerequisite: Economics 3–c. 3 credits: 3 recitations.

Secondary Subjects. Group B

Prerequisites: Completion of one year's work in principles of Economics. However, for the most satisfactory work in this group of subjects, students are encouraged to complete two years of work in the department as a prerequisite to group B.

10–a. Labor Problems. In this subject the historical background and the structure of labor organizations will be studied. Consideration will be given to strikes, their causes and effects, the closed and open shop, methods of dealing with labor disputes, labor legislation and labor parties. Labor conditions and labor movements since the war will receive adequate attention.

Prerequisite: Economics 3–c. Elective for Juniors and Seniors. 4 credits: 4 recitations. (Given as 4–a prior to 1923–24.)

NOTE: Attention is also called to a parallel course in Mechanical Engineering, M. E. 251–a, dealing with labor problems from the employer's point of view, and given by Dean Crouch.

14–b. Money and Banking. A subject to set forth the principles and functions of money and their importance to society, together with a study of the various banking systems of the world with special emphasis on the Federal Reserve System of the United States.

Prerequisite: Economics 3–c. Elective for Seniors. 3 credits: 3 recitations. (Given as 5–b prior to 1923–24.)

18–c. Marketing. A subject to acquaint the student with the importance and complications of the marketing function.

Prerequisite: Economics 3–c. Elective for Juniors and Seniors. 3 credits: 3 recitations. (Given as 25–c prior to 1923–24.)

Advanced Subjects. Group C

Prerequisites: Senior or Graduate standing. A satisfactory average in 18 or more hours in Economics. Exception: 9 hours required of Technology students. See note below for graduate credit.

22–a. Corporations. This subject deals with the evolution and forms of business organization. A study of selected types of business corporations will be made; and finally our public policy toward corporations will be traced and considered. Considerable attention will be paid to the Sherman Act, its interpretations and modifications.

3 credits: 3 recitations. (Given as 7–a prior to 1923–24.)

26–b. Transportation. This subject aims to give an historical account of the development of transportation agencies in the United States, including the early stagecoach routes, river and canal transportation, electric lines and railroads, coastal trade and international trade relations. Since railroad transportation is a vital problem in the social, political, and economic development of the United States, major consideration is given to the development of the problem and its post-war status.

4 credits: 4 recitations. (Given as 10–b prior to 1923–24.)

30–c. Principles of Public Finance. A brief survey will be made of the enormous increases in the expenditures of modern governments, together with a survey of the sources of public revenue. Particular attention will be paid to the theory and practice of taxation, recent taxation reforms, war loans, and taxation problems in New Hampshire.

4 credits: 4 recitations. (Given as 6-c prior to 1923-24.)

34–a and 35–b. History of Economics. It is the aim of this subject to present a critical account of the development of economic thought in the leading nations of the Western world; to study the economic systems of Greece, Rome, Mediaeval and Modern Europe, including the manorial, guild, mercantile, physiocratic, laissez faire and socialistic systems; and to indicate the important relations of economic philosophy to historical and social environment.

NOTE: 34–a will cover this development from the earliest time to and including David Ricardo. 35–b will cover the period from David Ricardo to the present. 3 credits: 3 recitations. (Given as 26–a and 27–b prior to 1923–24.)

40–a, 41–b, 42–c. Seminar in Current Economic Problems.

Elective for Seniors majoring in Economics who have attained a satisfactory average in the department. Credits to be arranged with the head of the department.

43–a, 44–b, 45–c. Advanced Seminar in Economic Investigation.

1 credit: 1 conference. Extra credit must be duly authorized.

GRADUATE CREDIT: Any subject in Group C may be claimed for graduate credit if a special study or thesis connected with the subject is presented and a term grade of 85 is earned.

Special Subjects. Group D

205–b. Traffic Management. A specialized course in the theory and practice of traffic management.

1 credit: 1 recitation. (Not given in 1925–26.)

206–c. Traffic Management. Continuation of 205–b.

1 credit: 1 recitation. Not given in 1925–26.)

50–a. Principles of Business. A general survey of the principles underlying modern business. Promotion, forms of organization, control of production, planning, handling of employees, advertising, selling, credit, accounting, business forecasting, etc.

3 credits: 3 recitations.

54–b. Corporation Finance. Corporate organization in modern business; outstanding points in its legal organization; classification and study of the instruments of finance, promotion, principles of borrowing, underwriting, capitalization, insolvency, reorganization, etc.

Prerequisite: Economics 22–a. 3 credits: 3 recitations.

57–c. Salesmanship. A subject designed to analyze the fundamental principles of personal selling. Consideration of the personal qualifications of the successful salesman; motives which prompt purchasing and the various appeals to these motives. The construction of sales arguments, etc.

Elective for Juniors and Seniors. 3 credits: 3 recitations.

71–a, 72–b, 73–c. Commercial Law. Sources and administration of the law. The laws of contracts, sales, agency, negotiable instruments, partnerships, corporations, real property and torts.

3 credits: 3 recitations. Elective for Juniors and Seniors.

ACCOUNTING

NOTE: Students who have completed two or more years of bookkeeping in preparatory school will be permitted to register for Intermediate Accounting (No. 115–a, 116–b, 117–c) upon passing an examination covering the material of Elementary Accounting (No. 112–a, 113–b, 114–c).

Schedule the following subjects as Acct. 112–a, 113–b, etc.

112–a, 113–b, 114–c. Elementary Accounting. A thorough study of the basic principles and theory of accounting. Practice in writing up sets dealing with single proprietorship business, followed by a study of the partnership, and accounting methods as applied to that type of business. The subject aims to give the student a thorough grounding in accounting theory and practice.

Elective for Sophomores, Juniors and Seniors, 112–a is prerequisite to 113–b. 113–b is prerequisite to 114–c. 3 credits: 3 recitations.

115–a, 116–b, 117–c. Intermediate Accounting. This subject is designed to follow 114–c, continuing with the work in partnership, admission of a new partner, handling of columnar records, etc. A comprehensive study of the corporation, followed by incorporating the partnership and carrying through a corporation set of books based on the voucher system.

Prerequisite: Economics 114–c. 115–a prerequisite to 116–b. 116–b prerequisite to 117–c. Elective for such students as have completed Economics 114–c, or its equivalent. See note above. 3 credits: 3 recitations.

118–a, 119–b, 120–c. Public Accounting and Auditing. A study of the principles of auditing, duties of the public accountant and the legal phases of his work. Extensive practice in solving C. P. A. problems. Discussion of the Federal Income Tax Law and practice in computing returns.

Prerequisite: Economics 117–c. 118–a prerequisite to 119–b. 119–b prerequisite to 120–c. Elective for such students as have completed Economics 117–c, or its equivalent. 3 credits: 3 recitations.

121–a, 122–b, 123–c. Cost Accounting. The relation of cost accounting to general accounting. Study of various cost systems and their application to particular lines of business. Careful analysis of methods of distributing burden and overhead expenses.

Prerequisite: Economics 117–c. 121–a prerequisite to 122–b. 122–b prerequisite to 123–c. Elective for such students as have completed Economics 117–c, or its equivalent. 3 credits: 3 recitations.

SPECIAL COURSE IN ACCOUNTING FOR WOMEN STUDENTS

124–a, 125–b. Household and Institutional Accounting. This subject is designed for students of Home Economics and is, therefore, not as well adapted for students planning to enter the business world as

subjects 112–a and following. It presupposes no previous knowledge of bookkeeping; hence the basic elements of accounts are first taken up, followed by their application to the management of households and institutions, and the principles of budget making.

Elective for Liberal Arts Seniors. 4 credits: 3 lectures, 1 laboratory.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

43–a, 44–b, 45–c. Advanced Seminar in Economic Investigation. May be offered in connection with allied departments. Credit will be authorized by the head of the department.

EDUCATION AND PSYCHOLOGY

JOHN W. TWENTE, *Professor*

HERBERT F. RUDD, *Associate Professor*

JUSTIN O. WELLMAN, *Assistant Professor*

CARRIE A. LYFORD, *Assistant Professor in Home Economics Education*

* HOLLIE L. WHITTEMORE, *Assistant Professor in Agricultural Education*

* WALTER A. PIERCE, *Instructor in Industrial Education*

Major: For students in the College of Liberal Arts, 27 hours including an introduction to the problems of education, history of education, psychology of learning, and genetic psychology.

Minor: 27 hours made up from either (a) courses in one college subject represented in the high school program; or (b) courses in one or two of the following departments; economics and accounting, history and political science, sociology, zoölogy and geology.

EDUCATION

The purpose of the subjects in Education is to unite and correlate the forces of the college which contribute to the preparation of educational leaders in teaching and supervision in the secondary schools.

The curriculum is based upon the assumption that teachers should have, first of all, and fundamental to all other preparation, a broad and liberal education; secondly, that they should be masters of the special subject they expect to teach; and, thirdly, that this training should be supplemented by professional subjects designed to give them a knowl-

* Representing the State Department of Education in the administration of the Smith-Hughes Act.

edge of the minds of the pupils to be taught and the problems to be met, with a thorough course in practice teaching under experienced critic teachers.

The study of the education subjects has marked cultural values and affords that liberal education with respect to educational ideals which every citizen should know. Those who later will be members of school committees, or will participate with other agencies in the solution of specific educational problems should know some of the demands of the modern science of education.

The prospective teacher of agriculture, engineering, home economics or any other subject should, with the advice of the staff members of the department, plan his course as soon as possible.

Smith-Hughes Teacher Training. The State of New Hampshire has accepted the provisions of the Smith-Hughes Act for training teachers of agriculture, home economics, and industrial education. The University of New Hampshire has been designated as the one state institution for the training of teachers in these subjects. Under the same act New Hampshire has accepted federal money for the purpose of paying increased salaries in schools to be known as Smith-Hughes high schools. Students wishing to be prepared to teach in these schools should confer with the head of the Department of Education.

Professional Training for Teachers. It is recommended that prospective teachers plan their courses of study so as to include 18 to 24 hours of Education and Psychology. The majority of states require professional training before teachers are granted permanent certificates. "College graduates or other students with four years of post-secondary education will be given secondary licenses, provided that their course included fifteen semester hours of college work in Education." New Hampshire State Board of Education Regulation, effective July 1, 1923.

INTRODUCTORY SUBJECTS

12-a. **Introduction to Education.** This subject places the student in direct contact with general educational problems that he will meet in his teaching experiences. The aim of the subject is realized through a treatment of such problems as the money cost of education; delegating responsibility for carrying on schools; the school building; grouping pupils in classes; curriculum; individual differences; periodicity in the pupil's development; standardization; methods; class-room management; health supervision; the present status of teaching; present in-

equalities in educational opportunities; the movement toward the nationalization of education. Each problem considered will be definitely related to the welfare of the child as the central objective of all educational procedure. Lectures, assigned readings and discussions. Mr. Twente and Mr. Wellman.

Open to all students except Freshmen. 3 credits: 3 recitations.

13–b. History of Education. A general survey of Greek, Roman and early history; Renaissance periods; intensive study of modern educational movements; evolution of the public school systems in the United States with special attention to the development since the Civil War as well as the growth of present organization and tendencies. Lectures, assigned readings and discussions. Mr. Twente.

Open to all students except Freshmen. 3 credits: 3 recitations.

14–c. Principles of Education. Selected biological, psychological sociological and statistical material will be treated in such way as to give the student not only a survey of the fundamental principles of education, but also a good basis for more intensive courses in education. Educational theory stressing the more important principles involved in the process of education especially in the secondary schools. Lectures, assigned readings and discussions. Mr. Twente.

Open to all students except Freshmen. 3 credits: 3 recitations.

ADVANCED SUBJECTS

14–b. Secondary Education. Evolution of secondary schools, their articulation with elementary schools, colleges, technical institutes, vocations, and the home; teaching staff; curriculum; student organizations; life guidance; aims and values of the various high school subjects; extra curricular activities. An extra section is provided to accommodate Smith-Hughes students. Lectures, assigned readings and discussions. Mr. Twente and Mr. Wellman.

Junior and Senior subject. Required of Juniors in Industrial Teacher Training. 3 credits: 3 recitations.

15–c. Class-room Management and Methods. A consideration of the purposes of high school instruction; economy in class-room management; selection and arrangement of subject matter; types of learning involved in high school subjects; the place of practice or drill; the significance of reflective thinking and correct habit formation; the art of

questioning; supervised study; the measurement of the results of teaching. An extra section is provided to accommodate Smith-Hughes students. Lectures, assigned readings and discussions. Mr. Twente and Mr. Wellman.

Junior and Senior subject. Required of Juniors in Agricultural and Industrial Teacher Training. 3 credits: 3 recitations.

16–a–b–c. **Supervised Teaching.** The student participates in the conduct of class exercises and in the control of the class room, at first chiefly as an observer, but gradually entering into teacher responsibilities until complete charge of the class work is secured. Frequent conferences and discussions. The work will be under the direction of the head of the Department of Education.

Prerequisites: Permission of head of department. 2 to 15 credits.

17–b. **High School Administration.** The following topics will be covered: the legal status of the secondary high school; high school population; the problem of reorganization; the program of studies; vocational education and guidance in the high school; grading, measurement, classification, excess credit for quality; enrolling the student; social organization; community relationships; the high school library, staff, buildings, costs and efficiency in general. Lectures, assigned readings and discussions. Mr. Twente.

Open especially to both men and women who wish to become principals or headmasters. Admission by consent of the instructor. 3 credits: 3 recitations.

20–a. **History and Principles of Vocational Education.** The historical development of vocational education. The psychological and sociological bases of vocational education; problems, institutions, methods, contemporary movements and legislation; applications of research in relating vocations and education. Lectures, assigned readings and discussions. Mr. Twente.

Required of Seniors in Home Economics, Agricultural and Industrial Teacher Training courses. Senior subject. 3 credits: 3 recitations.

27–a–b–c. **School Hygiene.** This course will consider problems of School Hygiene, including heating, lighting, ventilating, school diseases, medical inspection of schools and hygiene of various school activities. Proper methods of study, causes of fatigue, and its prevention as well as

other topics will be treated. Lectures, assigned readings and discussions. Mr. Twente.

Required of Seniors in Home Economics, and Industrial Teacher Training Courses. Not open to other students. 3 credits: 3 recitations.

28–c. Hygiene of the School Child. This course will consider some of the more important chapters in modern school hygiene: conditions that determine growth and development, physiological age, the physical and mental differences between children and adults, the general principles of somatic and mental hygiene, tests of ability to work and physical condition, medical inspection, the development of habits of healthful mental activity and the hygienic aspects of various school exercises. Lectures, assigned readings and discussions. Mr. Wellman.

Junior and Senior subject. 3 credits: 3 recitations.

29–c. New Hampshire State Program of Studies and School Law. This course will consider the aims and purposes, the plan of organization and administration of the secondary school as outlined in the New Hampshire State Program of Studies. This program of studies will be evaluated in the light of those used in other states and students will have an opportunity here to become thoroughly acquainted with the secondary school organization in New Hampshire. Similar emphasis will be placed on the New Hampshire School Law. Lectures, assigned readings, and discussions. Mr. Twente and Mr. Wellman.

Senior subject. 2 credits: 2 recitations.

AGRICULTURAL EDUCATION

35–b. Agriculture in the High School. This subject deals with special methods of teaching agriculture in the high school, with emphasis upon New Hampshire requirements as set up by the State Board of Education. The chief topics considered are: planning and equipping of classrooms and shops, cataloging of bulletins for the library, selection of reference books, use and construction of charts and illustrative materials, the curriculum, the yearly plan of work; the presentation of materials of instruction through recitation, laboratory, field work and excursions; teaching through the home project, and supervised study. Mr. Whittemore.

Required of Seniors taking the Agricultural Teacher Training Course, and open only to these students. 3 credits: 2 lectures; 1 laboratory.

36–c. Supervised Teaching in Agriculture. Each senior in the Teacher Training Course will spend at least ten weeks as an apprentice teacher in some agricultural high school selected by the State Commissioner of Education and the head of the Department of Education at the University of New Hampshire. This work will be under the regular teacher of Agriculture in the high school, and will be supervised by the instructor in Agricultural Education at the University of New Hampshire. Mr. Whittemore.

Required of Seniors taking the Agricultural Teacher Training Course, and open only to these students. 15 credits.

TRADE AND INDUSTRIAL EDUCATION

40–b. Special Methods in Industrial Education. Special methods of class management, instruction, aims, educational values, etc., as occur in Smith-Hughes Industrial classes will be considered. Mr. Pierce.

Required of Seniors taking the Smith-Hughes Industrial Teacher Training Course, and not open to other students. 3 credits: 3 recitations.

41–c. Supervised Teaching in Industrial Education. During the third term of the senior year Industrial Teacher Training students will teach in some industrial school in the state, to be chosen by the State Commissioner of Education and the head of the Department of Education at the University of New Hampshire. At least nine weeks will be devoted to this and no work will be carried at the college during this term. Mr. Pierce.

Required of students taking the Smith-Hughes Industrial Teacher Training Course, and not open to other students. 11 to 16 credits.

50–a. School Administration. A subject in the fundamental principles of school administration intended primarily for superintendents, and for those who are preparing to become superintendents or supervisors, or directors of educational research. Topics: Principles of scientific management applied to school administration; organization of departments of education; school records and reports; problems of school finance including budget making; the use of score cards in judging school buildings; school building plans; the organization of special schools; the organization of special phases of school work as health education, compulsory attendance; the organization of the single school; the training of school superintendents and supervisors; the uses of school

surveys; the publicity work of a school system. References, reports on special topics and discussions. Mr. Twente.

> Open especially to men and women with teaching experience, or to those who have had several education courses and wish to prepare themselves for supervisory positions. Admission by consent of the instructor. 3 credits: 3 recitations.

52–a, 53–b, 54–c. Educational Problems. A research course pertaining to problems of instruction, administration, and supervision. Research problems may be carried over two or more terms.

> Open to Seniors and graduate students who have majored in Education and Psychology. Experienced teachers who are fitted for this work may be admitted by special permission. Credit and hours to be arranged.

SPECIAL METHODS SUBJECTS

The Teaching of Composition in Secondary Schools (English 83–b, 84–c).

The Teaching of History in Secondary Schools (History 120–a).

The Teaching of Home Economics in Secondary Schools (H. E. 101–a, 102–b).

The Teaching of Manual Arts in Secondary Schools (Shop 8–a or 8–b).

The Teaching of Mathematics in Secondary Schools (Math. 13–a).

The Teaching of Modern Languages in Secondary Schools (Modern Lan. 13–a, 14–b, 15–c).

The Teaching of Physical Education (Phys. Ed. 19–a, 20–b, 21–c).

The Teaching of Physics (Phy. 25–c).

The Teaching of Social Sciences (Sociology 31–b and Economics 44–b).

The Teaching of Zoölogy in Secondary Schools (Zoölogy 19–a, 20–b, 21–c).

PSYCHOLOGY

Schedule the following subjects as Psy. 1–a, 2–b, etc.

The importance which Psychology is assuming in the eyes of the practical and forward looking men is manifest by the application made of it to every important phase of human activity. Furthermore, no one nowadays can lay claim to a liberal education who has not at least an elementary knowledge of modern psychology. This is so widely recognized that even some of the large and better high schools have added psychology to their curriculum. Psychology as a science has been

applied to personnel work in the army, industrial establishments, vocational guidance, criminal courts, juvenile courts, psychopathic institutions, advertising, selling, employment, education, welfare work, neurology, subnormal children, college entrance examination, etc. The courses offered in this subject aim to put this science on a par with the physical and biological sciences and to give a general foundation for dealing with the problems suggested above. The courses in educational psychology consider topics which have a vital importance to the teacher and learning processes of the student. The applications of the laws of psychology to teaching will be stressed in a practical way.

INTRODUCTORY SUBJECTS

1–a, 2–b, 3–c. **Introduction to Psychology.** This course includes a study of the principles of Psychology and will be accompanied by demonstrations and class experiments. The following topics will be considered: Motivation factors in behavior; the nervous system; modification of innate disposition in learning; learning, its neural bases and relations to consciousness; attention and its relations to activity; the sense organs, sensations, and discriminative responses; the development of local signs and perceptual systems; ideation, memory, conception, reasoning, instincts and emotions, and their relations to self control or will; certain important abnormal phenomena. It is recommended that a course in science, preferably zoölogy, either precede or accompany this course in Psychology. Lectures, assigned reading and discussions. Mr. Rudd.

1–a and 2–b Required of Institutional Juniors. Open to all students except Freshmen. 3 credits: 3 recitations.

ADVANCED SUBJECTS

4–a. **Genetic Psychology.** An intensive study of the development of the mind from childhood to adolescence. A careful interpretation of the development of the individual's mental processes with a view to proper methods of education is given special attention. Lectures, assigned readings and discussions. Mr. Wellman.

Junior and Senior subject. 3 credits: 3 recitations.

5–b. **Psychology of Learning.** This course considers the nature of learning and retention, and their neural bases; learning curves, their uses and significance; forms of learning; motives to learning; factors and conditions affecting the rate and permanency of learning; problems

relating to learning capacity; transfer of training, and means of effecting beneficial transfers; applications to practical school work, and to the training of persons requiring special treatment. Lectures, assigned readings and discussions. Mr. Wellman.

Open to Juniors. 3 credits: 3 recitations.

6–c. Measurements and Statistics. This course deals with the principles, methods and application of various types of scales for measuring general mental ability and educational achievement. It includes a brief survey of statistical methods essential to an understanding of testing. Sufficient practice in giving tests is provided to give the student an appreciation of psychological methods of procedure. Mr. Twente.

Junior and Senior subject. 3 credits: 3 recitations.

8–a. Applied Psychology in Vocational Education. The purpose of this course is to assist the student in obtaining a more accurate and complete understanding of human nature. The elementary facts, laws and principles of psychology are considered with specific applications to professional and vocational education problems and to vocational guidance. Lectures, assigned readings and discussions. Mr. Wellman.

Required of Juniors in Home Economics, Agricultural and Industrial Teacher Training courses. Not open to other students. 3 credits: 3 recitations.

9–b. Psychology of Adolescence. The purpose of this course is to give high school principals and teachers a deeper, fuller appreciation of the habitual and impulsive life of boys and girls in their teens. Topics: Preadolescence; the physical and mental traits of high school pupils; individual differences among high school pupils and their implications; motor training, gymnastics, athletics, play, sport, and games as they function in the education of the youth; growth of social ideas; adaptation of school work to intellectual development; moral and religious training. Lectures, assigned readings and discussions. Mr. Wellman.

Required of Seniors in the Home Economics, Industrial and Agricultural Teacher Training courses. 3 credits: 3 recitations.

10–a. Applied Psychology in Commerce and Industry. The purpose of this course is to assist the student in obtaining a more accurate and complete understanding of human nature. The elementary facts, laws and principles of psychology are considered with specific applications to commercial and industrial problems and to vocational guidance. Lectures, assigned readings and discussions. Mr. Wellman.

Required of Juniors in the Industrial Course. Open to a limited number of Juniors and Seniors in other courses. 3 credits: 3 recitations.

30–a, 31–b, 32–c. Special Problems in Psychology. In this course an opportunity is afforded for intensive experimental and statistical work in Psychology and Educational Psychology. Special problems may be carried over two or more terms.

Open to Seniors and graduate students who have 15 or more hours in Psychology. Students admitted by special permission. Credit and hours to be arranged.

PHILOSOPHY

The primary aim of the subjects offered in Philosophy is to give the student a point of view and the method for considering the fundamental problems of human life. These subjects endeavor to cultivate an attitude of thorough investigation, careful analysis, judicial evaluation, and an appreciative interpretation in dealing with many important and confusing problems of life. Philosophy lies nearer today than ever before to the various sciences on the one hand, and to the demands of practical life on the other.

1–a. Introduction to Philosophy—Historical Survey. This course deals with the more important attempts to find a rational explanation of the world. Each system of thought is studied in its relation to the systems which precede and follow it, as well as to the economic and social situation in which it was produced. Lectures, assigned readings, and discussions. Mr. Rudd.

Open to all students except Freshmen. 3 credits: 3 recitations.

5–b. Introduction to Philosophy—Systematic Organization. It is the purpose of this course to give a comprehensive point of view and an effective method for considering the meaning of the world and of human life. Many of our fundamental assumptions will be analyzed, criticized and systematized. Personal and social aims and objectives, standards of conduct, criteria of progress, methods of social organization, and problems of social reform will be among the topics discussed. Lectures, assigned readings, and discussions. Mr. Rudd.

Open to all students except Freshmen. 3 credits: 3 recitations.

8–c. Ethics. This course is a survey of the evolution of morality; the critical evaluation of ethical standards; and the motives for worthy conduct in the modern world. Mr. Rudd.

Open to all students except Freshmen. 3 credits: 3 recitations.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

101–a, 102–b, 103–c. Seminar. Research in education or psychology. Students who wish to carry on investigations of a documentary, experimental or statistical nature should enroll in this subject.

Special problems may be carried over two or more terms. Credit to be arranged.

ELECTRICAL ENGINEERING

LEON W. HITCHCOCK, *Professor*
THOMAS J. MAITLAND, *Instructor*
FREDERICK D. JACKSON, *Instructor*

1–a, 2–b, 3–c. Dynamo Electric Machinery. This subject includes a general study of electric and magnetic quantities, direct current circuits, magnetic circuits, direct current generators and motors, primary and secondary cells and batteries, electrolysis, electroplating, electrotyping, elements of photometry and electric illumination, electrical measuring instruments, inductance, capacity, alternating current circuits, the use of complex quantities, power factor, wave form, alternators and armature windings. A large number of problems are solved. One exercise a week is devoted to laboratory experiments illustrating the practical application of the theory. Mr. Hitchcock, Mr. Jackson, Mr. Maitland.

Prerequisites: Physics 8–c and Mathematics 9–c. Required of Juniors in Electrical Engineering. 4 credits: 3 recitations; 1 laboratory.

4–a. Wire and Radio Communication. A study of the acoustic and electrical principles of telephony; transmitting and receiving apparatus; magneto and common-battery switchboards and accessories; selective party-line systems; intercommunicating systems; overhead and underground construction; phantom, simplex, and composite circuits; transpositions, etc.; the principles of telegraphy, sounders, repeaters, etc.; radio communication, including the properties of oscillating circuits, antenna systems, radiation, damped and undamped wave radio teleg-

raphy, radio telephony and special applications of radio circuits. Mr. Jackson.

Prerequisites: Electrical Engineering 3–c, 17–c, 27–c, or 102–c. Elective for Seniors in Engineering and Industrial courses. 3 credits: 3 recitations.

5–b. Radio Circuits and Applications. A study of circuits for reception and for broadcasting. The application of the principles of radio communication and equipment in connection with electrical transmission and distribution systems, carrier current systems, tubes for the rectification of alternating current and a study of tube characteristics. Mr. Jackson.

Prerequisite: Electrical Engineering 4–a. 2 credits: 1 recitation; 1 laboratory.

6–c. Application of Electricity to Agriculture. Arranged for and adapted to students in agriculture. The subject consists of a general study of electric circuits; generators, motors and storage batteries, their care and operation; simple problems in transmission; methods of wiring for electric light and power including a study of the National Electrical Code Rules; electric bell wiring and signalling apparatus; the telephone, the general principles upon which it operates, and the different systems of installation; etc. Mr. Maitland.

Elective for Seniors in Agriculture. Given as 5–c previous to 1925–1926. 4 credits: 3 recitations; 1 laboratory.

7–a, 8–b. Electrical Engineering Practice. This subject includes a detailed study of alternators, transformers, induction motors, regulators, synchronous motors, converters and rectifiers. Mr. Jackson, Mr. Hitchcock.

Prerequisite: Electrical Engineering 3–c. Required of Seniors in Electrical Engineering. 3 credits: 3 recitations.

9–c. Transmission and Distribution Systems. A study of the factors affecting the design, construction and operation of transmission lines and distribution circuits. This includes the electrical, mechanical and economic calculations involved; lightning protection methods and apparatus; etc. A study of existing installations will be made. Mr. Hitchcock.

Prerequisite: Electrical Engineering 8–b. Required of Seniors in Electrical Engineering. 3 credits: 3 recitations.

10–b. Electric Railways. The practicability of construction from an economic standpoint; determination of the size, type, and seating capacity of cars; track location and construction; train schedules; methods of control; train resistance; speed-time and current-time curves; selection of motors; the feeder system; electrolysis; power station and sub-station location; storage batteries; signal systems; electric track switches; etc. Illustrated by problems. Mr. Hitchcock.

Elective for Seniors in Electrical Engineering. 2 credits: 2 recitations.

11–a, 12–b, 13–c. Electrical Laboratory. This subject includes the operation and testing of direct and alternating current motors and generators, transformers, rotary converters, rectifiers, etc. A written report on each experiment or test is required. Mr. Maitland, Mr. Jackson.

Prerequisite: Electrical Engineering 3–c. Required of Seniors in Electrical Engineering. 3 credits: 2 laboratories.

14–c. Thesis. An investigation conducted along lines in which the student is interested. A deposit of fifteen dollars to cover damage to instruments, apparatus, etc., is required; the unexpended balance is refunded at the close of the college year. Apparatus constructed as a part of a thesis shall remain the property of the department. Credits in this subject may be arranged to include credits in other required subjects for this term, depending upon the nature of the thesis. Mr. Hitchcock.

Permission to elect subject is optional with head of department. Open only to Seniors in Electrical Engineering. 1 to 8 credits.

15–a, 16–b, 17–c. Industrial Electricity. This subject consists of a study of the electric circuit; the magnetic circuit; direct current generators and motors; elementary electrochemistry, covering storage batteries, refining of metals, electrotyping, and electroplating; photometry; electrical measuring instruments; inductance; capacity; the alternating current circuit; alternating current generators, motors, starting devices, controllers, transformers, converters and rectifiers. Mr. Jackson, Mr. Hitchcock, Mr. Maitland.

Required of Seniors in Chemical Engineering. 3 credits: 2 recitations; 1 laboratory.

18–b. Design of Electrical Machinery. A study of the design of the more important electrical machines, including the calculation of the

dimensions of the machine, both electrical and mechanical, and the predetermination of its performance from the dimensions. Mr. Hitchcock.

Prerequisite: Electrical Engineering 7–a. Required of Seniors in Electrical Engineering. 3 credits: 1 recitation; 2 laboratories.

19–b. **Illumination Engineering.** A study of the National Electrical Code Rules for electrical wiring and apparatus; arc and incandescent lamps; the principles of photometry and illumination; shades and reflectors; residence, office, store and factory lighting; street lighting; flood lighting; electric signs; illumination calculations; rates; etc. Mr. Maitland.

Prerequisite: Electrical Engineering 1–a, 15–a or 25–a. Elective for Juniors and Seniors in Engineering and Industrial Engineering. 2 credits: 2 recitations.

21–c. **Electrical Problems.** The solution of a large number of problems involving both direct current and alternating current circuits and machinery. Mr. Hitchcock.

Prerequisite: Electrical Engineering 8–b. Elective for Seniors in Electrical Engineering. 2 credits: 2 recitations.

23–c. **Abstracts.** Reports by students on assigned articles of engineering interest. Mr. Hitchcock.

Prerequisite: Electrical Engineering 8–b. Elective for Seniors in Electrical Engineering. 1 credit: 1 recitation.

25–a, 26–b, 27–c. **Electrical Machinery.** A study of the electric circuit; the magnetic circuit; direct current generators and motors; primary cells; storage batteries; illumination; electrical measuring instruments; inductance; capacity; the alternating current circuit; alternating current generators, motors, starting devices, controllers, transformers, converters and rectifiers. Mr. Maitland, Mr. Jackson, Mr. Hitchcock.

Required of Juniors in Mechanical Engineering and the Industrial Course. 4 credits: 3 recitations; 1 laboratory.

100–a. **Electric Circuits.** Adapted primarily to students in Architectural Construction. The calculation of wire sizes for circuits; a comparison of three-wire with two-wire circuits; the wiring of buildings for light and power; the requirements of the National Board of Fire Underwriters in connection with electrical installations; a study of types of lighting fixtures; reflectors; residence lighting; etc. Mr. Maitland.

Required of Seniors in Architectural Construction. Elective for Seniors in Liberal Arts and Agriculture. It is necessary to limit the number of students electing this subject. Approval of the head of the department must be secured. 3 credits: 2 recitations; 1 laboratory.

103–a. Electrical Machinery. The subjects 103–a and 104–b include a study of single phase and polyphase alternators; the parallel operation of alternators; synchronous motors; induction motors; starters, compensators, and controllers for alternating current motors; transformers for single phase and polyphase circuits; converters and rectifiers. (Not offered after 1925–26.) Mr. Hitchcock.

Prerequisite: Electrical Engineering 102–c. Required of Seniors in the Industrial Course. 3 credits: 3 recitations. (Not offered after 1925–26.)

104–b. Electrical Machinery. Continuation of 103–a. (Not offered after 1925–26.) Mr. Jackson.

Prerequisite: Electrical Engineering 103–a. Required of Seniors in the Industrial Course. 2 credits: 2 recitations. (Not offered after 1925–26.)

105–a, 106–b, 107–c. Electrical Laboratory. The study, operation and test of alternating current generators, synchronous motors, induction motors, transformers, converters, etc. (Not offered after 1925–26.) Mr. Hitchcock, Mr. Jackson, Mr. Maitland.

Prerequisite: Electrical Engineering 102–c. Required of Seniors in the Industrial Course. 2 credits: 2 laboratories. (Not offered after 1925–26.)

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

31–a. Engineering Problems. The analysis and solution of problems of an advanced nature. 3 credits.

32–b. Illumination. A study of the latest development in incandescent lamps, shades and reflectors, with their applications. 3 credits.

33–c. Storage Batteries. The causes and remedies for battery failure. The practical application of the storage battery both for stationary and automotive purposes. 3 credits.

34–a. Radio Communication. Vacuum tube characteristics and applications. Transmitting and receiving circuits and their phenomena. 3 credits.

35-b. **Plant Economy.** A study of a plant already in operation, to determine possible improvements in equipment and methods. 3 credits.

36-c. **Design.** The design of electrical machinery, plant equipment or plant layout. If desired, this subject may supplement E. E. 35-b. 3 credits.

ENGLISH

ALFRED E. RICHARDS, *Professor*
CLARENCE W. SCOTT, *Professor*
HAROLD H. SCUDDER, *Associate Professor*
WILLIAM G. HENNESSY, *Assistant Professor*
LUCINDA P. SMITH, *Instructor*
RUTH E. BIXBY, *Instructor*
IRVING L. CHURCHILL, *Instructor*
CLAUDE T. LLOYD, *Instructor*

Major: 27 hours in English, inclusive of at least 6 hours of advanced composition, 3 hours of public speaking, 3 hours of Shakespeare, and exclusive of English, 1.5-a, 2.5-b, 3.5-c.

Minor: 27 hours which shall include a study of any two foreign languages combined with any related subject or subjects in Groups II and III. The decision as to the integral relation of such subjects shall rest with the head of the English Department. Not less than 9 hours may be taken in any given subject.

COMPOSITION

1-a. **First Year English.** The chief purpose of this subject is to give the student drill in the mechanics and conventions of English composition. Stress is laid upon expository writing. At the same time the elementary principles of grammar, punctuation, paragraphing, etc., are reviewed. Mr. Richards, Miss Bixby, Mr. Churchill, Mr. Lloyd, Mrs. Smith.

Required of Agricultural and Technology Freshmen. 3 credits: 3 recitations.

2-b. **First Year English.** A continuation of 1-a.

Prerequisite: English 1-a. Required of Agricultural and Technology Freshmen. 3 credits: 3 recitations.

3-c. **First Year English.** A continuation of 2-b.

Prerequisite: English 2-b. Required of Agricultural and Technology Freshmen. 3 credits: 3 recitations.

1.5–a. **English Reading.** This subject has for its chief aim the correlation of Freshman English with the required subjects in the other departments of the College of Liberal Arts. It consists of extensive reading (at least five books or their equivalent) in the fields of biography, fiction and history. Class drill in the elements of English grammar and composition is based upon the subject matter of the books read. Mr. Richards, Mr. Scudder, Mr. Hennessy, Mrs. Smith, Miss Bixby, Mr. Churchill.

Required of Liberal Arts Freshmen. 3 credits: 3 recitations.

2.5–b. **English Reading.** A continuation of 1.5–a.

Required of Liberal Arts Freshmen. 3 credits: 3 recitations.

3.5–c. **English Reading.** A continuation of English 2.5–b.

Required of Liberal Arts Freshmen. 3 credits: 3 recitations.

4–a. **Second Year English.** This subject is a more advanced study of the principles of good writing. The characteristics of exposition, description, and narration are studied. There will be frequent theme writing illustrating these forms of composition, and the work will be supplemented by a program of outside reading. Mr. Scudder, Mrs. Smith, Miss Bixby, Mr. Churchill, Mr. Lloyd.

Required of Liberal Arts Sophomores. 3 credits: 3 recitations. Prerequisite, English 1–a, or 1.5–a.

5–b. **Second Year English.** A continuation of English 4–a.

Required of Liberal Arts Sophomores. Prerequisite: English 4–a. 3 credits: 3 recitations.

6–c. **Second Year English. A continuation of English 5–b.**

Required of Liberal Arts Sophomores. Prerequisite: English 5–b. 3 credits: 3 recitations.

4.5–a. **Principles of Business Writing.** (For Sophomores taking the Business Fundamentals Course.) This subject is the complement of 4–a (Second Year English) and differs from it only in the added emphasis it places upon those special forms of written English which are employed in the business world. It includes a review of English grammar, the collateral reading of literary contributions by men of science such as Huxley, Bagehot, and Pupin, and the writing of business letters, reports and surveys. Mr. Richards.

Prerequisite: English 1.5–a, 2.5–b, 3.5–c. 3 credits: 3 recitations.

5.5–b. A continuation of English 4.5–a.

Required of Sophomores taking the Business Fundamentals Course. Prerequisite: English 4.5–a. 3 credits: 3 recitations.

6.5–c. A continuation of English 5.5–b.

Required of Sophomores taking the Business Fundamentals Course. Prerequisite: English 5.5–b. 3 credits: 3 recitations.

9–b. Advanced Composition. The purpose of this subject is to intensify the training offered in English 4–a and to supplement that offered in English 61–a, and 62–b. Mr. Lloyd.

Required of Seniors in the Architectural, Industrial and Industrial Teacher Training courses. Prerequisite: English 3–c or 3.5–c. Elective for Sophomores, Juniors and Seniors. 3 credits: 3 recitations.

15–a, –b, –c. Practice Work in Composition. This subject is required of any student, other than a Senior, whose work has been reported by instructors as being faulty in English, and has been so judged by a committee consisting of the deans of the divisions and the head of the English Department. This subject does not give credit toward graduation. (Given as 50–a, –b, –c prior to 1923–24.)

LITERATURE AND LANGUAGE

17–b. Introduction to English Literature. A general survey of English literature from its beginnings to the eighteenth century. To one who intends to teach English it is of fundamental importance. Lectures and recitations. Mr. Richards, Mr. Hennessy.

Elective for all classes. 3 credits: 3 recitations.

18–c. Introduction to English Literature. A continuation of 17–b. Mr. Scudder, Mrs. Smith.

Elective for all classes. 3 credits: 3 recitations.

20–a, –b. History of Seventeenth Century Literature. A survey of the prose and poetry (exclusive of the drama) from 1600 to 1700 with special reference to the work of Bacon, Milton, and the literary relations of the Royal Society. Mr. Scudder, Mr. Lloyd.

Elective for Juniors and Seniors. 3 credits: 3 lectures.

21–c. History of the English Drama. A survey of the English drama from its beginnings to the closing of the theaters. Constant reading of the plays, with written criticisms and reports, is required. Mr. Scudder.

Elective for Sophomores, Juniors and Seniors. 3 credits: 3 lectures.

22–b. The English Novel in the Nineteenth Century. A study of the novel from Jane Austen to Thomas Hardy. There will be lectures, recitations, and constant outside reading. Mr. Scudder.

English 22–b and 39–b will be given in alternate years (22–b in 1925–26). Elective for Juniors and Seniors. 3 credits: 3 recitations.

23–a, 24–b, 25–c. American Literature. Lectures and extensive outside reading. Mr. Scott.

Elective for Juniors and Seniors. 3 credits: 3 recitations.

26–a. English Poetry. A study of English poetry written between 1798 and 1900. Mr. Richards.

English 26–a and 41–a will be given in alternate years (41–a in 1925–26). Elective for Juniors and Seniors. 3 credits: 3 recitations.

28–b. Shakespeare's Plays. A study of the principal plays of Shakespeare. Recitations and occasional dramatic representations of famous scenes. A large amount of reading required. Mr. Richards.

Elective for Juniors and Seniors. 3 credits: 3 recitations.

29–c. Shakespeare's Plays. Continuation of 28–b. Mr. Richards.

Elective for Juniors and Seniors. 3 credits: 3 recitations.

31–b. Comparative Study of the Drama. Reading of selected dramas from Greek, Latin, Spanish, French, Italian, German and Danish literature; from Aeschylus to Ibsen. Constant reading, written criticisms and reports required. Mr. Hennessy.

English 31–b and 48–b will be given in alternate years (31–b in 1925–26). Elective for Juniors and Seniors. 3 credits: 3 recitations.

32–b. The Bible as Literature. A study of various literary types found in the Bible. Emphasis is placed especially upon the Old Testament in order to avoid the confusion of doctrines which enters into the

New Testament. Biblical history is read merely as a background for the literature of the Bible. Miss Bixby.

Elective for Juniors and Seniors. 3 credits: 3 recitations.

36–c. The Essay. A study of the essay as represented in the writings of Lamb, Newman, Ruskin, Hazlitt and Harrison, and as employed by the leaders in the literary and scientific world of today. Mr. Richards.

English 36–c and 37–c will be given in alternate years (36–c in 1925–26). Elective for Sophomores, Juniors and Seniors. 3 credits: 3 lectures.

37–c. John Ruskin. The reading of selected essays by Ruskin which bear upon the literary, artistic and social problems of the present day. Lectures and recitations. Mr. Richards.

English 36–c and 37–c will be given in alternate years (36–c in 1925–26). Elective for Sophomores, Juniors and Seniors. 3 credits: 3 recitations.

39–b. The American Novel. A survey of the novel in America from Charles Brockden Brown to the present time. There will be lectures and constant outside reading. Mr. Scudder.

English 22–b and 39–b will be given in alternate years (22–b in 1925–26). Elective for Sophomores, Juniors and Seniors. 3 credits: 3 lectures.

41–a. Modern Poetry. A study of American poetry written since 1900. Mr. Richards.

English 26–a and 41–a will be given in alternate years (41–a in 1925–26). Elective for Juniors and Seniors. 3 credits: 3 recitations.

48–b. Contemporary Drama. The drama of Europe, England and Ireland, from Ibsen to Shaw, inclusive. The subject will be organized around the artistic motifs and social problems used as themes. American drama will be touched upon comparatively, but not studied as a unit. Lectures, oral reports, group discussions, and a term paper required of each student. Miss Bixby.

English 31–b and 48–b will be given in alternate years (31–b in 1925–26). Elective for Juniors and Seniors. 3 credits: 3 recitations.

ORAL ENGLISH

60–c. Public Speaking. Training in the proper use of the voice, and instruction in the orderly arrangement and effective oral presenta-

tion of reports bearing upon the student's practical work, will be emphasized. Each student will be required to prepare and deliver at least one formal public speech. Mr. Hennessy.

Elective for Juniors and Seniors. Required of students in Agriculture and Technology. 3 credits: 3 recitations.

61–a. Argumentation and Debating. A study of the theory and practice of argumentation. The work consists mainly in assembling material for and briefing arguments. A weekly conference is required of each student. Recitations, conferences and class room debate.

Prerequisite: English 3–c or 3.5–c. Elective for Sophomores, Juniors and Seniors. 3 credits: 3 recitations.

62–b. Seminar in Debating. This subject deals with the training of teams for intercollegiate debate upon questions of national and international interest. Only qualified students chosen in preliminary trial contests will be eligible. Mr. Hennessy.

Prerequisite: English 61–a. Elective for Juniors and Seniors. 1 credit.

69–c. Dramatic Interpretation. This subject consists of intensive analysis of a single famous play with constant practice in stage technique and the dramatic interpretation of character. Recitations, outside reading, memory work. Mr. Hennessy.

Elective for Liberal Arts Sophomores, Juniors and Seniors. 3 credits: 3 recitations.

JOURNALISM

73–a. Expository Writing. This subject deals with the principles of composition involved in the writing and in the presenting of bulletins, reports, and papers of scientific and popular interest. Mr. Lloyd.

Prerequisite: English 3–c. Required of all Technology Seniors and of all Agricultural Seniors except those in the Teacher Training course.

76–a. Writing for Publication. A practical study of the preparation of articles for the newspapers and magazines. It is for all whose vocation will demand frequent writing for publication, and a preparation in part for those who intend to take up newspaper work after graduation. It does not cover the entire field of journalism, but the student will be instructed in the duties of a reporter and be given constant practice in writing news stories. Mr. Scudder.

Elective for those who have attained a grade of 75 or higher in English 3–c or 3.5–c. 3 credits: 3 recitations.

ADVANCED AND GRADUATE COURSES

83–b, 84–c. The Teaching of High School English. This subject is especially designed for those who major in English. It offers training in the teaching of oral and written composition, poetry, prose, fiction, the essay, drama and oration. Attention is given to outside reading, the school paper, dramatics, and other aids to the teaching of English. Mrs. Smith.

Prerequisite: English 6–c and Education 15–c. Elective for Seniors. 3 credits: 3 recitations.

85–a, 86–b, 87–c. The English Language. This subject deals with the history and development of the English language from Old English to that of today. Its purpose is to give the advanced student a knowledge of Old and Middle English grammar and syntax, and an insight into early English literature, by means of lectures and assigned reading. Open only to Seniors and graduates "majoring" in English. Mr. Richards.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

101–a. Collateral Reading. This is a seminar in the literary masterpieces of the world. It includes the reading and discussing of selected types of literature, such as the epic, the drama, the novel and the essay, and the writing by each student of a 2000-word term paper upon some topic pertaining to the literature studied during the term. 3 credits.

ENTOMOLOGY

WALTER C. O'KANE, *Professor*
PHILIP R. LOWRY, *Assistant Professor*

Major: 27 hours, exclusive of Entomology 1–a from courses offered in the department and from additional related courses approved by the departmental head.

Minors: 27 hours in Botany, Zoölogy, Chemistry, Agricultural Chemistry, Bacteriology and Agricultural Subjects provided not less than 9 hours are elected in any one subject.

1–a. Principles of Economic Entomology. The relation of the structure and classification of insects to methods of insect control. The

preparation and application of insecticides. Spray machinery and appliances. Mr. O'Kane and Mr. Lowry.

Required of Sophomores in Agriculture. Elective for Sophomores, Juniors and Seniors in other courses. 4 credits: 3 recitations; 1 laboratory.

2–a. Insects of Orchard and Garden. The application of methods of insect control to typical injurious species. Studies in the life histories and habits of important insect pests of orchard, garden and certain field crops. Adapted especially for students in Horticulture and in General Agriculture. Mr. Lowry.

Prerequisite: Entomology 1–a. Required of Juniors in Horticulture. Elective for other Juniors and Seniors. 3 credits: 2 lectures; 1 laboratory.

3–b. Insects of Domestic Animals. The insect enemies of domestic livestock; the life histories, habits and means of control. Adapted especially for students in Animal Husbandry. Mr. Lowry.

Prerequisite: Entomology 1–a. Required of Seniors in Animal Husbandry. 3 credits: 2 lectures; 1 laboratory.

4–c. Household Insects. Medical Entomology. The life histories, habits and means of control of insects of the household and of stored products. The relation of insects to disease. Adapted especially for students in Home Economics. Mr. O'Kane and Mr. Lowry.

Required of Seniors in Institutional Management. Elective for Sophomores, Juniors and Seniors. 3 credits: 2 lectures; 1 laboratory.

5–a, 6–b, 7–c. Advanced Economic Entomology. Detailed studies of problems involved in applied entomology. The literature of economic entomology. Investigational methods. Practice in arranging projects. Original investigations in the life history and habits of one or more injurious species. Adapted for advanced students. Mr. O'Kane.

Elective for Juniors and Seniors. Open to students only by permission of head of department. Credit and hours to be arranged.

8–a, 9–b, 10–c. Advanced Economic Entomology. Continuation of Entomology 5–a, 6–b, 7–c, for students who are specializing in the subject. Mr. O'Kane.

Credits and hours to be arranged.

13–c. Forest Insects. Studies in the life histories and habits of the more destructive forest insects and the means of their control. Especially adapted for students in forestry. Mr. Lowry.

Prerequisite: Entomology 1–a. Required of Juniors in Forestry. Elective for others. 3 credits: 2 lectures; 1 laboratory. (Given as 8–c prior to 1922–23.)

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

8–a, 9–b, 10–c. Advanced Economic Entomology. Continuation of Entomology 5–a, 6–b, 7–c, for students who are specializing in the subject. Mr. O'Kane.

Credits and hours to be arranged.

14–a, 15–b, 16–c. Graduate Entomology. Prerequisites: Entomology 5–a to 10–c, or the equivalent. Mr. O'Kane.

Credit to be arranged.

FORESTRY

KARL W. WOODWARD, *Professor*
CLARK L. STEVENS, *Assistant Professor*

1–a. Principles of Forestry. This subject is intended to meet the needs of students of agriculture who desire an appreciation of the possibilities of the farm woodlot, and of others who wish to obtain a general knowledge of the principles of forestry. The value of forests, their protection, their utilization, their improvement and regeneration, are discussed with special reference to New Hampshire conditions. Mr. Woodward and Mr. Stevens.

Required of all Freshmen in Agriculture. 4 credits: 3 lectures; 1 laboratory.

2–a. Dendrology. In this subject are considered the characteristics of our native tree species, and the identification of trees in the field and from specimens. Mr. Stevens.

Required of Sophomores in Forestry. 3 credits: 2 recitations; 1 laboratory.

2.5–b. Wood Technology. A study of the uses and grades of lumber, together with the identification of the commercially important woods. Mr. Stevens.

Required of Sophomores in Forestry. 3 credits: 2 recitations; 1 laboratory.

3–a, 4–b, 5–c. Silviculture. The growing of timber crops, including the laws of forest growth, the improvement of immature stands, and forest regeneration both natural and artificial. Lectures and recitations, supplemented by field practice. Mr. Woodward.

Required of Sophomores in Forestry. 3 credits: 2 lectures; 1 laboratory.

6–b, 6.5–c. Forest Mensuration. Principles and methods of scaling logs and cordwood and estimating lumber; also a study of the growth and yield of the commercial tree species found in New Hampshire. Mr. Stevens.

Required of Juniors in Forestry. 3 credits: 2 lectures; 1 laboratory.

7–a, 8–b, 8.5–c. Forest Management. The management of woodlots and large forest tracts for the purpose of gaining the largest immediate and future returns; and the preparation of working plans to coördinate the lumbering, protection, improvement, and regeneration of forests so as to make them yield the highest net returns. Mr. Woodward.

Prerequisites: Forestry 2–a, 5–c and 6.5–c. Required of Seniors in Forestry. 3 credits: 1 lecture; 2 laboratories.

10–a, 11–b, 12–c. Advanced Forestry. Thesis course; work to be arranged according to the needs of individual students. Mr. Woodward.

Required of Seniors in Forestry. Prerequisites: Forestry 2–a, 5–c, and 6.5–c. 3 credits: 3 recitations.

13–b. Forest Utilization. A study of the methods and costs of logging, milling, and marketing, with special reference to the portable sawmill type of operation. Mr. Stevens.

Required of Juniors in Forestry. 3 credits: 2 recitations; 1 laboratory.

14–b, 14.5–c. Practice of Forestry. The history of forestry; its development and present status in different countries; the work of the federal government and its management of the national forests; state forest policies; the lumber industry in the United States. Lectures and special readings. Mr. Woodward.

Required of Seniors in Forestry. 3 credits: 3 recitations.

15–a. Farm Woodlot Problems. This course is intended primarily to cover the methods of teaching Farm Forestry in agricultural high schools, but is changed from year to year to meet the needs of the individual student. Mr. Stevens.

Required of Seniors in Teacher Training. Prerequisite: Forestry 1–a. 3 credits: 1 recitation; 2 laboratories.

21–s. Forest Engineering. Plan and topographic surveying applied to forestry; the location of logging roads and railroads; the construction of trails, bridges, telephone lines, fire towers, etc. Given at the summer camp. Mr. Stevens.

Prerequisites: Mathematics 19–a and 20–c. Required of Juniors in Forestry. 3 credits: 1 recitation; 2 laboratories.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

101, 102, 103. Forest Ecology. A study of the local problems of forest distribution. 3 credits each.

104, 105, 106. Advanced Forest Utilization. The detailed study of local wood-using industries. 3 credits each.

GEOLOGY

C. Floyd Jackson, *Professor*
Herbert M. Emery, *Instructor*

1–b. Elementary Geology. A general introductory course. Some of the topics discussed are: general features of the earth; the earth in space, its origin and relation to other heavenly bodies; igneous, sedimentary and metamorphic rocks; geologic structure, the geologic evolution of continents and ocean basins, the great periods of geologic history, with special reference to the development and evolution idea as exemplified in geological science by the origin of the earth and the appearance, development and extinction of various organic forms. Mr. Emery.

Required of Sophomores, in Agriculture. Elective for other Sophomores, Juniors, and Seniors. 3 credits: 3 recitations.

2–c. Historical Geology. A detailed study of the history of various groups of plants and animals, as recorded in the rocks of the earth's surface. Special attention will be given to the phylogenetic development of the vertebrates. Recitations lectures and written reports required. Mr. Emery.

Prerequisites: Zoölogy 1–a or equivalent. Elective for Juniors and Seniors. 3 credits: 3 recitations.

5–a. Economic Geology. A study of the origin and distribution of various economic products such as coal, petroleum, natural gas, building materials and various metals. Brief consideration will be given to the methods of mining, purification, and to the economic mineral resources of New Hampshire. Mr. Emery.

Elective for Agriculture and Liberal Arts students. 3 credits: 3 recitations.

6–a. Elementary Geology, Laboratory. In this course a laboratory study will be made of the most common rocks and minerals comprising the main mass of the earth's outer shell: of geologic structure as shown by contoured geologic maps and models; and the life forms developed in each geologic period. Mr. Emery.

Elective for Sophomores, Juniors, and Seniors. 1 credit: 1 laboratory.

7–c. Regional Geography. This course includes a study of those fundamental factors, such as physiography, climate, and the distribution of natural resources, that exert an influence on the development of a region. Mr. Emery.

3 credits: 3 lectures. (Given in 1922–23 as 5–b and 5–c.)

100–b. Clay Products and Building Stones. A study of the origin and distribution of building stones and clay products with special reference to their economic importance. Laboratory work will consist of the examination and testing of samples. Tests and microscopical examination will be made with an attempt to determine their resistance to weathering, etc. Mr. Emery.

Required of Juniors in Architectural Construction and Arts course in Architecture. Elective for other Juniors and Seniors. 2 credits: 1 lecture; 1 laboratory.

HISTORY AND POLITICAL SCIENCE

CLARENCE W. SCOTT, *Professor*
DONALD C. BABCOCK, *Associate Professor*
JOSEPH T. LAW, *Instructor*
THORSTEN KALIJARVI, *Instructor*

HISTORY

Major: 27 hours in history, including 101–a, 102–b, 103–c, 132–a, 133–b, 133–c.

Minor: 27 hours in any one of the following subjects: Economics, not including Accounting; Education and Psychology; English; French; German; Spanish; Sociology.

In the subjects in History an important place is given to historical reading carried on in the reference room. In some cases a considerable part of the work is written.

Students electing subjects in History are referred to the introductory note under Social Science.

The statements as to prerequisites, etc. below are for Liberal Arts students. Agricultural and Technology students should consult the head of the department.

SUBJECTS OPEN TO FRESHMEN AND OTHERS

The following three subjects constitute a basic course, required of students majoring in history, and recommended for all students before taking other history subjects. Beginning at about 1500, these three subjects carry the general history of European civilization down to about 1914. The period of the World War and subsequent events is not covered in this study.

101-a, 102-b, 103-c. Introduction to Modern Europe.

Elective for Freshmen and Sophomores term by term who are taking or who have had Social Science. Open to Juniors and Seniors only by special permission. Required of students majoring in history. 3 credits: 3 periods.

SUBJECTS NOT OPEN TO FRESHMEN

History subjects subsequent to those designed especially for the freshman year are arranged in two groups, as indicated below. Sophomores taking any of these subjects must choose one or the other of the two groups, and follow it, if further work is done in history, through six term subjects. In other words one group or the other must be followed at least as far as through 112-c or 115-c. This rule takes precedence over the statements concerning eligibility and prerequisites for individual subjects.

It is suggested, though the student is free to choose, that Group I should be elected by those whose major interest is in Accounting, Economics, Education, Home Economics, Physical Education, Political Science, Spanish, or Zoölogy. Those particularly interested in English, French, German, Latin, Music, Psychology, or Sociology are likely to find Group II more useful to them.

It is permissible to take work in both groups at the same time.

Students majoring in history are urged, though not compelled, to take 27 hours in one group and 9 hours in the other.

GROUP I

104–a. The United States from 1800 to 1837. A study of the early phases of the nineteenth century national epic of democracy and expansion.

Elective for Sophomores who have had or are taking 3 hours of Social Science, and for Juniors and Seniors without prerequisite. 3 credits: 3 periods.

105–b. The United States from 1837 to 1877. Deals with "manifest destiny" and the great interlude of the slavery struggle.

Elective for Sophomores who have had or are taking 3 hours of Social Science, and for Juniors and Seniors without prerequisite. 3 credits: 3 periods.

106–c. The United States since 1877. An attempt to understand the present better through an appreciation of the recent past in our national life.

Elective for Sophomores, Juniors, and Seniors without prerequisite. 3 credits: 3 periods.

110–a. English Colonies in America. A study of European backgrounds, charters, local developments, and colonial society previous to 1763.

Prerequisite, 3 hours of History. Elective for Juniors and Seniors and for Sophomores who are taking 104–a or 113–a. 3 credits: 3 periods.

111–b. Period of the American Revolution. Follows the tracing of a separate orbit by the American people, the winning of independence, and the constitution-making period down to 1800.

Prerequisite, 3 hours of History. Elective for Juniors and Seniors, and for Sophomores who have had 104–a or 113–a, or are taking 105–b or 128–b, subject to general rule as to Group I and II. 3 credits: 3 periods.

112–c. Spanish and Latin-American History. A survey of the Iberian peninsula and its history as a background, the Spanish and Portuguese colonial epoch, the separation from Europe, the national characters and resources of the Latin-American states, and their relations with our country.

Prerequisite, 3 hours of History. Elective for Juniors and Seniors and for Sophomores who are taking 106–c or 129–c, or who have had any one of the following: 104–a, 105–b, 113–a, 128–b. Subject to general rule as to Group I and II. 3 credits: 3 periods.

124–a. Diplomatic History of Europe since 1815. A subject for more advanced students of history, with the purpose of acquainting them in a general way with the diplomatic problems growing out of European events in the century between 1815 and 1914. The logical supplementary course to this will be 134–c.

Prerequisite, 9 hours of History for Juniors, 3 hours for Seniors. Elective for Juniors and Seniors. In meeting the requirements for Group I of the history subjects, 124–a may be substituted for 110–a. 3 credits: 3 periods.

125–b. History of the Pacific. This subject deals with the islands and littoral states of the Pacific Ocean, with emphasis on the main events and movements. A short term thesis will be required of each student in order to acquaint him with the vastness of the field.

Prerequisite, 9 hours of History for Juniors, 3 hours for Seniors. Elective for Juniors and Seniors. In meeting the requirements of Group I of the history subjects, 125–b may be substituted for 111–b. 3 credits: 3 periods.

GROUP II

113–a. The Ancient Orient. The story of the first civilizations and the cultural accumulations of ancient times, as revealed largely by the archaeologist's spade, and viewed through the "window opening behind Greece and Rome." In this and in the five following subjects, architectural development will receive special emphasis with a view to revealing the spirit of the civilization studied.

Elective for Sophomores who have had or are taking 3 hours of Social Science and for Juniors and Seniors without prerequisite. Required of Sophomores in the Arts Course in Architecture. 3 credits: 3 periods.

128b. Greece. The aim in this subject is to bring home to the student the richness of content of Grecian civilization, and its cultural value for the modern world. Fully as much attention is given to our intellectual and artistic inheritance from the Greeks as to the events in their history.

Elective for Sophomores who have had or are taking 3 hours of Social Science, and for Juniors and Seniors with-

out prerequisite. Required of Sophomores in the Arts Course in Architecture. 3 credits: 3 periods.

129–c. Rome. A review of the process by which Rome acquired the tutelage of the world, followed by an analysis of the Empire as a summation of world history, and of the decline leading to the dark ages.

Elective for Sophomores, Juniors, and Seniors without prerequisite. Required of Sophomores in the Arts Course in Architecture. 3 credits: 3 periods.

114–a. The Middle Ages. In this subject the principal aim is to pass the pageant of medieval history in review before the student. Actual events and institutional achievements are emphasized to show the medieval world as one of normal human beings working out their peculiar social problems.

Prerequisite, 3 hours of History. Elective for Juniors and Seniors, and for Sophomores who are taking 104–a or 113–a. Required of Juniors in the Arts Course in Architecture. 3 credits: 3 periods.

130–b. Medieval and Renaissance History. Some attention is here given to "the medieval mind" and the attitude toward life which has served to set off things medieval from things modern. The Renaissance, as a return to the past and as a forward movement is then taken up.

Prerequisite, 3 hours of History. Elective for Juniors and Seniors, and for Sophomores who have had 104–a or 113–a, or who are taking 105–b or 128–b, subject to general rule as to Groups I and II. Required of Juniors in the Arts Course in Architecture. 3 credits: 3 periods.

115–c. Renaissance and Reformation. Later aspects of the Renaissance are dealt with; the Protestant Revolution is taken up; and the merging of both forces into various modern movements is followed.

Prerequisite, 3 hours of History. Elective for Juniors and Seniors, and for Sophomores who are taking 106–c or 129–c, or who have had any of the following: 104–a, 105–b, 113–a, 128–b, subject to general rule as to Groups I and II. Required of Juniors in the Arts Course in Architecture. 3 credits: 3 periods.

121–a, 122–b, 123–c. Intellectual History. A consideration in three successive terms of the development of the Western European mind. The subject will deal with the following chief topics: the background of intellectual history, Hellenism, the Middle Ages, Aristotle and the Medieval Universities, the decline of scholasticism, the birth of the

modern scientific spirit, and the chief novel elements in contemporaneous intellectual life.

Prerequisite, 9 hours of History for Juniors, 3 hours for Seniors. Elective for Juniors and Seniors. 3 credits: 3 periods.

Elective for Students in Group I or Group II

107–a. England to 1485. A survey of the events of medieval English history, with due attention to the social side, is used as a basis for a study of the growth of the English constitution.

Elective for Juniors and Seniors and for Sophomores who are taking 104–a or 113–a, except that Juniors following Group II must also take or have taken 114–a. 3 credits: 3 periods.

108–b. England from 1485 to 1714. A continuation of 107–a, with somewhat more attention to social and economic affairs.

Elective for Juniors and Seniors, and for Sophomores who have had 104–a or 113–a, or are taking 105–b or 128–b, except that Juniors following Group II must also take or have taken 130–b.

109–c. England since 1714. The emphasis in this subject is divided between the continued evolution of England's domestic affairs and her part in the expansion of Europe.

Elective for Juniors and Seniors, and for Sophomores who are taking 106–c or 129–c, or who have had any one of the following: 104–a, 105–b, 113–a, 128–b, except that Juniors following Group II must also take or have taken 115–c. 3 credits: 3 periods.

132–a, 133–b. Seminar: History from the Teacher's Viewpoint. These subjects deal with methods of teaching history, historical geography, theories of historic interpretation, etc.

Prerequisite, 27 hours in the social sciences, including 9 hours of History. Required of students majoring in History. Elective for Juniors and Seniors on consultation with the instructor. 2 credits: 2 periods. Extra credit by arrangement.

134–c. Seminar: Recent and Contemporary History. A study of the trend of events in the world since 1914, and problems arising from the World War.

Offered under the same terms and restrictions as 132–a and 133–b. 2 credits: 2 periods.

Subjects Primarily for Graduate Students

No student is expected to do his major graduate work in this department unless he proposes to write his thesis on some phase of New England history, preferably that of New Hampshire. For this purpose the facilities for research are considerable, including the Library of the University, the State Historical Library at Concord, and various town records, landmarks, etc.

1–a. New England History to the Revolutionary Period. This subject takes up the English background of New England, the origins of the New England colonies, and the causes of their development of distinguishing traits.

3 credits.

2–b. New England History from the Opening of the Revolutionary Period to about 1820. This subject is a study of the part played by New England in the struggle for independence, and its contribution to the foundations of the new nation.

3 credits.

3–c. New England History since 1820. Deals partly with the influence of New England upon the rest of the country, and partly with internal changes in New England in the 19th and 20th centuries.

3 credits.

4–a, 5–b, 6–c. Seminar in New Hampshire History. Selected topics will be assigned for individual investigation, such as transportation routes, rural decline, the development of the mill town, etc. The relation to a possible rejuvenation of New Hampshire life will be kept in mind throughout these subjects.

3 credits each.

POLITICAL SCIENCE

Major: 27 hours in Political Science.

Minor: 27 hours in any one of the following subjects: Accounting, Economics, Education, English, French, German, Psychology, Sociology, Spanish.

1–a. Laws of Business. Recitations, supplemented by the discussion of cases.

Elective for Juniors and Seniors in Liberal Arts, and Seniors in Agriculture. 3 credits: 3 periods.

2–b. American Constitutional Law. Recitations, supplemented by a study of the decisions of the United States Supreme Court. Special

attention is given to the connection between American constitutions and American political history.

Elective for Juniors and Seniors in Liberal Arts, and Seniors in Agriculture. 3 credits: 3 periods.

7–c. Political Parties and Practical Politics.

Elective for Juniors and Seniors. 3 credits: 3 periods.

5–a. American Government. This subject will deal with the Federal Government, taking up first the building of the Constitution and its general nature, and then in some detail its executive, legislative, and judicial departments.

Elective for Sophomores who have had or are taking Social Science 1–a or 2–b, and for Juniors and Seniors. 3 credits: 3 periods.

6–b. American Government. A continuation of 5–a, dealing largely with state and municipal government in the United States. Political parties and local and rural government will also be considered.

Elective for Sophomores who have had or are taking Social Science 2–b, and for Juniors and Seniors. 3 credits: 3 periods.

8–c. Municipal Government. The various types of city government will be studied. After an historical review of the city and its political nature, attention will be given to the major-council, commission, and city-manager forms of government. The various activities of the city will be studied, and comparisons made with European cities.

Prerequisite: 6–b. Elective for Sophomores, Juniors, and Seniors. 3 credits: 3 periods.

9–a. Government of England. The historical background of the English government will be studied, followed by consideration of Parliament, the cabinet system, responsible government, the executive departments, the judiciary, local government, and imperial control.

Prerequisite: 5–a. Elective for Juniors and Seniors. 3 credits: 3 periods.

10–b. Governments of Continental Europe. Among European governments, those of France, Italy, Switzerland, and Germany will be given most attention. The spirit of their various institutions will be noted, and comparisons made with England and the United States.

Prerequisite: 5–a and 9–a. Elective for Juniors and Seniors. 3 credits: 3 periods.

11–c. Political Theory. The main interest is in the political philosophy of Plato, Aristotle, Polybius, Cicero, and the medieval scholastic writers, but there will be some discussion of the rise of the state and of the political background of ancient and mediaeval times.

Prerequisite: 9–a and 10–b. Elective for Juniors and Seniors. 3 credits: 3 periods.

13–b, 14–c. International Law. The general principles of public international law, treating of the legal relations of states and of individuals as developed by treaties, common usage, legislation, diplomatic practice, and by the decisions of municipal courts and international tribunals. Special emphasis will be placed upon the problems of International Law involved in the recent World War.

Elective for Juniors and Seniors on consultation with the instructor. 3 credits: 3 periods.

HOME ECONOMICS

HELEN F. MCLAUGHLIN, *Professor*
CARRIE A. LYFORD, *Assistant Professor*
IRMA G. BOWEN, *Instructor*

HOUSEHOLD ARTS

1–a, 2–b, 3–c. Textiles and Elementary Clothing. Study of textile fibres and identification of standard materials. Hand and machine sewing; making of undergarments and summer dresses.

Required of all Freshmen taking Home Economics courses. Elective for other students. 3 credits: 2 laboratories, 1 recitation; 2 hours outside work. (Given as 30–a, –b, –c prior to 1923–24.)

4–a, 5–b, 6–c. Advanced Clothing. Pattern drafting; making wool garments and middy blouses. Study of principles of design as applied to costume. Designing different types of costumes suitable to various figures.

Prerequisite: Home Economics 1–a, 2–b, 3–c. Required of Juniors in Teacher Training and Extension. Elective for other students. 2 credits: 2 laboratories; 2 hours outside work. (Given as 32–a, –b, –c prior to 1923–24.)

7–a, 9–c. Millinery. Making winter and summer hats; renovating materials and remodeling frames. Making of flowers.

Required of Juniors in Teacher Training and Extension. Elective for other students. 2 credits: 2 laboratories; 2

hours outside work. (Given as 34–a, –b, –c prior to 1923–24.)

10–b. **Laundry and House Care.** History of laundering. A study of washing equipment. Methods of cleansing; removal of stains; study of washing agents; processes of washing the various fabrics; special cleansing; disinfection and dry cleaning. Care and cleaning of the house.

Required of all Juniors taking Home Economics courses. Elective for other Home Economics students. 2 credits: 2 laboratories. (Given as 36–b prior to 1923–24.)

12–b. **Home Furnishing and Decoration.** Consideration of the home as the background of family life. Study of color schemes, wall coverings, hangings and furnishings with estimated costs.

Required of Institutional Seniors and Teacher Training and Extension Juniors. Elective for other students. 2 credits: 2 laboratories. (Given as 40–a prior to 1923–24.)

13–b. **Basketry.** Making of woven reed and sewed Indian baskets.

Open to all college women. 2 credits: 2 laboratories. (Given as 44–b in 1922–23.)

14–b. **Tailoring.** Problems in making tailored garments.

Elective for Seniors in Home Economics courses. Prerequisite: Household Arts 6–c. 2 credits: 2 laboratories. (Given as 50–c prior to 1923–24 and as 14–b Dressmaking in 1923–24.)

15–a. **Dress Design.** Application of principles of design to costume. Designing and draping costumes on the dress form.

Prerequisite: Home Economics 4–a, 5–b, 6–c. Required of Seniors in Teacher Training and Extension. Elective for other students. 2 credits: 2 laboratories.

17–a, –b, or –c. **Rug Weaving.** Making hand-woven rugs.

17–a elective for Home Economics freshmen to be carried parallel with Textiles 1–a. 17–b or –c elective for Home Economics students. Prerequisite: Home Economics 1–a (Textiles). 1 credit: 1 laboratory.

18–b or c. **Advanced Weaving.** Plain and pattern weaving on hand looms.

Elective for Home Economics students. Prerequisite: Home Economics 17–a. 1 or 2 credits, depending upon amount of work done.

19–b. Embroidery. Consideration of the different embroidery stitches and their practical application.

Open to all women. Prerequisite: Home Economics 3–c. 2 credits: 2 laboratories: 2 hours of outside work. (Given in 1922–23 as Home Economics 42–a.)

16–c. History of Costume. A survey of the changes and development of costume, both ancient and modern.

Elective for Home Economic students. 2 credits: 2 lectures.

HOUSEHOLD SCIENCE

51–a, 52–b, 53–c. Food and Principles of Cookery. Food principles and their practical application in the healthful and economical preparation of food.

Prerequisites: Chemistry 8–c. Required of Sophomores in Home Economics. 2 credits: 2 laboratories. (Given as 31–a, –b, –c prior to 1923–24.)

54–c. Meal Preparation. Marketing of foods and preparation and serving of meals.

Prerequisite: Household Science 53–c. Required of all Juniors in Home Economics courses. 3 credits: 2 laboratories; 1 recitation.

56–a. Experimental Cookery. Comparative experimental cookery: Assignments in individual project work.

Required of all Seniors in Home Economics. Prerequisite: Household Science 53–c. (Given as 33–b prior to 1923–24.) 2 credits: 2 laboratories.

57–c. Nutrition and Dietetics. Problems in dietary calculation; application of the principles of human nutrition in the adaptation of diet to varying physiological, social and economic conditions.

Required of all Juniors in Home Economics courses. Prerequisite: Household Science 54–a. 3 credits. 2 recitations; 1 laboratory. (Given as 35–c prior to 1923–24.)

58–a, 59–b. Institutional Management. A study of the organization, equipment and management of institutional groups; and the buying, planning, preparing and serving of meals. Trips to different institutions.

Required of Seniors in Institutional Management Course. Prerequisite: Home Economics 57–c. 2 credits: 2 lectures. (Given as 37–a, –b prior to 1923–24.)

60–c. **House Management.** A study of the organization of the house as a home, and the principles involved in its care and management.

Required of Juniors in Home Economics. Open to all college women. 2 credits: 1 lecture; 1 laboratory. (Given as 39–c prior to 1923–24.)

61–a, –b. **Practice House.** Students work in the house in groups and serve in the capacity of the different members of the family.

Required of Seniors in Teacher Training Course. (If possible, no 8 o'clock classes should be scheduled while taking this subject.) 5 credits. (Given as 41–a, –b prior to 1923–24.)

62–a. **Home Nursing.** A study of the principles involved in home care of the sick.

Required of Juniors in Home Economics. Elective for other students. 2 credits: 2 lectures. (Given as 45–a prior to 1923–24.)

63–b. **Forestry Cookery.** This subject aims to teach the principles of cookery as especially adapted to camp life.

Required of Sophomore Forestry students. (Given in alternate years beginning 1924–25.) 2 credits: 1 lecture; 1 laboratory.

64–b. **Food Selection.** An introduction to the principles involved in selection of foods; food production and manufacture.

Required of all Freshmen in Home Economics courses. 2 credits: 2 lectures.

65–c. **Survey of Home Economics.**

Required of all Freshmen in Home Economics courses. 2 credits: 2 lectures.

66–c. **Institutional Practice.** Practice work will be given in the University Commons.

Required of Seniors in Institutional Course. 6 credits.

67–a, 68–b, 69–c. **Food Selection and Preparation.** A general course in the healthful and economical selection and preparation of food. Open to students not taking one of the prescribed courses in Home Economics.

3 credits: 2 laboratories, 1 lecture.

70–a, b, or c. **Thesis.** A thesis on some approved subject will be written.

Elective for Junior and Senior Home Economics students. 1, 2, or 3 credits, depending upon amount of work done.

HOME ECONOMICS EDUCATION

101–a. Teaching Home Economics. Courses of study, lesson plans equipment, text books and observation. Miss Lyford.

Prerequisite: Education 11–c. Required of Seniors in the Home Economics Teacher Training Course. 3 credits: 3 recitations.

102–b. Home Economics in the High School. The present high school product, standard and means of improvement. Miss Lyford.

Required of Seniors in the Home Economics Teacher Training Course. 3 credits: 3 recitations.

103–c. Supervised Teaching in Home Economics. Each senior will spend at least nine weeks as an apprentice teacher in some high school in the state. Miss Lyford.

Required of Seniors in the Teacher Training Course. 15 credits.

HORTICULTURE

GEORGE F. POTTER, *Professor*
J. RAYMOND HEPLER, *Assistant Professor*
SIDNEY W. WENTWORTH, *Assistant Professor*
JAMES MACFARLANE, *Instructor*

1–c. Vegetable Gardening. This subject is designed to give a working knowledge of the various phases of commercial vegetable production. It includes a study of garden soils, testing and planting of seeds, selection of varieties with reference to conditions in the state, construction and management of hotbeds and cold frames, and the fertilization and irrigation of the garden. Mr. Hepler.

Required of Sophomores in Agriculture. 2 credits: 3 recitations; 1 laboratory. Given in the last half of the term.

2–a. Floriculture: Greenhouse Construction and Management. This subject treats of modern methods of greenhouse work and the more important plants grown under glass. Varieties, culture, marketing, and enemies of greenhouse plants are studied. Each student is required to do practical work in propagating, potting, watering and ventilating plants. A study is made of the history and development of different types of greenhouses, including methods of heating and general management. Mr. Macfarlane.

Elective for any student. 3 credits: 1 lecture; 1 recitation; 1 laboratory.

3–c. **Practical Pomology.** A study of the fundamental principles of fruit growing; such as location, choice of site, adaptability of soil for fruit growing, choice of varieties, soil management, planting of orchards, pruning, spraying and thinning. Harvesting and marketing are very briefly discussed. Mr. Wentworth.

Required of Sophomores in Agriculture. 2 credits: 3 recitations; 1 laboratory. Given in the first half of the term.

4–c. **Viticulture and Small Fruit Culture.** A comprehensive study of the grape and small fruits, such as the strawberry, raspberry, blackberry, currant and gooseberry. Each fruit is studied with reference to its history, propagation, planting, pruning, injurious insects and diseases, picking and marketing. Mr. Wentworth.

Elective for any student. 3 credits: 2 recitations; 1 laboratory.

5–a. **Systematic Survey of Fruits and Vegetables.** A study of the more important species of fruits and vegetables and their botanical relationships. Mr. Potter and Mr. Hepler.

Required of Seniors in Horticulture. 2 credits: 1 recitation; 1 laboratory.

6–b. **Commercial Pomology.** This subject deals with the management of commercial orchards, problems of fruit production, marketing, transportation and coöperation. Special study is made of the experimental data which underlie orchard practices. Mr. Potter.

Prerequisite: Horticulture 3–c. Required of Seniors in Horticulture who do not elect Horticulture 17–a. Elective for other students. 3 credits: 2 recitations; 1 laboratory.

7–c. **Landscape Gardening: General Principles.** A study of the principles involved in ornamental and landscape gardening. Special attention is given to the beautifying of home surroundings. Laboratory work consists of landscape design and practice in laying out and planting home and public grounds. Mr. Hepler.

Required of Seniors in Horticulture. Elective for other students. 4 credits: 2 lectures; 1 recitation; 1 laboratory.

8–b. **Plant Propagation.** A study of the methods of propagation and the care of trees, shrubs and perennial plants in the nursery. Lectures, reference readings, and practice. Mr. Wentworth.

Elective for any student. 3 credits: 2 recitations; 1 laboratory.

9-b. Floriculture: Conservatory and Decorative Plants. A study of the classification, propagation, and culture of the tropical foliage and flowering plants such as ferns, palms, orchids, etc., for use in the conservatory and home. Mr. Macfarlane.

Elective for any student. 2 credits: 1 recitation; 1 laboratory.

9.5-c. Floriculture: The Outdoor Flower Garden. A study of flowering annuals, herbaceous perennials, bulbs and bedding plants, with instructions in their propagation, culture and use in the beautifying of the home grounds. Lectures, laboratory, and field trips. Mr. Macfarlane.

Elective for any student. 2 credits: 1 recitation; 1 laboratory.

10-c. Evolution and Improvement of Plants. The application of the modern principles of genetics to agricultural plant breeding. Hybridization and selection are studied as means of improving horticultural varieties of plants. It is preferably preceded by genetics (Zoölogy 17-c). Mr. Potter.

Required of Seniors in Horticulture. Elective for other students. 3 credits: 2 recitations; 1 laboratory.

11-b. Vegetable Forcing. A subject dealing with the study of special vegetables as grown under glass. Emphasis is placed upon the commercial phases of the work, including varieties, culture, and marketing. Each student is required to grow crops from seeding to maturity. Mr. Hepler.

Prerequisite: Horticulture 1-c. Elective for all students. 3 credits: 2 lectures; 1 laboratory.

12-a, 12.5-b. Horticultural Seminar. A review of the recent horticultural literature and methods of investigational work. Mr. Potter.

Required of Seniors in Horticulture. Other students must obtain permission to enter. 2 credits: 1 seminar meeting.

13-c. Vegetable Gardening. This subject takes up the problems of home and school gardening. It includes the study of methods of laying out and handling home, school and community gardens, choice of crops

and varieties, their adaptation to local soil conditions, and the culture, displaying and judging of home garden vegetables. Mr. Hepler.

Elective for women students. 3 credits: 1 lecture; 1 recitation; 1 laboratory.

14–a, 15–b, 16–c. Advanced Horticulture. Laboratory practice in seasonal horticultural work. The principles and practice of fruit packing and the use of modern apparatus for grading, sizing, and handling the crop will be taught during the fall and winter terms. Practice in other horticultural operations will be taught in the appropriate season.

In addition special or research work in any phase of horticulture may be taken by arrangement with the head of the department. Mr. Potter, Mr. Hepler, Mr. Wentworth, Mr. Macfarlane.

Elective for Juniors and Seniors. Students must obtain permission to register from the head of the department. Hours and credits to be arranged.

17–a. Commercial Vegetable Gardening. This subject deals with the management of commercial vegetable gardens. Special attention is given to storing, packing of vegetables for market, their display and judging. The classification and identification of the more common varieties of vegetables is also studied. Mr. Hepler.

Prerequisite: Horticulture 1–c. Elective for all students. 3 credits: 2 lectures; 1 laboratory.

18–a. Landscape Gardening: Plant Materials. The identification of trees, shrubs, and herbaceous perennials as they appear in the fall and early winter and their use in landscape design. Mr. Hepler.

Elective for any student. 2 credits: 2 laboratories.

19–c. Elementary Beekeeping. A study of the life history and habits of honey bees and their adaptation to apiary conditions. The laboratory work includes the construction and use of hives and hive fittings, and preparation of winter cases. The student is also given practice in handling bees. Mr. Hepler.

Elective for any student. 2 credits: 1 lecture; 1 laboratory.

20–a. Commercial Beekeeping. This subject deals with the principles and practices underlying the production of commercial crops of comb and extracted honey. The laboratory work consists of the handling of bees during the fall and winter, the extraction of honey and the preparation for market of extracted honey, comb honey and wax. Mr. Hepler.

Elective for any student. 2 credits: 1 lecture; 1 laboratory.

21–c. Supervised Horticultural Experience. Supervised work in orchard, garden, or greenhouses, April 1st to September 1st. Weekly reports are required. Mr. Potter.

Required of all Juniors in the 3rd term of the Junior year. 18 credits.
NOTE: Students who have previously had this experience may substitute 18 elective credits for this required subject.

22–a. Fruit Judging. A study of the tree, fruit and commercial characteristics of the leading varieties of apples of New England and of other fruit producing sections. The student is required to become proficient in recognizing the varieties on sight and in judging exhibition fruit.

Elective for any student. 3 credits: 3 laboratories.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

101. Horticultural Problems. A critical study of the results of original investigations in Pomology and Olericulture. 4 credits: 4 lectures.

102. Methods of Horticultural Research. An examination of the methods used in laboratory and field by horticultural investigators. 2 credits: 2 lectures.

LANGUAGES

HAMILTON FORD ALLEN, *Professor*
J. HERBERT MARCEAU, *Associate Professor*
GEORGE H. BLAKE, *Instructor*
JOHN STEPHEN WALSH, *Instructor*
ROLAND EVERETT PARTRIDGE, *Instructor*

Major: 27 hours of French, German, Spanish (exclusive of subjects 1–a, 2–b, 3–c in each), or Latin.

Minor: 27 hours selected from Group I (except English 1.5–a, 2.5–b, 3.5–c), and from Group III (subjects in Education, Psychology, History, and Social Science); not less than 9 hours must be taken in any given subject.

Students who are preparing to teach a foreign language will elect with profit a second foreign language and such subjects as English Poetry and Drama, History and Principles of Education, History of Europe and Educational Sociology.

The following subjects may be counted toward requirements in Education: French 13–a, 14–b, 15–c; French 22–a; German 16–a, 17–b, 18–c; Latin 10–a, 11–b, 12–c, 13–a, 14–b, 15–c; Spanish 13–a, 14–b, 15–c.

FRENCH

MR. ALLEN, MR. MARCEAU, MR. WALSH, AND MR. PARTRIDGE

1–a, 2–b, 3–c. Elementary French. Elements of French grammar, reading of simple prose, oral practice, dictation.

3 credits: 3 recitations.

4–a, 5–b, 6–c. French Prose. Reading and translation, review of grammar, oral practice, composition, outside reading.

Prerequisite: French 3–c or its equivalent. Freshmen who offer two or more units of French for admission to college may take this subject. 3 credits: 3 recitations.

7–a, 8–b, 9–c. General View of French Literature. Prose and poetry of some of the more important writers with lectures and outside reading.

Prerequisite: French 6–c. 3 credits: 3 recitations.

10–a, 11–b, 12–c. French Drama. The rise and development of the drama in France with reading and study of plays indicative of the various tendencies from Corneille to the present. (Given in 1926–27.)

Prerequisite: French 9–c. 3 credits: 3 recitations.

13–a, 14–b, 15–c. French Composition and Conversation. The use of written and spoken French is taught by careful attention to pronunciation; language phone records of words, sentences, and complete plays; composition, letter, and theme writing; memorization of songs, prose extracts, dialogs, poems, and short plays; stereopticon lectures; short talks given by individual students on assigned subjects.

This subject is especially valuable for students who wish to teach French and conduct French clubs. Such students will have the opportunity of coöperating with the instructor in the preparation and presentation of material to the class.

This subject is for students who have shown special aptitude for and desire to learn French. Enrollment is limited to twenty. Permission of the instructor is required before enrollment.

Prerequisite: French 6–c. 3 credits: 3 recitations.

16–a, 17–b, 18–c. Romanticism and Realism in French Literature of the Nineteenth Century. Prose and poetry of the more important writers with lectures and outside reading.

Prerequisite: French 9–c. 3 credits: 3 recitations.

19–a, 20–b, 21–c. Recent Tendencies in French Literature. Prose and poetry of the end of the nineteenth and beginning of the twentieth centuries. This course is open to a limited number of qualified students. (Given in 1926–1927.)

3 credits: 3 recitations.
One additional credit in this subject may be gained each term by students who do a certain amount of outside reading and pass tests on the same. Students who desire this additional credit must register for it on Registration Day.

22–a. Methods of Teaching Modern Languages. Assigned reading, reports, discussion, and practice in teaching.

Prerequisite: 6–c in French, German, or Spanish. Elective for students who intend to teach Modern Languages. 2 credits: 2 recitations.

GERMAN

MR. BLAKE

1–a, 2–b, 3–c. Elementary German. Elements of German grammar, reading of simple prose, oral practice, dictation and composition.

3 credits: 3 recitations.

4–a, 5–b, 6–c. German Prose. Reading of modern prose, review of grammar, composition, oral practice.

Prerequisite: German 3–c or its equivalent. Freshmen who offer two or more units of German for admission to college may take this subject. Required of Sophomores in Chemical Engineering. 3 credits: 3 recitations.

7–a, 8–b, 9–c. Goethe and Schiller. Faust, Part I; Selections from the correspondence between Schiller and Goethe; Wallenstein; Die Jungfrau von Orleans. (Given in 1926–1927.)

Prerequisite: German 6–c. 3 credits: 3 recitations.

10–a, 11–b, 12–c. German Literature of the Eighteenth and Nineteenth Centuries. Selections from the works of Lessing, Goethe, Schiller, Heine; Ballads and Lyrics. (Given in 1927–1928.)

Prerequisite: German 6–c. 3 credits: 3 recitations.

13–a, 14–b, 15–c. Contemporary German Literature. Sudermann, Hauptmann and other authors.

Prerequisite: German 6–c. 3 credits: 3 recitations.

16–a, 17–b, 18–c. German Composition and Conversation. The aim of this subject is to train the student in writing, speaking, and understanding modern German. The work includes the essentials of phonetics, exercises in writing German, constant practice in speaking the language; memorization of songs, dialogs, poems, and short plays; stereopticon lectures illustrating German life and institutions. (Given in 1926–27.)

Enrollment is limited to twenty. Permission of the instructor is required before enrollment.

Prerequisite German 6–c. 3 credits: 3 recitations.

LATIN

MR. WALSH

1–a. Selections from Latin poets. Translation, lectures, and study of Roman life and philosophy.

Students who have offered advanced Latin for admission to college may take this course.

Prerequisite: 3 or 4 years of Latin. 3 credits: 3 recitations.

2–b, 3–c. Works of Horace, Catullus and other poets. Translation, lectures, and study of Latin influence on English poetry.

Prerequisite: 1–a. 3 credits: 3 recitations.

4–a. Plautus. Study of ancient comedy; lectures on the literature and life of Rome.

Prerequisite: Latin 3–c. 3 credits: 3 recitations.

5–b. Pliny's Letters. Careful study of the historical background of the letters. Translation, lectures.

3 credits: 3 recitations.

6–c. Terence: Andria, and Phormio. Comparison with the comedies of Plautus.

3 credits: 3 recitations.

7–a. Horace, Satires and Epistles. Translation and lectures. Study of Roman society as portrayed in the literature of the time.

Prerequisite: 6–c. 3 credits: 3 recitations.

8–b. Martial, Epigrams. Translation and lectures. Study of Roman society as portrayed in the literature of the time.

3 credits: 3 recitations.

9–c. Cicero, Tusculan Disputations. Translation and lectures. Study of ancient views on philosophy, religion, and natural sciences.

3 credits: 3 recitations.

10–a, 11–b, 12–c. Literature and History. This subject is primarily for those students who wish to be prepared to teach Latin in secondary schools, and for others who desire a comprehensive view of Latin Literature of the Golden Age.

The works of Caesar, Cicero, Virgil, and others will be studied for their literary value and historical content. Caesar's campaigns in Gaul will be studied by means of the "Commentaries," maps, stereopticon slides, and lectures. The history of Rome during the Golden Age will be studied in order to provide the background necessary to the student or teacher of the Classics. (Given in 1926–1927.)

Prerequisite: Latin 3–c. 3 credits: 3 recitations.

13–a, 14–b, 15–c. Latin Composition. Translation of English narrative, beginning with the fundamentals of grammar and progressing to a study of prose style and effective idiomatic expression.

This subject may be taken in two successive years. It is open to those who have taken or are taking another course in college Latin and is most necessary for prospective teachers of Latin.

3 credits: 3 recitations.

SPANISH

Mr. Allen, Mr. Blake, and Mr. Partridge

1–a, 2–b, 3–c. Elementary Spanish. Elements of Spanish grammar, reading of simple prose, oral practice, dictation.

3 credits: 3 recitations.

4–a, 5–b, 6–c. Modern Spanish Prose and Poetry. Review of grammar, memorization, composition, oral practice.

Prerequisite: Spanish 3–c or its equivalent. Freshmen who offer two or more units of Spanish for admission to college may take this subject. 3 credits: 3 recitations.

7–a, 8–b, 9–c. The Spanish Novel in the Nineteenth Century. Book reports and theme writing.

Prerequisite: Spanish 6–c. 3 credits: 3 recitations.

10–a, 11–b, 12–c. Modern Spanish Drama. Dramas of Nunez de Arce, Echegaray, the brothers Alvarez Quintero, Benavente and others. This course is carried on as far as possible in Spanish. (Given in 1926–1927.)

Prerequisite: Spanish 6–c. 3 credits: 3 recitations. One additional credit in this subject may be gained each term by students who do a certain amount of outside reading and pass tests on the same. Students who desire this additional credit must register for it on Registration Day.

13–a, 14–b, 15–c. Spanish Composition and Conversation. The use of written and spoken Spanish is taught by careful attention to pronunciation; language phone records of words, sentences and complete plays; composition, letter, and theme writing; memorization of songs, prose extracts, dialogs, poems, and short plays; stereopticon lectures; short talks given by individual students on assigned subjects.

This subject is especially valuable for students who wish to teach Spanish and conduct Spanish clubs. Such students will have opportunity to coöperate with the instructor in the preparation and presentation of material to the class.

This subject is for students who have shown special aptitude for and desire to learn Spanish. Enrollment is limited to twenty. Permission of the instructor is required before enrollment.

Prerequisite: Spanish 6–c. 3 credits: 3 recitations.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

French 101–a, 102–b, 103–c. The Classic Drama. Reading of several plays, and study of the technique and sources of the classic drama. 3 credits: 3 recitations.

Spanish 101–a, 102–b, 103–c. Recent Tendencies in Spanish Literature. Prose and poetry of the end of the nineteenth and beginning of the twentieth centuries. 3 credits: 3 recitations.

French and Spanish 104. General Phonetics. A study of the sounds and intonations of French and Spanish. 3 credits: 3 recitations.

French 105. History of the French Language. Historical grammar, and reading of selections. 3 credits: 3 recitations.

Spanish 105. History of the Spanish Language. Historical grammar, and reading of selections. 3 credits: 3 recitations.

LIBRARY SCIENCE

WILLARD P. LEWIS, *Librarian*

Lectures on the Library followed by demonstrations of library methods and tools. Individual problems are assigned to members of the Freshman Class during Freshman Week.

1–b. Elementary Library Science. A general introduction to library methods with a brief survey of cataloging, classification, reference work, bibliography, book order and selection, library history and practical work.

Elective for Sophomores, Juniors and Seniors. 3 credits: 2 lectures; and two hours of practice work per week.

MATHEMATICS

HERMON L. SLOBIN, *Professor*
GEORGE N. BAUER, *Associate Professor*
EDMOND W. BOWLER, *Assistant Professor*
WALTER E. WILBUR, *Instructor*
HUBERT B. HUNTLEY, *Instructor*

Major: 36 hours as follows: 201, 202, 203, 7, 8, 9, and nine hours from subjects between numbers 10 and 18. Students preparing to teach secondary school Mathematics should include 13, 14 and 15.

Minor: 27 hours to be selected by the head of the department of Mathematics.

200–a. Elementary Analysis. A review of algebra through quadratics, geometrical theorems, circular functions.

Prerequisite: See requirements of mathematics for admission to College of Technology. 6 recitations: credits applicable only for removal of an entrance condition.

201–a, –b, 202–b, –c, 203–a, –c. Unified First Year Mathematics. This constitutes a unified course of algebra, trigonometry, analytic geometry, differential and integral calculus.

Prerequisite: See requirements of mathematics for admission to College of Technology. Required of all students in the College of Technology, Arts Course in Chemistry and of all students whose major is Mathematics. Students who are unable to carry Course 201 creditably will be required to take Mathematics 200 as introductory to 201. 6 credits: 6 recitations.

1–a. Trigonometry. The general angle; trigonometric functions of the general angle; radian measure; solution of right and oblique triangles with and without logarithms; trigonometric identities and equations; inverse trigonometric functions.

Prerequisite: High School algebra and plane geometry. Required of Freshmen in Arts course in Architecture and

of Juniors in Agricultural Chemistry. 3 credits: 3 recitations.

2–a, 3–b. **Algebra.** Review of fundamental operations; theory and use of logarithms; graphs of simple algebraic functions; variations, complex numbers; elements of determinants and theory of equations.

Prerequisite: High School algebra and plane geometry. Required of Sophomores in Agricultural Chemistry. 2–a required of Freshmen in Arts course in Architecture. 3 credits: 3 recitations.

1.5–a, 2.5–b, 3.5–c. **The Elementary Mathematics of Finance and Statistical Methods.** This course is designed particularly for students whose major is Economics and Accounting. It will also meet the needs of students in the Departments of Sociology and Psychology.

Prerequisite: High School algebra and plane geometry. 3 credits: 3 recitations.

4–b, 5–c. **Analytic Geometry.** Cartesian and polar coördinates, graphs of algebraic functions; change of coördinate axes; graphs of transcendental functions; straight line; conics; empirical equations; higher plane curves; analytic geometry of space.

Prerequisite: Mathematics 1 and 2. 4–b required of Freshmen in Arts course in Architecture. 3 credits: 3 recitations.

7–a, 8–b, 9–c. **Calculus.** Applications of differentiation and integration; special methods of integration; the definite integral; applications of the definite integral to geometry, physics and mechanics; introduction to sequences and series.

Prerequisite: Mathematics 203. Required of Sophomores in Chemical, Electrical and Mechanical Engineering and of all students whose major is Mathematics. 7–a required in Arts and Science Chemistry. 3 credits: 3 recitations.

10–a, 11–b, 12–c. **Infinite Series.** Sequences and series with applications. Introduction to advanced analysis.

Prerequisite: Mathematics 9. 3 credits: 3 recitations.

13–a, 14–b, 15–c. **Teaching of Mathematics in Secondary Schools.** Texts, lectures and reports on assigned readings. Particular attention given to the teaching of algebra, geometry and trigonometry. A term paper on some assigned topic will be required.

Prerequisite: Mathematics 203; or 1, 2 and 3. 3 credits: 3 recitations.

16–a, 17–b, 18–c. Advanced Analytic Geometry. Coördinate systems; algebraic curves; application and theory of invariants to higher plane curves of the third and fourth order; application of calculus to analytic geometry.

Prerequisite: Mathematics 5 and 9. 3 credits: 3 recitations.

19–a, 20–c. Surveying. Theory, use and adjustment of the chain, level, transit and plane table. The field work consists of measuring distances, angles and areas; establishing bench marks, running profiles, grade lines and cross-sections with the level; finding areas with the transit; laying out simple curves with the transit; and making topographic maps with the plane table and transit.

Prerequisite: Mathematics 1, 21, or 203. Required of Seniors in Mechanical and Electrical Engineering and Juniors in Architectural Construction. 19–a required of Juniors in Forestry. 3 credits: 3 laboratories.

21–b. Elementary Mathematical Analysis. Elements of algebra, geometry and trigonometry.

Required of Freshmen in Agriculture. 3 credits: 3 recitations.

120–c. Astronomy. A brief descriptive course. The earth as an astronomical body; the sun and the solar system; the constellations; the stars. Recitations, illustrated lectures, text.

3 credits.

MECHANICAL ENGINEERING

CALVIN H. CROUCH, *Professor*
EDWARD L. GETCHELL, *Assistant Professor*
FRANK A. BURR, *Instructor*
E. HOWARD STOLWORTHY, *Instructor*

1–c. Mechanics. Force; equilibrium; composition and resolution of forces; center of gravity; couples; non-current forces; stresses in cranes and framed structures; moment of inertia of areas and solids; motion of translation and rotation. Mr. Getchell.

Prerequisite: Mathematics 8–b. Required of Sophomores in Electrical and Mechanical Engineering. 3 credits: 3 recitations.

2–a, 3–b, 4–c. Mechanics. A continuation of Mechanical Engineering 1–c, and includes dynamics, work, energy and power, strength

of materials, a study of the stresses and strains in riveted joints, beams and columns, and deals with graphical statics, roof trusses and reinforced concrete. Mr. Getchell.

Prerequisite: Mechanical Engineering 1–c. Required of Juniors in Electrical and Mechanical Engineering. 3 credits: 3 recitations.

11–a, 12–b, 13–c. Mechanics. The fundamental principles of statics, kinematics and kinetics, with applications to practical problems; exercises in finding center of gravity and moment of inertia; the study of stresses and strains in bodies subject to tension, compression, and shearing; the common theory of beams, including shearing force, bending moments, and elastic curves; torsional stresses and theories of stress in long columns. Mr. Stolworthy.

Required of Juniors in the Industrial and Teacher Training courses. 3 credits: 3 recitations.

14–a, 15–b, 16–c. Mechanics. Principles of Mechanics as applied to architectural work. Includes a study of forces and moments of forces as applied to beams and trusses, centers of gravity and moments of inertia of areas and principle of work. Strength of materials as applied to riveted joints, and beams, the design of beams, shear and moment diagrams, elastic curves and deflection of beams, continuous beams, with symmetrical and eccentric loads, the design of riveted joints and structural members, concrete beams, columns and truss design. Mr. Getchell.

Required of Sophomores in Architectural Construction. 2 credits: 2 recitations.

41–b, 42–c. Hydraulics. The mechanics of liquids; pressure on submerged areas such as gates, dams, etc., measurement of the flow of water through weirs, nozzles, orifices, and the flow of water in pipes, channels, and streams; the application of the principles of hydraulics to water motors such as turbines, overshot and undershot wheels, Pelton wheels, etc.; also the consideration of the various types of rotary pumps. Mr. Getchell.

Prerequisite: Mechanical Engineering 3–b. Required of Seniors in Mechanical and Electrical Engineering. 3 credits: 3 recitations.

51–b, 52–c. Thermodynamics. A study of the principles of thermodynamics and the thermodynamic properties of steam, vapors and gases; the efficiencies of the various steam and gas engine cycles. A study of

the different types of steam and gas engines, steam turbines, air compressors, refrigerating machines and condensers. It also includes a study of fuel combustion in furnaces and the producer gas generator. Mr. Crouch.

Prerequisite: Mathematics 8–b. Required of Juniors in Electrical and Mechanical Engineering Seniors in Chemical Engineering. 3 credits: 3 recitations.

76–a. Power Plant Engineering. Fuels and combustion and the losses due to incomplete combustion; boilers of various types; furnaces and stokers; methods of handling coal and ashes; design of stacks; and a study of the different types of reciprocating engines. Mr. Crouch.

Prerequisite: Mechanical Engineering 52–c or 83–c. Required of Seniors in Mechanical and Electrical Engineering. 3 credits: 3 recitations.

77–b. Power Plant Engineering. A continuation of 76–a. The study of the various types of steam turbines, condensers, feed water purifiers and heaters, pumps and other auxiliary equipment of the steam power plant. Mr. Crouch.

Prerequisite: Mechanical Engineering 76–a or 83–c. Required of Seniors in Mechanical and Electrical Engineering. 3 credits: 1 recitation; 2 laboratories.

81–a. Boiler Design and Graphics. A study of the graphical solution of forces acting on roof trusses and other framed structures, and the complete design of a return tubular boiler. Mr. Getchell and Mr. Stolworthy.

Prerequisite: Mechanical Engineering 12–b. Required of Juniors in the Industrial Course. 3 credits: 3 laboratories.

82–b, 83–c. Power Plant Machinery. A study of the steam engine and turbine, the gas engine, boilers, condensers, pumps, and other power plant auxiliary apparatus such as feed water heaters, economizers, etc.; also a study of fuel, combustion, mechanical stokers and boiler furnaces. Mr. Stolworthy.

Required of Juniors in the Industrial Course. 3 credits: 3 recitations.

126–b. Heating and Ventilating. A study of the heat losses of buildings, and the design of heating and ventilating systems for residences, factories, etc. Mr. Crouch.

Required of Seniors in Mechanical Engineering and Architectural Construction. 3 credits: 1 recitation; 2 laboratories.

151–a. **Materials of Construction.** Manufacture of iron and steel, brasses, and white metal alloys; heat treatment of steel; manufacture of cement; production of cast iron and cast steel, together with the proper arrangement of foundry and equipment; machinery for and arrangement of smithy; drop forging; wire drawing, etc. Mr. Getchell, Mr. Burr and Mr. Stolworthy.

Required of Juniors in Electrical and Mechanical Engineering. 3 credits: 3 recitations.

152–a. **Kinematics of Machinery.** A study of motion in machine construction; instantaneous centers and their application to the analysis of the direction and velocity of motion; velocity and acceleration diagrams; design of quick return mechanisms; study of tooth gearing; design of cams; and the study of trains of gearing. Mr. Stolworthy.

Prerequisite: Drawing 4.5–c. Required of Juniors in Electrical and Mechanical Engineering. 3 credits: 1 recitation; 2 laboratories.

153–b. **Valve Gears and Boiler Design.** The Bilgram and Zeuner valve diagrams and their application to the design of slide valves and Corliss valves. The study of various types of valve gears and governors. The design of a return tubular boiler. Mr. Stolworthy.

Prerequisite: Mechanical Engineering 152–a. Required of Juniors in Electrical and Mechanical Engineering. 3 credits: 1 recitation; 2 laboratories.

154–c. **Machine Design.** A study of friction, lubrication, belt, rope and chain transmission; analysis of the stresses and strains in machine members; and the design of a boiler. It also includes the design of some machine such as a steam engine. Mr. Stolworthy.

Prerequisite: Mechanical Engineering 1–c. Required of Juniors in Electrical and Mechanical Engineering. 3 credits: 1 recitation; 2 laboratories.

155–a, 156–b, 157–c. **Machine Design.** Advanced work in machine design, including an analysis of stresses in machine members, the proper proportioning of the machine parts, and the design of the same so they can be most cheaply produced in the various shops. Mr. Getchell.

Prerequisite: Machine Design 154–c. Required of Seniors in Mechanical Engineering. 3 credits: 1 recitation; 2 laboratories.

201–a, 202–b, 203–c. **Mechanical Laboratory.** This consists of efficiency tests of simple machines; calibration of instruments used in

laboratory practice; tension, transverse, and compression tests of steel, iron and wood; cement and concrete testing; testing of lubricants, valve setting, steam calorimetry, flue gas analysis; steam engine indicator practice and friction tests of steam engines. Mr. Burr.

Prerequisite: Mechanical Engineering 1–c. Required of Juniors in Electrical and Mechanical Engineering. 2 credits: 1 laboratory.

204–a, 205–b, 206–c. Mechanical Laboratory. Fuel analysis; gas and steam engine tests; tests of injectors, pumps, and boilers; special work of an advanced nature in testing, and original work to be carried out under the direction of the instructor. Mr. Burr.

Prerequisite: Mechanical Engineering 203–c and 52–c. Required of Seniors in Mechanical Engineering. 3 credits: 2 laboratories.

207–a, 208–b, 209–c. Mechanical Laboratory. Testing of materials used in construction, and calibration of instruments used in the laboratory. Steam engine indicator practice, steam calorimetry. Advanced work in engine testing, boiler and economy tests of power plants. Mr. Burr.

Prerequisite: Mechanical Engineering 12–c. Required of Seniors in Industrial course. 3 credits: 2 laboratories.

210–a, 211–b, 212–c. Mechanical Laboratory. Testing of materials used in construction, and calibration of instruments used in the laboratory. Measurement of flow of air, steam calorimetry, air conditioning, etc. Mr. Burr.

Prerequisite: Mechanical Engineering 12–b. Required of Juniors in Architectural Construction course. 2 credits: 1 laboratory.

213–a, 214–b, 215–c. Mechanical Laboratory. Advanced work in engine testing, and economy tests of boilers and power plants. Mr. Burr.

Prerequisite: Mechanical Engineering 212–c. Required of Seniors in the Industrial Course. 2 credits: 1 laboratory. Will not be offered after 1926.

251–a. Industrial Engineering. A study of factory conditions, safety devices, sanitation, lighting, various methods of remunerating labor, and a study of various forms of scientific management as applied to factory supervision. Mr. Crouch.

Elective for Seniors in Mechanical Engineering. Required of Seniors in the Industrial Course. 3 credits: 3 recitations.

276-b. **Roads and Pavements.** This consists of a study of the properties of materials used in the construction of roads and pavements; also a study of road construction and repair. Mr. Bowler.

Elective, subject to approval of instructor. 3 credits: 3 recitations.

281-a. **Water Supplies and Purification.** This consists of a study of the methods employed to purify drinking waters and the treatment of sewage. Mr. Stolworthy.

Elective for Seniors in Electrical, Mechanical Engineering and Industrial courses, and Sophomores in Architectural Construction courses. 2 credits: 2 recitations.

300-c. **Thesis.** Original research work under the direction of the head of the department. Mr. Crouch.

Open only to Seniors in Mechanical Engineering. 3 to 6 credits.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

401-a, 402-b, 403-c. **Advanced work in Mechanics of Engineering, Machine Design, Power Plant Engineering, Heat Power Engineering, Industrial Engineering and Materials Testing.** The work in these different fields will be modified, as far as practicable, to meet the needs of the individual student. 6 credits each.

METEOROLOGY

CHARLES H. PETTEE, *Professor*

1-b. **Meteorology.** Recitations and lectures on wind systems, precipitation, humidity, laws of storms and tornadoes, and methods of prediction of atmospheric changes. Mr. Pettee.

Prerequisite: Physics. Required of Juniors in Forestry. Elective for others. 3 credits: 3 recitations.

MILITARY SCIENCE

MAJOR E. B. WALKER, *Coast Artillery Corps, Professor*
CAPTAIN JOHN U. AYOTTE, *Infantry, Assistant Professor*
CAPTAIN CHARLES S. PETTEE, *Infantry, Assistant Professor*
FIRST LIEUTENANT ALFRED E. MCKENNEY, *Infantry, Assistant Professor*
FIRST LIEUTENANT JOSEPH E. MCGILL, *Coast Artillery Corps. Assistant Professor*
SERGEANT PATRICK HODGE, *Coast Artillery Corps, Assistant*
SERGEANT FRED W. WOOD, *Coast Artillery Corps, Assistant*
SERGEANT FRED H. BROWN, *Infantry, Assistant*
PRIVATE LEROY M. HIPSHER, *Clerk*

Military training is carried on concurrently with the academic work in order that the college man may be prepared for service in time of national emergency as well as for the pursuit of his business or profession.

Two courses in Military Science are offered, one in Coast (heavy) Artillery, and one in Infantry, each leading to a commission in the Officers' Reserve Corps of the United States. Each course, which covers four years, is divided into the basic course, covering the first two years, and the advanced course, covering the succeeding two years. The basic course is required of all male Freshmen and Sophomores who are physically fit. The advanced course is elective for those who have completed the basic course.

Exemptions or permission to be absent cannot be accorded to freshmen or sophomores; and any student who is absent from any part of the instruction will be required subsequently to make up the omitted training or its equivalent before being credited with the number of units necessary for graduation.

The student will have the opportunity, at the proper time, to elect either the Infantry or the Coast Artillery Course; and having entered upon that course, he will be expected to continue in it while taking military training. Both courses include the fundamentals of military training, the object of which is the development of those qualities which make for success in either civil or military life, as good health and an erect carriage, courtesy and agreeable manners, enthusiasm, honor, aggressiveness and leadership. In addition, each course pays particular attention to the special material and methods used in that arm.

The Coast Artillery Course covers the principles of the construction, and the use and care of the large caliber guns used in the coast defenses,

and in the railroad and mobile artillery. The manning of these weapons requires a detailed knowledge of guns and their carriages, the forces involved in their firing, motor transportation, advanced surveying, gunnery, and artillery tactics. All heavy artillery material embodies the most advanced scientific principles and the most up-to-date practice in electrical, mechanical and chemical engineering. To the engineering student this course offers, in addition to military training, an excellent opportunity to observe practical applications of his classroom work and to enlarge his view of the engineering field. The War Department furnishes the necessary guns, tractors, motor vehicles and accessories to insure ample opportunity for practical work.

The Infantry Course provides application for many college classroom subjects. Physics, chemistry, and mathematics are applied in the study of the use and nomenclature of the various infantry weapons. Psychology and sociology enter in the study of troop leadership. Thus the Infantry gives a better understanding and a broader viewpoint to the student.

The War Department has furnished 4 machine guns, 1 light mortar, a 37 M. M. gun, automatic arms, grenades, range finders, etc., besides field equipment. The entire R. O. T. C. is equipped with the 1903 (Springfield) rifle, enabling the instructors to give a complete and interesting course.

The Reserve Officers Training Corps

Physically fit male students who take military training may enroll in the Reserve Officers Training Corps. Enrollments are for two years in either the Basic or the Advanced Course. Members of the Corps are *loaned all uniforms and equipment necessary in the training. This will include:

1 U. S. Rifle, Cal. 30	1 Mess Kit	1 Pair Leggings
1 Bayonet	2 Collar Ornaments	1 Cap, over seas
1 Cartridge Belt	1 Coat, wool, O. D.	1 Belt
1 Pack Carrier	1 Breeches, wool, O. D.	2 R. O. T. C. insignia
1 Haversack	1 Shirt, wool, O. D.	

* A deposit of $15 is required of each student registered for Military Science. At the end of the academic year or upon a student's severing his connection with the college, this deposit will be refunded to him upon the satisfactory return to the University of all military property loaned except that a reasonable deduction will be made to cover any damage beyond natural wear and tear or for the loss of any of the equipment.

Advanced Course.—The students who are selected for the Advanced Course and who devote the prescribed time to this course, and attend such summer training camps as may be prescribed by the Secretary of War, are allowed during their junior and senior years commutation of subsistence at such rate as the Secretary of War may prescribe. During the academic year of 1923–24 this was 30 cents per day, totalling about $178 for the 2 years. In addition, members of the Advanced Course are paid at the same rate of pay as privates of the Regular Army, while in actual attendance at the summer training camp.

Membership in the Corps does not require the student to enter into any agreement to continue in college a definite length of time, nor does it bind him to any military service. He is as much at liberty to leave college as though he were not a member. He is required, once having entered upon the course, to complete it as a requisite toward graduation in any college maintaining a unit of the Corps, and to observe the rules and regulations prescribed for the government of the Corps.

Commissions.—Each year upon the completion of the Advanced Course, all qualified students are tendered commissions in the Officers Reserve Corps.

Summer Camps.—The requirement of members of the advanced course to attend the summer training camps is prescribed from time to time by the Secretary of War. These camps are organized by bringing together members of the R. O. T. C. from several colleges. The training taken at the college is elaborated upon and special attention is paid to the practical side of it. The student is furnished transportation to and from the camp and is given an additional clothing allowance, so that his only expenses are for laundry and such other personal expenditures as he may care to make. Excellent food is provided. Moral conditions are carefully controlled by the regular army officers in charge. The health and hygiene of the students is under direct supervision of medical officers and medical attendance is provided for those requiring it while at camp. Athletic contests are a feature of the camp and intercollegiate athletics between members of the different units is encouraged. The student agrees to observe the rules of the camp and to give his best efforts to the course of training. Thus he is offered at no expense an exceptional opportunity for physical and mental development.

Each spring the university unit holds a three day camp of its own. All members of the unit attend this camp.

MILITARY SCIENCE BASIC COURSE

Infantry

1–a. **Individual and Squad Drill.** The thorough development of the individual into an exact, disciplined soldier. The subject includes the school of the soldier and squad as prescribed in training regulations. The students perform the duties of privates in the parades and various drills of the battalion. Considerable time is spent in teaching the duties of citizenship. Respect for flag and country and the national anthem is emphasized. Lectures and practical work.

No prerequisites. Required of Freshmen, 1½ credits: 3 periods (2 theory and 1 laboratory).

2–b. **Rifle Marksmanship.** Lectures explanatory of the general scheme and principles. Practical instruction in all the steps of marksmanship as prescribed in the training regulations. Special attention is given to the following: nomenclature and care of rifles, effects of weather, score book, coaching, gallery practice, range practice.

Platoon Drill. A continuation of 1–a but being the theoretical science of drill. The duties of all non-commissioned officers, guides and the junior officers of the company are emphasized.

Military History. An elementary series of lectures to show our past and present military policy.

Required of Freshmen, 1½ credits: 3 periods (2 theory and 1 laboratory).

3–c. **Platoon and Company Drill.** A continuation of 2–b. Considerable time is given to extended order, ceremonies, and the higher drill. Discipline, control and order are exacted at all times. Students perform the duties incident to the grades of privates and non-commissioned officers. Opportunity is given every student to perform the duties of the non-commissioned officer or junior company officer.

1½ credits: 3 periods (2 theory and 1 laboratory).

Scouting and Patrolling. Includes the principles governing the composition, formation, and operations of various patrols by day and by night. Relief map exercises as well as those on the terrain give practical instruction.

Required of Freshmen, 1½ credits: 3 periods (2 theory and 1 laboratory).

Second Year Basic, Infantry

4–a. Military Sketching. Considerable time is given to study of ground forms, critical points and the study of domestic and foreign maps. All mapping and sketching methods are thoroughly covered. The course requires the making by the student of several types of sketches. This course is valuable, not only to the military man but to all who would travel or whose work calls them to estimate areas.

Company and Battalion Drill. A continuation of 3–c. Practical instruction in the duties of non-commissioned officers and officers of the platoon and company in the higher drill. Individual instruction is given and the principles of command and leadership are mastered by all students.

1½ credits: 3 practical periods.

5–b. Infantry Weapons. This course includes a study of the bayonet, the automatic rifle, and the hand and rifle grenades. Lessons on the history, characteristics and use of the weapons are given as well as general lessons covering explosives and the manufacture of weapons.

Musketry. This subject covers the theory of fire, range estimation, target designation, fire distribution, fire discipline (cover, individual movement, transmission of fire data, signals, replacement of casualties, et cetera). Conduct of fire in attack and defense is combined with the duties of leaders. Combat practice is conducted by the use of the new landscape targets.

Leadership. In this course is taken up the psychology of leadership and command. The students taking the course are all non-commissioned officers or officers of the battalion. Not only is the subject taken up in a general way but work is done with each individual and the daily little problems that occur in the military work are disposed of.

1½ credits: 3 periods.

6–c. Command. A practical course in command and leadership. It is a continuation of 5–b. The aptitude of the individual student is carefully considered. The assignments to various duties with the battalion are very carefully planned.

Battalion Drill. This is a continuation of 4–a drill. Ceremonies, extended order, the making and breaking camp and the practical problems taken up in Musketry and Tactics are executed.

Sanitation, Camp Sites, First Aid. This subject includes instruction in personal hygiene, foods and their preparation, drinking water, et cetera. Statistics of this and foreign countries are studied as regards the fundamental importance of being physically, mentally, and morally sound for service. Demonstrations and exercises in first aid are given.

1½ credits: 3 periods.

Junior Year, Infantry

7–a. A study of the Browning Machine Gun, its history, nomenclature, stripping, assembling, drill, direct and indirect fire, night firing, problems. The Light Mortar: description, technique, drill, problems and actual firing. Infantry drill regulations are studied pertaining to the school of the company and battalion; duties of company officers or senior non-commissioned officers.

Prerequisites: 1–a, 2–b, 3–c, 4–a, 5–b, 6–c. 3 credits: 2 recitations; 2 lectures; 1 laboratory.

8–b. Field engineering is the principal subject taught. It includes trench warfare, defensive, offensive, selection of positions, trench types, machine gun and other emplacements, obstacles. Time is devoted to building model bridges and the use of common knots and lashings. Camouflage general principles and demolition are given some study. Discussion of troop leadership and ability to command is encouraged. Military Law.

3 credits: 2 recitations; 2 lectures; 1 laboratory.

9–c. The one-pounder gun is thoroughly studied. This includes its nomenclature, characteristics, mechanics, kinds of fire, drill and problems. A review is also given of the subjects to be taught at the coming summer camp. Pistol Marksmanship.

3 credits: 2 recitations; 2 lectures; 1 laboratory.

Senior Year, Infantry

10–a. A study of our military history and national policy. This includes lectures, outside readings and various reports. Company administration is taught with the assumption that each student is a company commander; he is required to keep all the necessary records, property accounting and military correspondence exactly as is done in a company orderly room.

Prerequisites: Junior year. 3 credits: 2 recitations; 2 lectures; 1 laboratory.

11 b. This entire subject is devoted to minor tactics. It covers in detail the duties which junior officers of infantry will actually be called upon to perform. A theoretical study is first made then follows practical exercises.

3 credits: 2 recitations; 2 lectures; 1 laboratory.

12–c. Interior guard duty is studied in this subject with special emphasis being placed on the duties of a junior officer as officer of the guard and officer of the day. Terrain exercises are held at this time as it is impossible to hold them during the winter.

3 credits: 2 recitations; 2 lectures; 1 laboratory.

First Year, Coast Artillery

18–a. Individual and Squad Drill. Same as 1–a.

19–a. Instruction in 2nd Class Gunners work for C. A. C. Including:

Cordage and Knots	Mechanical Maneuvers
Guns	Mortars
Shears	Carriages
Explosives	Fuses
Projectiles	Primers
Blocks	Jacks

20–c. Platoon and Company Drill. Same as 3–c.

Second Year, Coast Artillery

21–a. Artillery matériel; standing gun drill; range and position finding drill with moving target; close order infantry drill; ceremonies; duties of non-commissioned officers; military history.

1½ credits: 1½ lectures; 1½ recitations; 1 laboratory.

22–b. Artillery matériel; cordage, blocks and tackles, mechanical maneuvers; range section drill with moving target; close order infantry drill; duties of non-commissioned officers; gallery range, military history.

1½ credits: 1½ lectures; 1½ recitations; 1 laboratory.

23–c. Map reading and sketching; standing gun drill and range section drill with moving target; subcaliber firing with heavy artillery using outdoor range; close order infantry drill; inspection, military history.

1½ credits: 1½ lectures; 1½ recitations; 1 laboratory.

Third Year, Coast Artillery

24–a. Orientation including practice work with transit, plane table and tape; gunnery to include standing gun drill, laying of guns and howitzers, and range section drill with moving target; coast artillery commands; military history; close order infantry.

Elective for Juniors. 3 credits: 2 recitations; 2 lectures; 1 laboratory.

25–b. Motor transportation, including theory of gasoline engines, automobiles and trucks. Gunnery problems; close order infantry drill; duties of officers and non-commissioned officers; military history.

Elective for Juniors. 3 credits: 2 recitations; 2 lectures; 1 laboratory.

26–c. Motor transportation, including practical driving of trucks and tractors; practical gunnery including subcaliber firing with heavy artillery on outdoor range; standing gun drill and range section drill; close order infantry drill; command; military history; ceremonies; small arms range; inspection.

Elective for Juniors. 3 credits: 2 recitations; 2 lectures; 1 laboratory.

Fourth Year, Coast Artillery

27–a. Orientation, gunnery, military law, infantry and coast artillery drill, military history.

3 credits: 2 recitations; 2 lectures; 1 laboratory, 2 hours practical.

28–b. Administration, military policy and history of United States, employment of artillery, practical infantry and artillery drill, military history.

3 credits: 2 recitations; 2 lectures; 1 laboratory, 2 hours practical.

29–c. Artillery drill and commands, practical gunnery, including emplacing guns and firing subcaliber problems, ceremonies, military history.

3 credits: 2 recitations; 2 lectures; 1 laboratory, 2 hours practical.

MINERALOGY

CHARLES JAMES, *Professor*

1–b. Mineralogy. A study of minerals, with special reference to their occurrence and economic value.

Elective. Prerequisite: Chemistry 3–c. Subject to the approval of the head of the department. 3 credits: 3 laboratories.

MUSIC

ROBERT W. MANTON, *Director*

Major: 27 hours from subjects offered in the department exclusive of Music 116–a, 117–b, 118–c.

Minor: 27 hours of work chosen from any two subjects in allied fields, i.e., Language and Literature, Architecture (History of) Physics (Acoustics) and Education provided that not less than 9 hours are offered in any one subject.

The courses offered by the department for a major are of two kinds:

1. Courses which are technical and grammatical in nature and are meant to provide a thorough training for students intending to follow the musical profession as teachers and composers. These are Music 107–a, 108–b, 109–c, 110–a, 111–b, 112–c, 113–a, 114–b, 115–c, 116–a, 117–b, 118–c, and the applied courses in pianoforte, voice and organ.

2. Courses which treat of the historical, literary and æsthetic side of music and are meant for those who wish to acquire a broad appreciation of the art and to familiarize themselves with the standard works of musical literature. These courses are Music 101–a, 102–b, 103–c, 104–a, 105–b, 106–c, and the educational activities of the Musical Clubs.

It is recommended that students consult the head of the Department as early in their freshman year as possible relative to the best disposition of order of courses in the Major.

Students who intend to take only one course in Music, for the cultivation of musical taste and general knowledge, are recommended to elect either Music 101–a, 102–b, 103–c, or Music 104–a, 105–b, 106–c as best adapted to this end.

Students interested in some particular musical organization, such as glee club or orchestra, are permitted to elect work with the organization desired.

1. **University Band.**
   Prerequisite: ability to play some band instrument. 2 credits: Upperclassmen. 1½ credits: Freshmen and Sophomores.
2. **The Men's Glee Club.**
   1 rehearsal: 1 credit.
3. **The Girls' Glee Club.**
   1 rehearsal: 1 credit.
4. **University Orchestra.**
   1 rehearsal: 1 credit.

   NOTE: In all these activities the educational values will be strongly stressed, the principles of ensemble, solo work, tone production, diction and above all sound musicianship, will be studied and concerts prepared separately and in combination to enhance and vitalize the university life. They may also be called upon to illustrate as the occasion arises the historical and cultural courses of the department. Attendance at rehearsals will be in accordance with the rule covering class work.

101–a, 102–b, 103–c. **The Evolution of Music and General History from the Earliest Times to the Present Day.** This is a literary course and instruction is given in the form of lectures. The beginnings of music, systems of notations, beginnings of harmony and counterpoint, the Troubadours and Minnesingers, the Motet and Madrigal, Folk Song, the 17th, 18th, 19th and 20th century composers, modern tendencies are some of the topics treated together with many other phases. This course is open to Freshmen and others and presupposes a little knowledge of the fundamental principles of music.

Elective. 2 credits: 2 lectures.

104–a, 105–b, 106–c. **The Appreciation of Music.** This course will begin with a study of the elements of music such as: rhythm, melody, harmony, constructive formulæ and the musical forms employed in composition for upon the recognition of these depends the approach to intelligent appreciation. Comprehensive illustrations of the great musical literature, not necessarily exhaustive but emphasizing strongly these above principles will be played and jointly analyzed by the instructor and students from the point of view of the listener. This course is open and especially recommended to all students who wish to become familiar with the art of music in its many phases, and gain a wider acquaintance with the masterpieces.

Elective. 2 credits: 2 lectures.

107–a, 108–b, 109–c. Harmony, The Grammar of Music. The fundamental principles of the craft of music are embodied in the study of harmony. This course treats of the different chords in their natural and combined relations, triads, seventh and ninth chords with their inversions and resolutions; cadences, chromatically altered chords, augmented chords, suspensions; passing and auxiliary notes, modulation, melody writing, pedal point, etc.

The work consists of exercises on basses and harmonization of given melodies, dictation, etc. This course is open and especially recommended to Freshmen and others and ability to play some instrument will facilitate an understanding of this course.

Elective. 2 credits: 2 lectures.

110–a, 111–b, 112–c. Advanced Harmony and Analysis. This course is intended to supplement 107–a—109–c and to lay stress on the many significant innovations found in modern harmony and to give the student a thorough grounding in preparation for contrapuntal writing.

Prerequisite: Music 107–a—109–c. 1 credit: 1 lecture.

113–a, 114–b, 115–c. Counterpoint and Composition. Counterpoint is the combining of several melodic voices, a horizontal conception of writing and is essential to all finished craftsmanship. The work will treat of the various orders of counterpoint, the treatment of cantus firmus in different voices, double counterpoint, choral figuration, etc.

The work in composition will include thorough training in detail relating to sentence formation, two and three part forms, inventions, dance forms and the various rondo forms up to sonata form.

Prerequisite: Music 107–a—112–c. 2 credits: 2 lectures.

116–a, 117–b, 118–c. Public School Music, Sight Singing, etc. This course deals with that part of the theory of music which is absolutely necessary for those who may be called upon to take charge of school singing in connection with their teaching in public schools. It consists of a study of the major and minor scales, keys, the measurement of intervals, teaching of rhythms, the technique of time beating and conducting, etc.

Elective. 1 credit: 1 lecture.

NOTE: No fee is attached to courses 101–a—118–c inclusive.

PIANOFORTE

22–a, 23–b, 24–c. Elementary Course. This course consists of a correct knowledge of such fundamentals as: notation, nomenclature, rhythm, elementary pedaling and technique, principles of phrasing, touches, stress, etc. This is supplemented by studies and simple compositions embodying the above elements and will be adapted to the needs of the individual student.

Elective. 1 lesson.

25–a, 26–b, 27–c. Intermediate Course. This course consists of the developing and strengthening of Course 22–a—24–c, together with the fundamentals of freedom and relaxation, rotary and lateral movements, hand adjustments, principles of style, tonal production, uneven rhythms, embellishments, etc. Adapted to the needs of the individual student and supplemented by interesting and vital pianoforte literature.

Prerequisite: Piano 22–a—24–c or the equivalent. 1 lesson.

28–a, 29–b, 30–c. Advanced Playing, Interpretation, etc. This course presupposes the two previous courses and gives the student a grounding in the higher and more subtle phases of piano playing such as are necessary for finished execution. Advanced technique, bravura playing, individual interpretation, finished hand adjustment and absolute tonal command together with work on musical form and pianistic evolution as applied to recreation will dominate this course. Adapted to the individual needs and supplemented by the master works of pianoforte literature.

Prerequisites: Piano 22–a—27–c. 1 lesson.

NOTE: 22–a—30–c inclusive are fee courses.

VOICE

31–a, 32–b, 33–c. Elementary Course. This course consists of a correct knowledge of such fundamentals as: breath control, resonance, flexibility of voice, attack, enunciation and articulation. It also consists of a practical knowledge of sight singing which enables the student to read and understand his music as fast as the voice acquires the ability to perform the same, supplemented by the correct singing of the simpler form of song or ballad.

Elective. 1 lesson.

34–a, 35–b, 36–c. Intermediate Course. This course consists of the development of the fundamentals of voice placing such as: breath control, resonance, etc., together with a progressive step in reading made by singing through the different keys. This is supplemented by songs and ballads of medium difficulty, church music, quartet work. Emphasis is placed on dramatic values from the singer's standpoint.

Prerequisite: Voice 31–a—33–c or the equivalent. 1 lesson.

37–a, 38–b, 39–c. Advanced Course. This course presupposes the two previous ones; furthers the fundamentals of voice placing, aids in the mastery of all modes, intervals and musical phrases; develops the voice and acquires control of it for finished execution. This is supplemented by a study of the oratorio, opera, and the master works of song.

Prerequisites: Voice 31–a—36–c. 1 lesson.

NOTE: 31–a—39–c are fee courses.

ORGAN

40–a, 41–b, 42–c. Elementary Course. Manual and pedal technique. Short pieces presenting the fundamentals of registration, use of swells, etc.

Prerequisite: Piano 22–a—24–c or the equivalent. 1 lesson.

43–a, 44–b, 45–c. Intermediate Course. The smaller preludes and fugues of Bach; easier works of the modern French masters.

Prerequisite: Organ 40–a—42–c. 1 lesson.

46–a, 47–b, 48–c. Advanced Course. Master organ works of Bach; preludes, toccatas and fugues, choral preludes; master works of Cesar Franck, Widor, Vierne and the English and American schools together with a study of adaption, modulation, accompaniment, Gregorian chant, mediæval or modal harmony, conducting, hymnology, etc.; in relation to practical church service work.

Prerequisites: Organ 40–a—45–c. 1 lesson.

NOTE: 40–a—48–c inclusive are fee courses.

TUITION

Private instruction in piano, one-half hour lesson a week, $15 a term.
Private instruction in voice, one-half hour lesson a week, $15 a term.
All tuition is payable at the Business Office at the time of registration.

PHYSICAL EDUCATION

PHYSICAL EDUCATION FOR MEN

WILLIAM H. COWELL, *Director, Coach of Football and Basketball*
HENRY C. SWASEY, *Assistant Professor, Coach of Baseball, Soccer, Hockey*
PAUL C. SWEET, *Instructor, Coach of Track*
RICHARD GUSTAFSON, *Instructor, Coach of Freshmen Athletics*
LANGDON D. FERNALD, *Instructor*
NATHAN L. GRIFFIN, M.D., *University Physician*

Aims.—1. To promote regulated exercise, and to provide an incentive and opportunity for every student to receive physical recreation.

2. To secure good posture, a uniform development and a reasonable amount of bodily skill and grace.

3. To stimulate the habit of exercise.

Equipment.—The gymnasium affords accommodation for training and indoor games.

On the ground floor are the lockers and various shower baths.

On the first floor are offices and the main gymnasium hall.

On the second floor is the running track and offices of the athletic director and assistants.

The Memorial Athletic Field adjoins the Gymnasium. The field, one of the best in New England, is equipped with a one-fourth mile cinder track, a fine sodded grass football gridiron, and adequate stands for the large crowds attending New Hampshire activities. Adjoining Memorial Field a beautiful pond has been constructed for swimming, skating, hockey, and water sports.

Three minutes' walk from the Gymnasium is the new baseball field and other fields under construction.

On these fields are found practice grounds for football, soccer, class contests, and girls' activities, as well as the regulation baseball diamond.

Requirements.—All men students in the freshman and sophomore classes are required to complete the prescribed work in Physical Education.

A regulation gymnasium suit, the cost of which is about three dollars, must be worn.

The minimum requirement of each term's work calls for participation in some form of approved physical exercise for at least two periods weekly for 9 weeks.

Students may elect any scheduled activity desired, either as a member of an organized athletic squad or as a member of regular sections of an approved activity which has the greatest appeal for the individual concerned.

The activities which are offered at various times of the year are baseball, basketball, boxing, cross country, football, hockey, skating, skiing, snowshoeing, swimming, tennis, track, volleyball, in-door baseball and handball.

(*Consult Recreational Activity Booklet for Schedule of Approved Activities.*)

51–a. Physical Education. The program for the term consists of numerous seasonal activities. Students may elect activity desired. For students physically unfit, corrective gym work will be prescribed.

Required of all Freshmen. ½ credit: 2 hours' work.

52–b. Physical Education. Continuation of recreational activity program.

Required of all Freshmen. ½ credit: 2 hours' work.

53–c. Physical Education. Continuation of recreational activity program.

Required of all Freshmen. ½ credit: 2 hours' work.

54–a. Physical Education. Term's program consists of numerous seasonal activities. Students may elect activity desired. For students physically unfit, corrective gym work will be prescribed.

Required of all Sophomores. ½ credit: 2 hours' work.

55–b. Physical Education. Continuation of recreational activity program.

Required of all Sophomores. ½ credit: 2 hours' work.

56–c. Physical Education. Continuation of recreational activity program.

Required of all Sophomores. ½ credit: 2 hours' work.

PHYSICAL EDUCATION FOR WOMEN

MAYME MACDONALD, *Assistant Professor*
MARGARET KING, *Graduate Assistant*

1–a, 2–b, 3–c. Physical Education.

Fall term—hockey, soccer, archery, croquet, tennis.

Winter term—bowling, basketball, skiing, skating, snowshoeing, corrective gymnastics, natural dancing.

Spring term—baseball, track, archery, croquet, advanced and beginning swimming, tennis.

Required of Freshmen. 1 credit per term: 2 hours a week.

4–a, 5–b, 6–c. Physical Education.

Fall term—hockey, soccer, archery, croquet, tennis.

Winter term—bowling, basketball, skiing, snowshoeing, skating, corrective gymnastics, natural dancing.

Spring term—baseball, track, archery, croquet, advanced and beginning swimming, tennis.

Required of Sophomores. 1 credit: 2 hours a week.

7–a, 8–b, 9–c. Physical Education.

Fall term—hockey, soccer, archery, croquet, tennis.

Winter term—bowling, basketball, skiing, snowshoeing, skating, corrective gymnastics, natural dancing.

Spring term—baseball, track, archery, croquet, advanced and beginning swimming, tennis.

Required of Juniors. 1 credit: 2 hours a week.

10–a, 11–b, 12–c. Physical Education.

Fall term—hockey, soccer, archery, croquet, tennis.

Winter term—bowling, basketball, skiing, snowshoeing, skating, corrective gymnastics, natural dancing.

Spring term—baseball, track, archery, croquet, advanced and beginning swimming, tennis.

Elective for Seniors. 1 credit per term: 2 hours a week.

13–a. Health Problems. Lectures and discussions on health problems that arise in college. Reference readings and reports.

Required of all Freshmen women. 1 credit: 1 recitation. (Given in 1923–1924 as Personal Hygiene.)

17–b, 18–c. Natural Dancing. The work consists of dancing as based upon full and natural movements. It offers an opportunity for music interpretation and pantomimic dancing.

Elective for Sophomores, Juniors, and Seniors. 1 credit per term: 2 hours a week.

19–a, 20–b, 21–c. Methods in Physical Education. The lecture hours deal with subject-matter in physical education in the elementary and high schools with reference to development and needs of the child.

The class will have practice in selecting material and teaching. Games, athletics, dances, formal and natural gymnastics, will furnish material.

The course is open to Sophomores, Juniors and Seniors, men and women who have completed at least one course in Education. 2 credits per term: 2 hours a week.

PHYSICS

HORACE L. HOWES, *Professor*
CLEMENT MORAN, *Assistant Professor*
DONALD E. HIGGINS, *Instructor*
JOHN V. ADAMS, *Instructor*

Major: 27 hours of Physics 6–a, 7–b, 8–c, 9–a, 10–b, 11–c, 13–c, 15–c, and 25–b.

Minor: 27 hours of Chemistry and Mathematics, subject to the approval of the Department of Physics.

1–a, 2–b, 3–c. Introductory Physics. The properties of matter, mechanics, heat, magnetism, electricity, wave-motion, sound and light. The subject consists of experimental lectures, recitations and laboratories. Certain references to Kimball's "College Physics" are required. Mr. Howes, Mr. Moran, Mr. Higgins, Mr. Adams.

Required of Sophomores in the Agricultural Course in the first two terms. Elective for Liberal Arts students. 3 credits: 1 lecture; 1 recitation; 1 laboratory.

6–a, –b, 7–b, –c, 8–c. General Physics. Mechanics and properties of matter the first term, followed by heat and a brief survey of sound and light the second term; magnetism and electricity the third term. Theory and problems pertaining. Mr. Howes, Mr. Moran, Mr. Higgins.

Prerequisites: Mathematics 201–a, 202–b, 203–c, and Mathematics 7–a, 8–b, and 9–c either as prerequisites or as parallel subjects. Required of Sophomores in Electrical and Mechanical Engineering and the Industrial and Architectural Construction courses. Required of Juniors in Chemical Engineering. Elective for those Liberal Arts students who have the above requirements in Mathematics or their equivalent but it is advised for those who have not had high school Physics that the Introductory Physics be elected the year preceding General Physics. 3 credits: 3 recitations.

9–a. General Physics Laboratory. Open only to students who are studying Physics 6–a or who have previously obtained credit in Physics 6–a. Experiments in mechanics and properties of matter with individual written reports on each experiment carefully criticized. The

development of laboratory technique, the ability to appreciate the relative magnitudes of sources of error, and the appreciation of the physical laws when plotted as graphs is the aim. Mr. Moran, Mr. Howes, Mr. Higgins, Mr. Adams.

Prerequisites: Mathematics 203–c, and Physics 6–a, either as prerequisite or as parallel subjects. Required of Sophomores in Electrical and Mechanical Engineering and in the Industrial and Architectural Construction Courses, and of Juniors in Chemical Engineering. Elective for Liberal Arts students under the same conditions as specified for Physics 6–a. 3 credits: 2 laboratories.

10–b. **General Physics Laboratory.** A continuation of 9–a to include experiments in heat, sound and light. Mr. Moran, Mr. Howes, Mr. Higgins, Mr. Adams.

Prerequisites: Physics 6–a and 9–a. Physics 7–b must precede or accompany this subject. 3 credits: 2 laboratories.

11–c. **General Physics Laboratory.** A continuation of 10–b to include experiments in electricity and magnetism. Mr. Moran, Mr. Howes, Mr. Higgins, Mr. Adams.

Prerequisites: Physics 6–a, 7–b, 9–a, 10–b. Physics 8–c must precede or accompany this course. 3 credits: 2 laboratories.

13–c. **Elementary Optics and Photography.** Lectures and recitations on the fundamental principles of geometrical optics as applied to photographic instruments. The laboratory is devoted to the study of focal planes, images and general properties of lenses, together with considerable work in the taking and finishing of photographs. Students will furnish their supplies. Mr. Moran.

Prerequisites: Physics 1–a, 2–b, 3–c or the equivalent. This subject is not open to Freshmen. 3 credits: 2 lectures; 1 laboratory.

15–c. **Theory of Electrons.** A study of the theory of electricity, to include a study of the passage of a current through a gas by gaseous ions, the mobility of ions, the determination of the charge of an electron, the ratio of charge to mass, ionization by collision, the corona discharge, cathode rays, positive rays, thermionic emission, photo-electricity, X-rays. Mr. Howes.

Prerequisites: Physics 6–a, 7–b, 8–c, 9–a, 10–b, 11–c. Mathematics 7–a, 8–b, 9–c. Open to Juniors and Seniors only. 3 credits: 2 lectures; 1 recitation.

25–b. Advanced Physics for Teachers. Theory and problems from a standard college text. The aim is to study the presentation of the most difficult topics to teach. The laboratory will include work on the making and repair of the simpler forms of apparatus. Mr. Howes and Mr. Moran.

Prerequisites: Physics 1–a, 2–b, 3–c, or 6–a, 7–b, 8–c. Open to Juniors and Seniors only. 3 credits: 2 recitations; 1 laboratory.

32–a, 33–b, 34–c. Household Physics. A study of the principles with applications to household appliances and processes. Mr. Moran.

Required of Sophomores in Home Economics. Not open to Freshmen. 3 credits: 1 lecture; 1 recitation; 1 laboratory.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

41–a. Theory of Electrons. A study of the experimental methods employed in determining the properties of the electron. The work of Sir J. J. Thompson, C. T. R. Wilson, R. W. Millikan and others will be considered. Prerequisites: Physics 11; Mathematics 9. 3 credits: 2 lectures; 1 colloquium.

42–b. Theory of Electrons. A continuation of 41–a to include the theory of gaseous conduction, ratio of charge to mass, ionization by collision, cathode rays, positive rays. Prerequisite: Physics, 41–a. 3 credits: 2 lectures; 1 colloquium.

43–c. Theory of Electrons. A continuation of 42–b to include the theory of thermionic emission, the photo-electric effect, X-rays and a very brief consideration of the modern theory of radiation. Prerequisite: Physics 42–b. 3 credits: 2 lectures; 1 colloquium.

POULTRY HUSBANDRY

ALTON W. RICHARDSON, *Professor*
FORREST E. MATHER, *Instructor*
FRANCIS L. MCGETTIGAN, *Instructor*
HARRY J. BENNETT, *Instructor*

1–a. Farm Poultry. A general subject in poultry husbandry, taking up the breeds, housing, incubation, brooding, feeding, breeding, culling and selection, and management. Mr. Richardson and Mr. Mather.

Required of Sophomores in Agriculture. 3 credits: 2 lectures; 1 laboratory.

3–b, 4–c. Home Poultry for Girls. A subject designed to aid in giving a practical knowledge of poultry to girls who are taking the course in Home Economics and also to any girls in the Arts and Science courses who may be interested. Mr. Richardson.

3 credits: 2 lectures; 1 laboratory.

5–a. Poultry Management. A subject in poultry management in which the students lay out plans for, and make drawings of, a 1,000-bird poultry plant, taking into consideration every phase of management. Mr. Richardson.

Prerequisites: Poultry 1–a, or 3–b, or 4–c. Required of all Juniors in Poultry; elective for others. 4 credits: 3 lectures; 1 laboratory.

6–b. Poultry Diseases. A subject treating of the anatomy of fowl, with clinics showing various common poultry diseases, and lectures giving methods of prevention and cure. Mr. Richardson.

Prerequisites: 1–b, or 3–a, or 4–b. Required of all Juniors in Poultry; elective for others. 3 credits: 3 lectures.

7–b. Incubation. A study of the theories involved in incubation and brooding, with each student running an incubator, keeping all the necessary records, and taking care of a brood of 400 chicks. Mr. Richardson and Mr. Mather.

Prerequisites: Poultry 1–a, or 3–b, or 4–c. Required of all Seniors in Poultry; elective for others. 4 credits: 3 lectures; 1 laboratory.

8–a. Poultry Seminar. A seminar subject where each student studies recent bulletins on poultry subjects, writes abstracts of them, and delivers to the class an opinion on these bulletins. An opportunity is given for students to do some research work. Mr. Richardson.

Prerequisites: Poultry 1–a, or 3–b, or 4–c. Required of all Seniors in Poultry; elective for others. 3 credits: 3 lectures.

9–c. Poultry Feeding. A subject dealing with the principles of feeding, and the comparative value of various grains and feeds used in poultry feeding. Each student is obliged to do practical work in feeding and caring for a flock of 500 hens. Mr. Richardson and Mr. Mather.

Prerequisites: Poultry 1–a, or 3–b, or 4–c. Required of all Seniors in Poultry; elective for others. 3 credits: 2 lectures; 1 laboratory.

10–a. Poultry Breeding. A subject giving the theory and practice involved in breeding for egg production, including practical work in the selection of breeding stock. Mr. Mather.

Prerequisites: Poultry 1–a, or 3–b, or 4–c. Required of all Seniors in Poultry; elective for others. 2 credits: 2 lectures.

11–b. Poultry for Teachers. This subject is designed to give to Teacher Training students the information which they will need in teaching Poultry in secondary schools. Open to Teacher Training students only. Mr. Richardson.

2 credits: 1 lecture; 1 laboratory.

12–c. Poultry Brooding. This is a laboratory subject designed to give to Teacher Training students special information in the care and management of a brood of chicks. Open to Teacher Training students only. Mr. Mather.

1 credit: 1 laboratory.

13–c. Poultry Practice. This subject is designed to give the student practical work at a successful poultry plant, somewhere in the state of New Hampshire, in the hatching and rearing of chickens. The student will be obliged to spend the time from April 1 to September 1 on a poultry plant to be selected by the head of the department.

Required of all Juniors in Poultry. Credit: 18 hours.

14–a, 15–b, 16–c. Poultry Research. In this subject the student makes a study of some poultry problem, getting such accurate and detailed information as will add materially to his fund of knowledge. Mr. Richardson and Mr. Mather.

Required of all Seniors in Poultry. 3 credits per term: time to be arranged.

17–a. Poultry Marketing. A study of the market classes of poultry and eggs, their preparation for market, packages used, the storage of poultry, the storage and preservation of eggs and the judging and scoring of eggs and poultry. Mr. Mather.

Required of all Juniors in Poultry; elective for others. 3 credits.

22–c. Poultry House Design and Construction. In this subject the students design and build a hen house. This house is to be used each year by some student who wishes to keep hens while at the college or

who wishes to grow a brood of chicks to be sent home at the end of the college year. Mr. Mather.

Required of all Seniors in Poultry; elective for others. 1 credit: 1 laboratory. (Given as 15–c prior to 1922–23.)

SHOPS

CALVIN H. CROUCH, *Head of Department*
LYMAN J. BATCHELDER, *Instructor in Wood Working*
NORMAN S. ATKINSON, *Instructor in Forging*
JOHN C. TONKIN, *Instructor in Machine Shop*

1–a, –b, 2–b, –c. **Wood Work.** Instruction in the care and use of wood-working tools and machinery, saw filing, plain pattern making. Mr. Batchelder.

Required of Freshmen in Electrical, Mechanical and Industrial Engineering Courses. 2 credits: 2 laboratories.

3–a. **Wood Work.** Plain cabinet making. Mr. Batchelder.

Required of all Sophomores in Teacher Training Course. 2 credits: 2 laboratories.

4–a, –b. **Wood Work.** Architectural and cabinet wood turning, spindle, chuck and face plate work. Mr. Batchelder.

Required of Juniors in Architectural Construction and Sophomores in Teacher Training Course. 2 credits: 2 laboratories.

5–b, –c. **Wood Work.** Advanced cabinet making and finishing, the use of stain, filler, shellac, and varnish as used in cabinet finishing and interior wood work. Mr. Batchelder.

Required of Juniors in Architectural Construction and Sophomores in Teacher Training Course. 2 credits: 2 laboratories.

6–c. **Wood Work.** Carpentry and building, including the laying out of foundations, the construction of buildings, a study of the steel square and its use in the laying out of rafters, stair stringers, trusses, etc. Also a study of the common woods used in building and cabinet work. Mr. Batchelder.

Required of Juniors in Architectural Construction. 2 credits: 2 laboratories.

7–c. **Wood Shop.** Instruction in the care and use of tools in farm carpenter shop; saw filing; the making of various implements used on

the farm; farm carpentry; use of steel square; laying out framing; care of lumber on the farm. Mr. Batchelder.

Elective for Juniors in Agriculture. 2 credits: 2 laboratories.

8–a, –b. **Practice Teaching.** Exercises, under supervision of the instructor, in teaching manual training in wood shop. Mr. Batchelder.

Required of Seniors in the Industrial Teacher Training Course. 2 credits: 2 laboratories.

9–b. **Wood Work.** Advanced cabinet making. Mr. Batchelder.

Prerequisite: Shop 5–b. 2 credits: 2 laboratories. Elective for Juniors or Seniors in Industrial courses for training teachers.

10–c. **Wood Work.** Advanced pattern making, involving split and loose piece patterns, core boxes, etc. Mr. Batchelder.

Elective for Seniors in Mechanical and Electrical Engineering. 2 credits: 2 laboratories.

31–a, –b, –c. **Forging.** This is a study of the operations necessary in the forging of iron and steel, and is designed to teach the methods of drawing, upsetting, welding, twisting, splitting, and punching of iron; also the hardening, tempering, and annealing of steel, and the case hardening of mild steel as adapted to engineering work. Mr. Atkinson.

Required of Freshmen in Mechanical and Electrical Engineering and in the Industrial Courses. 2 credits: 2 laboratories.

32–b. **Forging.** This is a study of the forging of iron and steel, and is designed to teach the operations of drawing, upsetting, welding, twisting, splitting, and punching of iron; the hardening, tempering, and annealing of steel; and the case hardening of mild steel as adapted to agricultural work. Mr. Atkinson.

Required of Juniors in Agricultural Teacher Training Course. 3 credits: 3 laboratories.

33–a. **Forging.** Advanced work in forging, welding, tempering, case hardening, tool dressing. Mr. Atkinson.

Prerequisite: Forging 31–a, –b, –c. Required of Seniors in the Industrial Teacher Training Course. 2 credits: 2 laboratories.

51–a, –b, 52–b, –c, 53–c, –a. **Machine Work.** Exercises in bench work, chipping, filing, and scraping, and the laying out of work from drawings. A study of cutting edges and tool adjustments, together

with a study of the cutting speeds and feeds on lathes, drill presses, planers, shapers and milling machines, etc. Practice in operating machine tools, and simple lathe work. Mr. Tonkin.

Required of Juniors in the Industrial Teacher Training, and Sophomores in Industrial, Mechanical and Electrical Engineering Courses. 2 credits: 2 laboratories.

54–a, 55–b. Machine Work. Advanced work on the lathe, milling machine, planers, shaper, and grinding machines, and the manufacture of some machine, using more advanced methods and special tools. Mr. Tonkin.

Required of Seniors in the Industrial Teacher Training Course. 2 credits: 2 laboratories.

56–a, 57–b, 58–c. Machine Work. Advanced machine work, time study, production methods and shop management. Mr. Tonkin.

Prerequisite: Shop 55–b. 2 credits: 2 laboratories.

60–b, –c. Machine Work. An elementary study of the operation of the principal machines and tools suited to the chemist's needs. Mr. Tonkin.

Required of Sophomores in Chemical Engineering and Arts Course in Chemistry. 3 credits: 3 laboratories.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

401–a, 402–b, 403–c. Advanced work in Mechanics of Engineering, Machine Design, Power Plant Engineering, Heat Power Engineering, Industrial Engineering and Materials Testing. The work in these different fields will be modified, as far as practicable, to meet the needs of the individual student. 6 credits each.

SCIENCE SURVEY

Science Survey 1–a, 2–b, 3–c. Lectures covering an historic and contemporary survey of natural science, given by the heads of departments of Botany, Chemistry, Mathematics, Physics, Zoölogy, and others selected from fields closely related to this basic group. A study of the significance, meaning and purpose of science; of scientific inquiry as a method of research; of creative science and scientific coöperation; of some origins of our habitat; of life; theories of evolution; of conservation; of trends in invention and discovery culminating in a consciousness of the facts of natural laws and of continuity of law. Recommended for those majoring in Mathematics and Natural Science. Directed by the Dean of the College of Liberal Arts.

Elective for Freshmen and Sophomores and may be taken parallel with elementary Mathematics and elementary Science subjects. 1 credit: 1 lecture.

SOCIAL SCIENCE

(See General Course for Liberal Arts Freshmen)

This subject has been organized to acquaint students with the broad field of social science. The need is recognized for an introductory subject surveying the whole field of the social sciences before an opportunity is given to pursue work in any of the more specialized fields of political science, sociology, history, education, and economics. In order to insure a common background for a further detailed study in related subjects, the following subjects are planned under the general supervision of the Dean of the College of Liberal Arts. It is expected that students in the College of Liberal Arts will take the introduction subject described below as a necessary preparation for any work catalogued in history, political science, sociology, education, and economics.

1–a, 2–b, 3–c. Introduction to the Social Sciences. Various approaches to human society will be made, taking the points of view of the biologist, the anthropologist, the historian, etc. The main factors in human progress will be considered, and some of the problems confronting society studied.

Designed for Freshmen. Elective for Sophomores. 3 credits: 3 hours.

SOCIOLOGY

ALBERT N. FRENCH, *Professor*
PHILIP B. PASQUALE, *Instructor*
THORSTEN KALIJARVI, *Instructor*

Major: 27 hours from subjects offered in the department.
Minor: 27 hours of work chosen from any two subjects in allied fields, i.e., Literature, Biology, Psychology, Education or a Social Science including History, provided that not less than 9 hours is offered in any one subject.

This department is primarily interested in general culture—in civic training, social ethics, social philosophy, social psychology as aspects of social well-being. Vocationally limited opportunities are afforded to such majors as are inclined to follow certain specialized lines of social service.

Initial Subjects—Group A

2–c. Communities and Territorial Groups. An empirical study of problems in social relations, in social change, in community organization, etc. A comparative study of the rural community and its problems, the city and its areas, communal organizations and human geography.

3 credits: 3 recitations. Social Science 1–a, 2–b, 3–c is desirable as a prerequisite.

3–c. Problems in Rural Sociology. A study of certain insistent problems, conditioning factors and influences of country life followed by a preliminary survey of remedial measures—social amelioration through community organization and rural leadership.

3 credits: 3 recitations. Social Science 1–a, 2–b, 3–c is desirable as a prerequisite.

14–a, 15–b, 16–c. Principles of Sociology and Social Problems. A systematic and intensive study of certain fundamentals of general sociology like social contacts, social interactions, etc., as they are based on human nature; followed by a study of conflict, coöperation, etc., as aspects of collective behavior.

Required of all majors in Sociology.
Prerequisite: Social Science 1–a, 2–b and 3–c. 3 credits: 3 recitations.

Secondary Subjects—Group B

Prerequisites: Junior standing or 9 hours of "initial subjects" (Group A) preferably 9 hours of Principles of Sociology 14–a, 15–b and 16–c.

17–a. Social Psychology. A study of human traits in so far as these are basic to a study of social personality and social psychology.

Required of all majors. 3 credits: 3 recitations.

18–b. Educational Sociology. A study of educational theory based on social principles.

3 credits: 3 lectures.

19–c. Primitive Culture and Social Change. A comparative study of social origins, of theories of human society, of social change and of adaptive culture.

3 credits: 3 recitations.

20–c. Social Ethics. A study of social ethics, social pathology and social engineering.

3 credits: 3 lectures.

21–a. Social Theory. A comparative study of theories of society in the light of social history.

3 credits: 3 lectures.

22–b. Societal Psychology—Human Nature and the Social Order. A further study of the principles of social psychology and social organization given parallel with educational sociology. A more detailed analysis of the social dynamics of our social order—of nature and nurture, of modifying human traits and social organization, of heredity and social environment, of collective behavior and creative experience.

3 credits: 3 lectures. (Given in 1924–25 as a section of 18–b.)

Advanced Subjects—Group C

Prerequisites: Senior standing. A satisfactory average in 18 hours of well distributed courses in Groups A and B.

30–a, 32–c. Seminar: Sociological Research. Provision is here made for limited field work and for library research. Planned for majors.

Seniors may request invitation to enroll. 1 credit: 1 seminar period or conference. Differential grading practiced.

31–b. Seminar: Professional Research. Methods of Teaching Social Science in High School and Junior College are studied. Objectives, selection, organization and presentation of content are analyzed. Planned for majors.

Seniors planning to teach may request invitation. 1 credit: 1 seminar period. Differential grading practiced.

Subjects Primarily for Graduate Students—Group D

33–a, 34–b, 35–c. Social Amelioration. Advanced studies into the nature, causes and treatment of criminal and juvenile delinquents, mental and moral defectives, and social dependents. Statistical methods, case studies, and social surveys are incident to class procedure. 3 credits each: 3 recitations or conferences.

36–a, 37–b, 38–c. Population Problems. Investigations of problems incident to the trend of population. A study of causes for the

regional population increases and decreases of urban and rural New England. 3 credits: 3 recitations or conferences.

40–a, 41–b, 42–c. Advanced Sociology. Advanced studies in social theory, social philosophy, the technic of applied sociology, and statistical methods. 1 credit each. Extra credit when authorized.

ZOÖLOGY

C. Floyd Jackson, *Professor*
Alma D. Jackson, *Instructor*
Herbert M. Emery, *Instructor*
Edythe M. Tingley, *Instructor*
Milton F. Crowell, *Assistant*

Major: 27 hours in Zoölogy, exclusive of the first year's work.

Minor: 9 hours Chemistry, and 9 additional hours in each of two of the following subjects: Psychology, Physics, Botany, Sociology.

Courses in the Department of Zoölogy are divided as follows:

Group A is primarily for Liberal Arts students, pre-medical students, and those majoring in Zoölogy. Students from other courses may, however, elect from this group, provided they have the proper prerequisites.

Group B includes the required subjects in Agriculture and Home Economics, as well as certain other electives for either Agriculture, Home Economics or Liberal Arts students.

Group C gives a list of Graduate subjects which will be recognized as major or minor work for a master's degree.

Note: Students desiring to prepare for Medical or Dental Schools, will consult the head of the department.

Group A. Liberal Arts Subjects

1–a, 2–b, 3–c. Principles of Zoölogy. An elementary study of the principles of life, its development, structural basis and physiological activity. The subject is continuous throughout the year. This subject is intended to give a practical knowledge of animal life, and is required of all pre-medical students and others intending to major in the Department of Zoölogy. Students are strongly advised to carry the laboratory work (Zoölogy 4–a, 5–b and 6–c) parallel with this subject. Mr. Jackson.

Freshman subjects. 3 credits: 3 lectures.

4–a, 5–b, 6–c. Elementary Laboratory. Laboratory exercises for the purpose of demonstrating the principles discussed in Zoölogy 1–a, 2–b and 3–c. A much clearer conception of life phenomena will be gained if the laboratory work is carried parallel to the lectures. Mrs. Jackson and Assistants.

Prerequisite: Zoölogy 1–a, 2–b, 3–c, carried as parallel subjects. Freshman subject. 1 credit: 1 laboratory.

7–a, 8–b, 9–c. Comparative Physiology. A detailed study of human anatomy and physiology, compared briefly with the anatomy and physiology of lower animals. This subject is intended to give a practical knowledge of the human mechanism and its method of operation. Students are strongly advised to carry the laboratory work (Zoölogy 10–a, 11–b and 12–c) parallel with this subject. Miss Tingley.

Prerequisite: Zoölogy 3–c. Required of all pre-medical students. Sophomore subject. 3 credits: 3 lectures.

10–a, 11–b, 12–c. Physiological Laboratory. Laboratory exercises for the purpose of demonstrating the principles in Comparative Physiology (Zoölogy 7–a, 8–b and 9–c). The laboratory work should be carried parallel with the lectures when possible. Miss Tingley.

Prerequisite: Zoölogy 7–a, 8–b, 9–c, carried as parallel subjects. Sophomore subject. 1 credit: 1 laboratory.

13–a, 14–b, 15–c. Hygiene and Sanitation. A detailed study of the principles of health preservation. This subject is continuous throughout the year and should, if possible, be preceded by work in Physiology. Mr. Jackson.

Prerequisite: 9 hours of Zoölogy. 3 credits: 3 lectures.

16–a, 17–b, 18–c. Evolution and Genetics. Lectures and Assignments dealing with the various problems of evolution and their relation to human life. Evidence of man's origin based on anatomical, embryonic and paleontological data will be discussed. A special emphasis will be given to the racial identity, origin and derivation of the English-speaking people. Work in evolution should, if possible, be preceded by a study of Comparative Physiology (Zoölogy 7–a, 8–b and 9–c). Mr. Jackson.

Prerequisite: 18 hours of Zoölogy. 3 credits: 3 lectures.

19–a, 20–b, 21–c. Advanced Zoölogy. Arranged to suit the need of students who wish to specialize in Zoölogy. Two lectures a week will deal with the teaching of Zoölogy; methods of presenting the subject

both in high schools and colleges; methods of conducting laboratory classes; the grading of examination papers and the preparation of laboratory material. In addition students may choose for laboratory work some special subject for investigation as noted below.

Prerequisites: This subject may not be elected except by students who have completed at least 27 hours in Zoölogy or Entomology with an average grade of at least 80. Open only to students by special permission. Credit and hours to be arranged.

28–c. First Aid. This subject deals with first aid treatment of minor injuries such as fractures, wounds, hemorrhage and methods of procedure in drowning accidents. Dr. Griffin.

Prerequisites: Zoölogy 13–a and 14–b. 1 credit: 1 lecture.

Group B. Agricultural and Home Economics Subjects

30–b, 31–c. General Zoölogy. A detailed study of the fundamental principles of life; the nature and physiology of protoplasm; the structure of the cell and the processes of cell division. The structure and physiology of man will be discussed in detail. Mrs. Jackson and Mr. Emery.

Required of Freshmen in Agriculture. 3 credits: 2 lectures; 1 laboratory.

32–c. Systematic Zoölogy. A detailed study of the classification of animals, their characteristics, habits and habitat, and the methods of identification. This subject should be elected by all students who intend to teach Zoölogy in the high school. Mrs. Jackson.

No prerequisites. Freshman subject. 3 credits: 2 lectures; 1 laboratory.

33–a, 34–b, 35–c. Human Anatomy and Physiology. A survey of the structure and function of the human body, with a study of the fundamental principles of hygiene as applied to the different systems. Collateral readings, written reports and conferences required. Miss Tingley.

Required of Sophomores in Home Economics. Elective for Liberal Arts Sophomores not having credit in 2–b and 3–c. 3 credits: 2 lectures; 1 laboratory.

36–a, 37–b, 38–c. Histology. A detailed study of the structure of the tissues of vertebrate animals, cell specialization and the manner in which tissues are combined into organs. The subject is primarily for

students intending to teach Zoölogy, a great deal of attention being paid to preparing microscope slides and general histological technique. Mrs. Jackson.

Prerequisites: 18 hours credit in Zoölogy. Junior subject. 3 credits: 1 lecture; 2 laboratories.

39–a, 40–b, 41–c. Embryology. A detailed study of the invertebrate and vertebrate embryo, its method of development, and the relation of the embryo to the parent. The work will be prefaced by the study of the details of cell structure, oögenesis, spermatogenesis, fertilization and segmentation; thus tracing the gradual development of the embryo from the single cell to maturity. The laboratory work will be primarily with the frog and chick embryo. The lectures will include human embryology. Mrs. Jackson.

Prerequisites: 18 hours credit in Zoölogy. Senior subject. 3 credits: 2 lectures; 1 laboratory.

42–b. Physiology of Nutrition. An advanced subject in the nature and physiology of nutrition. The physiology of the alimentary tract and the allied organs of digestion will be discussed in detail. The work will consist of lectures, assigned topics and laboratory experiments on digestion. Miss Tingley.

Prerequisite: 18 hours credit in Zoölogy. 3 credits: 2 lectures; 1 laboratory.

43–c. Physiology of Circulation and Respiration. An advanced subject in the nature and physiology of the organs of circulation and respiration. The subject will consist of lectures, assigned topics and laboratory experiments on the circulatory and respiratory processes within the body. Miss Tingley.

Prerequisite: 18 hours credit in Zoölogy. 3 credits: 2 lectures; 1 laboratory.

45–a, 46–b, 47–c. Comparative Anatomy of the Vertebrates. A study of the detailed anatomy of typical vertebrates. This is a fundamental course for pre-medical students or those interested in advanced Zoölogy. Mrs. Jackson.

Prerequisites: Zoölogy 1–a, 30–a or 33–a. Junior subject. 3 credits: 2 lectures; 1 laboratory.

SUBJECTS PRIMARILY FOR GRADUATE STUDENTS

22–a, 23–b, 24–c. Advanced Ecology. A study of advanced ecological problems and their correlation with Morphology, Physiology and

Taxonomy as exemplified by local associations and cenoses. 3 or 5 credits each.

25–a, 26–b, 27–c. Advanced Seminar. A critical study of the literature and history of Zoölogy. A thesis on some approved topic may be required in this work.

Prerequisites: Degree of B.S. or B.A. Credit and hours to be arranged. (Given as *Thesis* prior to 1925–26.)

THE TWO-YEAR COURSE IN AGRICULTURE

FREDERICK W. TAYLOR, *Dean*

The University offers a two-year course in Agriculture, established in 1895 for the purpose of affording an opportunity for the boys of the state to acquaint themselves with the fundamental principles and with the latest and most approved practices of agriculture. This course is arranged especially for the young men who wish to make a business of dairying, livestock raising, poultry, horticulture or general farming, but who do not have the time, money or preparation to take a regular four-year course.

The classes of the two-year course are separate and distinct from those of the four-year courses. The work of the first year is in part a study of the sciences like chemistry, botany and physiology which underlie successful plant and animal production. In short, the student is made to understand the scientific reasons for our common farm practices. The second year contains numerous elective subjects which make it possible for students to spend at least a third of their time in specializing along some particular line of work in which they expect to engage later on.

The two-year course consists of two terms of twelve weeks each for two years. Students may enter at the beginning of the winter or spring term, although we advise them to enter only at the beginning of the course in January. The course closes each year at Commencement time in June, which enables the student to have about six months in which to earn money for his second year's work.

The work of this course is made as thorough and practical as the limited time will permit. The students are given practice both in the laboratory and in the field in doing the very things which are taught them in the classroom. At least ten hours per week are devoted to practical work in the shops, the orchard and gardens, the barns, the poultry plant or the woods.

Military Art is not required of two-year students, but any student desiring to take this subject may elect it with the four-year students.

Entrance Requirements.—The two-year course is open to both young men and young women. The only entrance requirements are a common school education involving a reasonable knowledge of reading, writing, spelling, arithmetic, English grammar, geography and United States history. The course is best adapted to students from 17 to 21 years of

age. Older students frequently take the course, but younger ones are not encouraged to enter.

Tuition and Fees. The tuition for students who are residents of New Hampshire is $50 per year and the general fees are $35. For out-of-state students the tuition is $100 per year, with general fees of $35. One-half the tuition and $20 of the fees is payable at the beginning of the winter term; the other half and $15 of the fees at the beginning of the spring term.

Scholarships.—The University grants to residents of the state a limited number of scholarships which cover the tuition charges, but not the general fees. Students desiring to secure scholarships should apply to the secretary of their local grange or write to the Dean of the Faculty, Durham, N. H.

Expenses.—The expenses of this course will vary with the tastes and frugality of the students. An estimate of the expenses for one year is as follows:

	High	Average	Low
Tuition	$100		
Fees	35	$35	$35
Books	20	15	10
Room	60	50	40
Board	150	130	100
Laundry	20	15	10
Incidentals	30	20	10
	$415	$265	$205

Farm Experience Requirement.—In order to graduate from this course every student must present satisfactory evidence of having had practical experience in farm work, either through having worked on a farm for at least two years after he was 12 years of age, or through having worked on a farm for at least four months after he was 15 years of age.

Opening—Closing.—The course for this year will open Monday, January 4, 1926, and will close Tuesday, June 22, 1926. A Spring recess of seven days is given.

Certificate of Graduation.—No degree is given at the end of this course, but a "Certificate of Graduation" is presented to all students who complete the prescribed course or its equivalent.

TWO-YEAR COURSE OF STUDY

First Year	*First Term ("B")*	*Second Term ("C")*
Eng. 201–b, 202–c (*Grammar and El. Composition*)	3	3
Bot. 201–b (*Elements of Botany*)	3	
Bot. 202–c (*Fungus Diseases of Plants*)		2
Agric. Chem. 201–b, 202–c (*Chemistry*)	3	3
D. H. 201–b (*Farm Dairying*)	3	
Hort. 201–c (*Fruit Growing*)		3
Zoöl. 201–c (*Physiology and Hygiene*)		3
A. H. 201–b (*Types and Breeds*)	4	
Draw. 201–b (*Agricultural Drawing*)	2	
Shop 202–c (*Forge*)		1
Shop 201–c (*Wood Work*)		2
P. E. 52–b, 53–c (*Physical Education*)	½	½
	18½	17½

Second Year		
Agron. 201–c (*Farm Equipment*)		3
Agron. 203–b (*Soils*)	3	
Agron. 202–c (*Field Crops*)		3
For. 201–c (*Farm Forestry*)		3
P. H. 201–b (*Farm Poultry*)	3	
Ent. 201–b (*Economic Entomology*)	3	
P. E. 55–b, 56–c (*Physical Education*)	½	½
Electives from subjects listed below	8½	8½
	18	18

Electives		
A. H. 203–b (*Anatomy of Farm Animals*)	3	
D. H. 202–c (*Milk Production*)		3
D. H. 203–c (*Butter making*)		3
Hort. 202–c (*Vegetable Gardening*)		3
Hort. 203–b (*Greenhouse Management*)	3	
Hort. 207–b (*Advanced Horticulture*)	3	
Hort. 209–c (*Beekeeping*)		3
Agron. 204–b (*Manures and Fertilizers*)	3	
Agron. 205–b (*Farm Management*)	3	
A. H. 202–b (*Feeds and Feedings*)	3	
A. H. 204–c (*Animal Diseases*)		3
A. H. 205–c (*Animal Breeding*)		3
D. H. 204–b (*Market Milk*)	3	
D. H. 205–b (*Cheese and Ice Cream*)	4	
Hort. 204–b (*Home Decoration*)	3	
Hort. 205–b (*Orchard Problems*)	3	
Hort. 206–c (*Small Fruits and Plant Propagation*)		3
Hort. 208–c (*Advanced Horticulture*)		3
P. H. 202–c (*Farm Poultry*)		3
P. H. 203–b (*Poultry Disease*)	3	
P. H. 204–c (*Poultry Feeding*)		3

*DESCRIPTION OF SUBJECTS OF TWO-YEAR COURSE IN AGRICULTURE

FREDERICK W. TAYLOR, *Dean*

AGRONOMY

201–c. Farm Equipment. This subject will include the mapping of farms, leveling for drains, a study of farm implements and of farm buildings. Practical exercises are given in map making, laying out drains, comparing farm machines, rope splicing, etc. Mr. Taylor.

Required second year. 3 credits: 2 recitations; 1 laboratory.

202–c. Field Crops. Lectures and recitations on the culture, uses and value of the field crops grown in New England. Laboratory practice will include seed testing, seed identification, corn and potato judging, hay judging, and a study of the different legumes, grasses and grains.

Required second year. 3 credits: 2 lectures; 1 laboratory.

203–b. Soils. Text-book and recitations upon the physical and chemical properties of soils. The subject will be made as practical as possible in its application to farm work. Laboratory experiments will be performed to illustrate the principles studied. Mr. Eastman.

Required second year. 3 credits: 2 recitations; 1 laboratory.

204–b. Manures and Fertilizers. Text-book and recitations upon the constituents of farm manures, the home-mixing of fertilizers, and the modifications required by different soils and crops. Mr. Taylor.

Elective second year. 3 credits: 3 lectures.

205–b. Farm Management and Accounting. Text-book, lectures and recitations upon different types of farming, size of farms, cropping systems, livestock problems, marketing farm products, choice of a farm, and farm records and accounts. Practical work in laying out farms, keeping cost accounts on farms, and analyzing and organizing the farm business. Mr. Eastman.

Elective second year. 3 credits: 2 lectures; 1 laboratory.

* Only Two-Year students in Agriculture are admitted to these subjects, except by special arrangement with the dean.

ANIMAL HUSBANDRY

201–b. Types and Breeds of Livestock. A study of the different breeds of horses, cattle, sheep, and swine in respect to their origin, history, development, characteristics, and adaptability to different conditions of climate and soil. One afternoon each week is devoted to judging the different breeds. Mr. Tirrell.

Required first year. 4 credits: 3 lectures; 1 laboratory.

202–b. Feeds and Feeding. An elementary study of the laws of nutrition, the character, composition, and digestibility of feed stuffs, and the methods of feeding different kinds of farm animals. Numerous samples of grains and by-products are used for the purpose of familiarizing the students with the different feed stuffs. Practice is given in calculating rations for various purposes. Mr. Tirrell.

Required second year. 3 credits: 2 recitations; 1 laboratory.

203–b. Anatomy of Farm Animals. Lectures and recitations upon the form and structure of the domesticated animals. Skeletons, various anatomical specimens, models, charts, and lantern slides are used to make the subject as practical as possible. The purposes of this subject are to show the relation between the skeleton and the form and function of the animal, and to serve as a foundation for the intelligent study of animal diseases and ailments. Mr. Tirrell.

Elective. 3 credits: 2 recitations; 1 laboratory.

204–c. Animal Diseases. A study of some of the more common economic infectious and non-infectious diseases of farm animals, their prevention and their treatment. Mr. Tirrell.

Elective. 3 credits: 2 recitations; 1 laboratory.

205–c. Animal Breeding. A study of the principles and practices of animal breeding. Practice is given in tracing pedigrees. Mr. Tirrell.

Elective second year. 3 credits: 2 recitations; 1 laboratory.

BOTANY

201–b. Elements of Botany. In this subject the student is given a succinct account of the form and structure of plants, and of how plants grow and feed. Mr. Klotz.

Required first year. 3 credits: 1 lecture; 2 laboratories.

202–c. Fungous Diseases of Plants. The principal fungous diseases, their cure and their prevention. Mr. Klotz.

Required first year. 2 credits: 1 lecture; 1 laboratory.

AGRICULTURAL CHEMISTRY

201–b. Agricultural Chemistry. A study of the elementary principles of chemistry, with special emphasis upon the elements of importance in agriculture. Mr. Phillips and Mr. Schaffer.

Required first year. 3 credits: 2 recitations; 1 laboratory.

202–c. Agricultural Chemistry. Elements of the chemistry of plants, soils, fertilizers, manure, lime, foods, animal physiology, spray materials and dairy products. Mr. Phillips and Mr. Schaffer.

Prerequisite: Agricultural Chemistry 201–a. Required first year. 3 credits: 2 recitations; 1 laboratory.

DAIRY HUSBANDRY

201–b. Farm Dairying. A general survey of the field of dairy husbandry. Such topics as the use of the Babcock test, farm separators, farm butter making, and marketing dairy products, are included. Mr. DePew.

Required first year. 3 credits: 2 lectures; 1 laboratory.

202–c. Milk Production. The field of dairy husbandry in its relation to the producer. Feeding dairy animals; systems of herd feeding; silage and soiling; raising dairy animals; dairy herd development; dairy barns; advanced registry management; fitting dairy animals for show; dairy cattle judging. Mr. Fuller.

Elective second year. 3 credits: 2 lectures; 1 laboratory.

203–c. Butter Making. A study of the secretion, and of the chemical and physical properties of milk; pasteurization; cream ripening, starters, churning; organization and operation of factories. Mr. DePew.

Elective second year. 3 credits: 2 lectures; 1 laboratory.

204–b. Market Milk. Food value of milk; producing, handling and distributing market and certified milk; dairy farm inspection; control of milk supply. Mr. DePew.

Elective second year. 3 credits: 2 lectures; 1 laboratory.

205–b. Ice Cream and Cheese Making. (1) Lectures and laboratory work covering the manufacture of the more important types of cheese.

(2) The making, handling, and marketing of ice cream and ices. Mr. DePew.

Elective second year. 4 credits: 2 lectures; 2 laboratories.

DRAWING

Draw. 201–b. Agricultural Drawing. A brief study of the use of drafting instruments, followed by sketches and working drawings of wood and concrete construction as applied to farm mechanics and farm buildings. Mr. Dodge.

Required first year. 2 credits: 2 drawing periods.

ENGLISH

201–b, 202–c. Grammar and Elementary Composition. Mr. Richards.

Required first year. 3 credits: 3 recitations.

ENTOMOLOGY

201–b. Principles of Economic Entomology. The relation of the structure and classification of insects to methods of insect control. The preparation and application of insecticides. Spray machinery and appliances. Mr. O'Kane and Mr. Lowry.

Required second year. 3 credits: 2 recitations; 1 laboratory.

FORESTRY

201–c. Farm Forestry. The care and management of farm woodlots; log and board scaling; logging and milling; estimating standing timber; protection from fire, insects, fungi, etc.; thinning immature stands; seeding and planting; natural regeneration. Mr. Woodward.

Required second year. 3 credits: 2 lectures; 1 laboratory.

HORTICULTURE

201–c. Fruit Growing. This subject embraces a study of commercial orcharding. Each fruit is studied with reference to planting, cultivating, pruning, fertilizing, picking, packing, storing and marketing. Mr. Wentworth.

Required first year. 3 credits: 1 lecture; 1 recitation; 1 laboratory.

202–c. Vegetable Gardening. A study of the commercial methods of vegetable growing. Special attention is given to the home garden. Mr. Hepler.

Elective second year. 3 credits: 2 lectures; 1 laboratory.

203–b. Greenhouse Management. Combined lecture, demonstration and laboratory work in greenhouse management. Mr. Hepler.

Elective second year. 3 credits: 2 lectures; 1 laboratory.

204–b. Home Decoration. A study of ornamental trees, shrubs and flowers; their culture, proper arrangement and decorative value, with special reference to the home surroundings. Mr. Hepler.

Elective second year. 3 credits: 2 lectures; 1 laboratory.

205–b. Orchard Problems. This subject deals with the principal problems of farm and commercial orchard management. It is designed to show the application of the principles of fruit growing to practical conditions. Mr. Potter.

Elective second year. 3 credits: 2 lectures; 1 laboratory.

206–c. Small Fruits and Plant Propagation. A study of the propagation of horticultural plants and the culture and marketing of miscellaneous small fruits including the strawberry, cranberry, raspberry, blackberry, grape, and blueberry. This subject will also include a brief study of the principles of plant breeding. Mr. Wentworth.

Elective second year. 3 credits: 2 lectures; 1 laboratory.

207–b, 208–c. Advanced Horticulture. Special work in any phase of horticulture may be taken by arrangement with the head of the department. Messrs. Potter, Hepler, Wentworth, and Macfarlane.

Prerequisites will depend upon the work taken. Elective second year. Credits and hours to be arranged.

209–c. Beekeeping. This subject deals with the life history and habits of honey bees with special reference to apiary conditions. The laboratory work consists of practice in handling bees, construction and use of hives, hive fittings, and winter cases. Mr. Hepler.

Elective second year. 3 credits: 2 lectures; 1 laboratory.

POULTRY

201–b, 202–c. Farm Poultry. A general subject designed especially for two-year students who are going back to the farm to take up practical poultry work. The subject will include work in managing, feeding,

housing, breeding, incubation, brooding, and marketing, with laboratory work as practical as can be made. Mr. Richardson and Mr. Mather.

3 credits: 2 lectures; 1 laboratory.

203–b. Poultry Diseases. A subject treating of the anatomy of fowl, with clinics showing various common poultry diseases, and lectures giving methods of prevention and cure. Mr. Mather.

Prerequisite: 201–a. 3 credits: 3 lectures.

204–c. Poultry Feeds and Feeding. A subject dealing with the principles of feeding, and the comparative value of various grains and feeds used in poultry feeding. Each student is obliged to do practical work in feeding and caring for a flock of 500 hens. Mr. Richardson.

Prerequisite: 201–a. 3 credits: 2 lectures; 1 laboratory.

SHOP WORK

201–c. Wood Work. Farm carpentry and joinery. Care and use of tools, making of implements for the farm, and care of lumber on the farm. Mr. Batchelder.

Required first year. 2 credits: 2 laboratories.

202–c. Forging. This is a study in the forging of iron and steel, and is designed to teach the operation of drawing, upsetting, welding, twisting, splitting, and punching. A study is made of the construction, care and management of the forge, and instruction is given in tempering, case hardening and annealing. Mr. Atkinson.

Required first year. 1 credit: 1 laboratory.

ZOÖLOGY

201–c. Human Anatomy and Physiology. A general survey of the structure and physiology of the human body. The most important principles of hygiene will be pointed out from time to time as various systems are discussed. Mr. Emery.

Required first year. 3 credits: 3 lectures.

NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION

JOHN C. KENDALL, *Director*

HISTORICAL SKETCH

In order that research work on agricultural problems might be undertaken in New Hampshire, a branch of the University, known as the New Hampshire Agricultural Experiment Station, was established by the state, August 4, 1887, under an act of congress of March 2 of that year, known as the Hatch Act, in honor of its author. This act appropriated $15,000 annually for the maintenance of an agricultural experiment station in each state, providing as follows:

"That it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural and artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective states and territories." The act also provides that the results of such work shall be published in bulletins and reports.

A further endowment of the experiment stations to provide specifically for research work was made by the Adams Act, passed by congress and approved March 16, 1906, which amounts to $15,000 each year. This appropriation is specifically limited to the "necessary expenses of conducting original researches or experiments," and the rulings of the United States Department of Agriculture, which is vested with the supervision of the expenditures under this act, require that this appropriation be spent in fundamental investigations or researches to deter-

mine the underlying causes and principles of agricultural science, rather than for mere experiments to secure results of immediate practical application as contemplated under the Hatch Act appropriation. The purposes of the two acts are, therefore, supplementary but distinct. The State Legislature in 1921 recognized the value of the agricultural research work by passing an additional appropriation of $5,000 for the year 1921–22, and $7,000 for the year 1922–23, the latter sum being repeated annually during the present biennium.

The New Hampshire Agricultural Experiment Station is organized as a department of the University of New Hampshire and is administered by a board of control, elected by its board of trustees.

WORK OF EXPERIMENT STATION

The investigations conducted by the New Hampshire Agricultural Experiment Station vary according to their nature, some lasting through one season only and some covering a period of years. Projects carried on under the Adams Act are limited by the act of congress to fundamental investigations to determine the underlying principles of agricultural science, while those under the Hatch Act may be of more immediate practical application. The station thus aims to contribute not only to the universal fund of knowledge relating to agriculture, but also to the problems peculiar to farming in New Hampshire. Experiments having the latter end in view have been conducted not only at Durham but in various sections of the state.

Advantage of the opportunities offered by the experiment station has been taken by the state in connection with the tests of seeds, fertilizers, and feeding-stuffs; and samples of these collected by the State Department of Agriculture are tested at the station laboratories each year, in accordance with legislative enactments.

Information relating to agricultural practices is supplied by the various departments and entails a large volume of correspondence in answer to individual inquiries. Samples of soil are tested, and plants and insects are identified. During the past year blood samples from 40,000 hens have been tested in connection with the campaign against white diarrhea of chickens.

EXPERIMENT STATION LIBRARY

The experiment station library, which is open daily to students and visitors, contains complete files of all bulletins issued by experiment stations in other states, all United States Department of Agriculture

bulletins, and many other reports, bulletins and records as well as books of agricultural value.

PUBLICATIONS

The publications of the station comprise 215 bulletins of the regular series and 23 circulars, 27 technical bulletins, 21 scientific contributions, and 4 school bulletins. The bulletins are issued at irregular intervals and notices of publication are sent to all residents of New Hampshire requesting them. Back numbers will be sent as long as the supply lasts. Lists of available publications will be supplied upon request.

LIST OF PROJECTS

Following is a list of some of the principal projects conducted by the departments of the experiment station during the past year. Adams projects are printed in italics. A more complete description of the station work may be found in the latest printed report.

Agronomy Department.—Variety tests of ensilage corn. Potash tests on potatoes. Top dressing hay land. Pasture improvement. Tests of foreign clovers. Improvement of timothy by selection and breeding. F. W. Taylor, agronomist, and M. G. Eastman, assistant agronomist.

Animal Husbandry Department.—*Sheep breeding. Nutrition investigations.* E. G. Ritzman, animal husbandman.

Botany Department.—*Studies of the effect of fungicides and insecticides on plants. Study of the toxic action of fungicides to parasitic fungi.* Snap-dragon rust and its control. Potato spraying experiments. Effect of climate on productiveness. Apple scab. Bean anthracnose. O. R. Butler, botanist, and L. J. Klotz, assistant botanist.

Chemistry Department.—*Plant metabolism studies. Relation of light to fruit bud formation.* Soil rejuvenation of neglected hay lands. Effect of phosphorus upon time of maturity of tomatoes. Study of lime requirements of New Hampshire soils. T. G. Phillips, chemist, T. O. Smith, associate chemist, and S. R. Shimer, assistant chemist.

Entomology Department.—*Study of European corn borer.* Control of black flies. Insect record. W. C. O'Kane, entomologist, and P. R. Lowry, assistant entomologist.

Forestry Department.—Immature forest stands. K. W. Woodward, forester.

Horticultural Department.—*Fruit bud formation. Winter injury to fruits.* Adaptation of varieties of tomatoes to New Hampshire conditions. Variety tests of apples, plums, and small fruits. Experiment on use of manures, commercial fertilizers and green crops for maintaining soil fertility in vegetable gardens. Experiment on storage pits and trenches for root crops and cabbage. Experiment in pruning young apple trees. Experiment in fertilizing peach orchards. Effect of disbudding on apple trees. G. F. Potter, horticulturist, S. W. Wentworth, assistant horticulturist, and J. R. Hepler, assistant in vegetable gardening.

Poultry Department.—Elimination of white diarrhea. A. W. Richardson, poultryman, and F. E. Mather, assistant poultryman.

UNIVERSITY OF NEW HAMPSHIRE EXTENSION SERVICE

(AGRICULTURE AND HOME ECONOMICS)

JOHN C. KENDALL, *Director*

WORK OF EXTENSION SERVICE

What the colleges and universities are to those young men and young women who come within their walls, the extension service is, only to a lesser degree, to the thousands who are beyond the reach of the classroom.

The teachings of the college and the findings of the experiment station and the United States Department of Agriculture are now being carried to farms and homes throughout the state by a regularly established force of field workers. As a result of the coöperative arrangement, first made possible by the Smith-Lever Law, between the United States Department of Agriculture, the state college and the counties of the state, there are at present county agricultural agents in all ten counties, home demonstration agents in seven counties, and boys' and girls' club agents in six counties of the state. Farm management demonstrations and cow-test associations are also conducted with specialists in charge.

The extension service works largely through the organization of the Farm Bureaus, one of which has been formed in each county. The Farm Bureau is composed of farmers and farm women; and so far as possible the extension work is conducted along the lines requested by the people whom it is designed most to help.

With its own corps of thirty-two men and women the extension service relieves the college teaching staff and station workers from much of the miscellaneous extension work which they, of necessity, have been compelled to carry on in the past. It also carries the work to a much larger public and in a much more intimate way than it would otherwise be possible to do. It is very difficult to place any just estimate upon the value of such service to a state or to the nation. It is recognized today as never before that upon the prosperity of the farmer depends quite largely the general prosperity of all classes of people. The present high cost of living has done much to attract the attention of people to the relation which the farmer and his interests bear to them personally.

PUBLICATIONS

The publications of the extension service comprise 138 press bulletins, 57 circulars and 25 bulletins. Notices of new bulletins are sent to a mailing list, which is maintained in coöperation with the experiment station. Bulletins are sent free to all who request them.

Reading courses in fifteen subjects in agriculture and home economics, prepared by members of the resident college staff, are offered during the winter months.

LIST OF EXTENSION PROJECTS

Following is a brief description of the principal projects conducted by the extension service during the past year. Further information regarding the extension work may be found in the printed extension reports.

Work of the Central Office.—Matters of relationships are arranged by the director, who has charge of the general administration of extension activities. A bureau of information is maintained, connecting the people of the state with the college departments. Publications are issued, reading courses handled, informational articles sent to newspapers, and arrangements made for speakers and demonstrators.

Work of County Agricultural Agents.—Each county now has an agricultural agent. Work has been conducted in lime demonstrations, home mixing of fertilizers, legume demonstrations, variety tests, seed improvement, potato blight, orchard management, elimination of insect pests and plant diseases, dairy improvement, poultry improvement, elimination of scrub sires, tuberculosis eradication, farm management work, coöperative marketing, farm credits, and community improvement. The work is under the supervision of E. P. Robinson, county agent leader.

Work for Dairy Improvement.—Cow-test associations are operated in the state under this project. Elimination of low-producing cows, the introduction of better breeding methods, better feeding and care are emphasized. The work is under the supervision of G. L. Waugh, agent in dairying.

Farm Management Demonstrations.—This project is devoted largely to demonstrations in the keeping of farm accounts, and to the possibilities shown by such accounts for better farm management. Figures on the labor cost of hay, potato and corn production have also been ob-

tained. The work is under the supervision of H. C. Woodworth, farm management demonstrator.

Home Demonstration Work.—Seven counties now have home demonstration agents, and the leader and assistant leader cover in a less intensive way the other counties. Work has been done on balanced rations for the family, a general nutrition campaign, hot school lunches, preservation of foods, child feeding, health, home care of the sick, home sanitation, clothing improvement, labor-saving conveniences, household accounts, marketing of home products, community rest-rooms and work for community improvement. The work is under the supervision of Miss D. D. Williamson, home demonstration leader, and Miss A. F. Beggs, assistant leader.

Boys' and Girls' Club Work.—Instruction to juniors through boys' and girls' club organizations has been given in the planting of home gardens and potatoes, the keeping of pigs, dairy calves and poultry, woodlot improvement, the canning of food, cooking and sewing. The work is under the supervision of C. B. Wadleigh, state club leader, and Miss M. L. Sanborn, assistant state club leader.

Reading Courses.—The reading courses given by the resident staff are as follows:

Soils and Fertilizers. Mr. M. G. Eastman.
Farm Crops. Mr. M. G. Eastman.
Farm Stock. Mr. J. C. McNutt.
Orchard Management. Mr. G. F. Potter.
Dairy Farming. Mr. J. M. Fuller.
Poultry Husbandry. Mr. A. W. Richardson.
Swine Husbandry. Mr. J. C. McNutt.
The Farm Woodlot. Mr. K. W. Woodward.
Vegetable Gardening. Mr. J. R. Hepler.
Beekeeping. Mr. J. R. Hepler.
Small Fruits. Mr. S. W. Wentworth.
Farm Management. Mr. M. G. Eastman.
Feeding the Family. Mrs. H. F. McLaughlin.
Clothing the Family. Miss Irma Bowen.
Household Management. Miss C. A. Lyford.

DEGREES AND HONORS, 1924

HONORARY DEGREES

DOCTOR OF LAWS

Clarence Cook Little, B.A., M.S., S.D. ..... Orono, Me.

DOCTOR OF SCIENCE

Edward Osgood Otis, M.D. ..... Boston, Mass.
George Andrews Loveland, A.M., LL.B. ..... Lincoln, Neb.

MASTER OF ARTS

Fred Herbert Brown, M.A., *Governor* ..... Somersworth
Elizabeth Pickering DeMeritt ..... Durham

ADVANCED DEGREES

MASTER OF SCIENCE

Paul Tolman Blood, B.S. ..... Lisbon
Jeremiah Francis Goggin, B.S. ..... Dover
Ruth Hancock Kemp, B.S. ..... Kingston
Joseph Timothy Sullivan, B.S. ..... Durham
Edythe May Tingley, B.S. ..... Durham

DEGREES CONFERRED

BACHELOR OF SCIENCE

In Agriculture

Norman Edward Briggs ..... Reading, Mass.
James Patrick Cassidy ..... Concord
John Leslie Huckins ..... Rochester
Rupert David Kimball ..... Hopkinton
Henry Hale Libbey ..... Durham
Maurice Ames Mansell ..... Durham
Walter Stevens Melendy ..... Manchester
Wayne Louis Parkhurst ..... Colebrook
Wesley Bruce Shand ..... Manchester

William Watson Smith ..... Lakeport
Richard Don Stevens ..... Colebrook
Arthur Louis Welcome ..... West Chesterfield
Warren Whitcomb, Jr. ..... Bath
Frederic William Whiting ..... Framingham Center, Mass.
Charles Henry Wilkinson ..... Lyme
Ernest Nelson Woodin ..... Hollis

In Liberal Arts

Clarence Lord Allard ..... Center Conway
Helen Bethana Avery ..... Wolfeboro
Elizabeth Baker ..... Concord
George Harold Ball ..... Fremont
Gordon Robertshaw Ballantyne ..... Dover
Donald Gilfillan Barton ..... Croydon
Eleanor Frances Batchelder ..... Portsmouth
Hester Emma Bickford ..... Gossville
Webster Easterbrook Bridges ..... Concord
Mary Ella Brown ..... Exeter
Ruth Virginia Callahan ..... Rochester
Albert Romeo Caulstone ..... Farmington
Rachel Florence Cree ..... Colebrook
John Joseph Cronin ..... Concord
Robert Lovekin Daniell ..... Franklin
Curtis Pierce Donnell ..... Hampton
Reuben F. Draper ..... Wakefield, Mass.
Alice Evelyn Dudley ..... Newmarket
Reginald Hill Emerson ..... Fitzwilliam
Harold Thompson Fernald ..... Laconia
Langdon Dewey Fernald ..... Laconia
Katharine Moses French ..... Exeter
Harry Dudley Hardy ..... Nashua
Marjorie Laura Hartford ..... Dover
Samuel Earle Heller ..... Claremont
Frank Clarence Hilberg ..... Salem
Dixi Crosby Hoyt ..... Leominster, Mass.
Charles Winslow Jennings ..... Winchester, Mass.
Mildred Ann Joy ..... Newmarket
Roger Milton Kelley ..... Lawrence, Mass.
Alice Agnes Kelsey ..... Meriden

Emma M. Kimball ..... Exeter
Edith Isabel Langdale ..... Cincinnati, Ohio
Frederick Stanton Lawrence ..... Newmarket
Mederick Joseph LeBlanc ..... Concord
Bernice May Lombard ..... Winchester
Thomas Daniel Loughlin ..... Portsmouth
Doris Lunderville ..... Littleton
Sheridan Bernard Lynch ..... Atkinson
Martha McDanolds ..... Littleton
Marion Maddern ..... Norwood, Mass.
Margaret Marston ..... Center Sandwich
Franklin Goodall Martin ..... Goffstown
Lawrence Martin ..... Pembroke
Bernhard H. Menke ..... Wolfeboro
Raymond Earl Newell ..... Durham
Gladys Page ..... Rochester
Marian Irene Page ..... Kingston
Harold Arthur Pratt ..... Alton Bay
Frank Walter Price ..... Amesbury, Mass.
William Patrick Redmond ..... Manchester
Stanley Byron Roberts ..... Easthampton, Mass.
Merton Willis Rowe ..... Newton
John Bean Severance ..... East Andover
Mary Blanche Smith ..... Manchester
Thomas Leonard Snow ..... Claremont
Ruth Harriman Sterling ..... Dover
Elsie Rickert Stevens ..... Laconia
Morris Albion Stewart ..... Portsmouth
Rena Mildred Stone ..... Candia
Harris Wiggin Tucker ..... Sanbornville
Ruth Wadleigh ..... Milford
Louis Benedict Winkler ..... Exeter
Adaline Roberts Young ..... Dover

In Technology

John Vose Adams ..... Pittsfield
Paul Howard Anderson ..... Berlin
Leslie Randolph Bacon ..... Henniker
Seth Dale Barraclough ..... Durham
Stanley Parkman Batchelder ..... Portsmouth

Kenneth Berry ..... Wolfeboro Falls
Herman Harry Boisclair ..... Manchester
Lester Fordyce Brooks ..... Errol
Philbrook Rand Butler ..... Portsmouth
Jack Leslie Calpin ..... Manchester
Newton Cox ..... Manchester
Ralph Everett Cox ..... Portsmouth
Henry Everton Cutler ..... Keene
Carl George Darrah ..... Concord
Paul Owen Davis ..... Concord
John Nicholas Engel ..... Concord
Albert Harrison French ..... New Hampton
Eustis Bernard Grimes ..... Belmont, Mass.
Carroll Chauncey Hubbard ..... Dover
Warren Dodge Jones ..... Rochester
Harold McKinley Lander ..... South Hampton
Frederick Thornton Lauriat ..... Durham
Leon Joseph Lemieux ..... Berlin
Forrest Winn Merrill ..... Durham
Arthur John Nakos ..... Nashua
Ernest Wilfred Philbrook ..... Center Conway
Charles Francis Pickett ..... Concord
Charles Henry Putney ..... East Andover
Gedeon Charles Roy ..... Rochester
Maurice James Sargent ..... New London
Rodney Perkins Smith ..... Plymouth
Russell Smith Spaulding ..... Walpole
Reginald Van Tassell Steeves ..... Dover
Samuel Stowell ..... Marlboro
Frank Arthur Walker ..... Manchester
Henry Francis Wormwood ..... Raymond
Edward Hale Young ..... Dover

BACHELOR OF ARTS

In Liberal Arts

Grace Louise Adams ..... Providence, R. I.
Doris Abbie Bachelder ..... Concord
Dorothy Frances Bartlett ..... Kingston
Kathryn Natalie Boucher ..... Lancaster

George Louis Boulay ..... Concord
Helen Briggs Burnham ..... Henniker
Chester Freeman Cleaves ..... Center Harbor
Glenna Frances Curtis ..... Manchester
Adeline Genevieve Davis ..... Sunapee
Elvira Parthena Dillon ..... Manchester
Patrick Bernard Donovan ..... Exeter
Helen Irma Dunn ..... Manchester
Laura Belle Gilmore ..... Exeter
Raymond Frederick Gunn ..... Newport
Mabel Elizabeth Hayes ..... Exeter
Ruth Houghton Hoffses ..... Manchester
Anne Libbey ..... Wolfeboro
Ruth Lyford ..... Concord
Philip Mason Marston ..... Ashland
Harriet Ruby Merchant ..... Northampton, Mass.
Margaret Lillian Osgood ..... Concord
Addie Emma Otis ..... Rochester
Wilma Marion Paine ..... Wolfeboro
Rachel Florence Pennell ..... Suncook
Ruth Elizabeth Pingree ..... New London
Lee Laughna Rice ..... Durham
Sarah Caroline Richards ..... South Lyndeboro
Olive May Rogers ..... Manchester
Helen Mary Sheldrick ..... Wilton
Alfred Willard Smith ..... Exeter
William Alfred Smith ..... So. Royalton, Vt.
Kimball Dearing Sprague ..... Brooklyn, N. Y.
Robert Allan Studley ..... Durham
George Patrick Sullivan ..... Manchester
John Patrick Sullivan ..... Manchester
Hazel Mary Summerville ..... Manchester
Marjorie Emma Thompson ..... Athol, Mass.
Ruth Caroline Whittemore ..... Manchester
Priscilla Alden Williams ..... Exeter

CERTIFICATES

Two-Year Students in Agriculture

Arthur Carlton George ..... East Andover
Raymond Glines ..... Canterbury

Henry Joseph Hatch ..... North Conway
George Malcolm Locke ..... Alton
Paul John Lyster ..... Littleton
Charles J. Martin ..... Dover
Ralph Cate Otterson ..... Manchester
Harold Smith Penniman ..... Claremont
Marcus Leroy Raymond ..... Dover
Lewis Warren Simonds ..... Antrim

PRIZES AWARDED 1924

BAILEY PRIZE

Leslie Randolph Bacon, Henniker

ERSKINE MASON MEMORIAL PRIZE

Frederick Thornton Lauriat, Durham

UNIVERSITY OF NEW HAMPSHIRE MILITARY HONOR MEDAL

Reuben Foster Draper, Wakefield, Mass.

Honorable Mention—Raymond Frederick Gunn, Newport

CHASE-DAVIS MEMORIAL MEDALS

Gold Medal

Langdon Dewey Fernald, Laconia

Silver Medal

Gedeon Charles Roy, Rochester

VALENTINE SMITH SCHOLARSHIP

Mary Georgene Hoitt, '25, Durham
Robert Bartlett Folsom, '26, Dover
Robert Thayer Phelps, '27, Jefferson
Llewellyn Frank Hobbs, '28 North Hampton

DIETRICH MEMORIAL CUP

Marjorie Delia Groah, Dover

PHI MU MEDAL

Elizabeth Baker, Concord

BARTLETT PRIZE

Paul Ervin Farnum, Penacook

KATHARINE DEMERITT MEMORIAL PRIZE

Salome Evlyn Colby, Franconia

CHI OMEGA PRIZE

Marion Elizabeth Shaw, Warner

PI GAMMA PRIZE

Edith Isabel Langdale, Cincinnati, O.

HOOD ALL-AROUND ACHIEVEMENT PRIZE

Langdon Dewey Fernald, Laconia

HOOD DAIRY CATTLE JUDGING PRIZES

First—Theodore Justin Frizzell, Keene
Second—Wayne Louis Parkhurst, Colebrook
Third—Ernest Nelson Woodin, Hollis

INTERFRATERNITY SCHOLARSHIP CUPS

Women—Phi Mu
Men—Theta Upsilon Omega

THE RESERVE OFFICERS TRAINING CORPS

THE UNIVERSITY OF NEW HAMPSHIRE R. O. T. C. REGIMENT 1924–1925

CADET OFFICERS

Regimental Headquarters

Lieutenant Colonel Joseph A. Horn, *Commanding*
Captain Glenn A. Stearns, *Adjutant*
Captain John P. Sullivan, *Supply Officer*

Band

Warrant Officer Edward Y. Blewett

First Battalion

Headquarters

Major George B. Clark, *Commanding*
First Lieutenant Frank W. Kirk, *Adjutant*

Company "A" (Color Company)

Captain Joseph J. Bloomfield, *Commanding Company*
First Lieutenant Charles H. Brown
First Lieutenant John P. Cassily
Second Lieutenant Melville L. Taylor
Second Lieutenant Floyd P. Macdonald

Company "B"

Captain John L. McKinley, *Commanding Company*
First Lieutenant Wendell M. Davis
First Lieutenant Albert B. Hoag
Second Lieutenant Clinton H. Currier
Second Lieutenant Ralph S. Taylor

Company "C"

Captain Armand A. Caron, *Commanding Company*
First Lieutenant John A. Emerson
First Lieutenant Burnell V. Bryant
Second Lieutenant Stanley L. King
Second Lieutenant Paul E. Kelleher

Company "D"

Captain Kenneth M. Clark, *Commanding Company*
Second Lieutenant Paul E. Tracy
Second Lieutenant Stanley E. Wilson

Second Battalion

Headquarters

Major Forrest M. Eaton, *Commanding*
Captain Edward G. Miller, *Adjutant*

Headquarters Company

Captain Harry W. Steere, *Commanding Company*
First Lieutenant Edward N. Henderson

Company "E"

Captain Harold L. Johnson, *Commanding Company*
First Lieutenant Russell W. Hitchcock
First Lieutenant John W. Allquist
Second Lieutenant Kenneth L. Foss
Second Lieutenant Herbert E. Murphy
Second Lieutenant Henry B. Applin
Second Lieutenant Howard C. Avery

Company "F"

Captain James M. McDuffee, *Commanding Company*
First Lieutenant Edwin B. Vatter
First Lieutenant William S. Morrill
Second Lieutenant Raymond E. Corey
Second Lieutenant Willis E. Littlefield
Second Lieutenant Leslie L. Mooney
Second Lieutenant Hjalmer S. Maki

STUDENTS, 1924–1925

ABBREVIATIONS DESIGNATING COURSES

Agr. Ch.—Agricultural Chemistry
A. Arch. Arts Architecture
A. Ch.—Arts Chemical
A. Cn.—Architectural Construction
A. G.—Arts General
Agr.—General Agriculture
Agr. Tr.—Agriculture, Teacher Training
A. H.—Animal Husbandry
Ch. E.—Chemical Engineering
D. H.—Dairy Husbandry
Ed. Tr.—Education, Teacher Training
E. E.—Electrical Engineering
Engr.—Engineering
For.—Forestry
H. E. D.—Home Economics, Dietitian
H. E. I.—Home Economics, Institutional
H. E. Tr.—Home Economics, Teacher Training
Hort.—Horticulture
I. E.—Industrial Engineering
I. Tr.—Industrial, Teacher Training
M. E.—Mechanical Engineering
P. H.—Poultry Husbandry

GRADUATE STUDENTS

NAME	COURSE	P. O. ADDRESS
Barton, Donald Gilfillan	*Major Zoöl.* *Minor Chem.*	*Croydon*
Cronin, John Joseph	*Major Chem.* *Minor Educa.*	*Concord*
Crowell, Milton Frederick	*Major Ento.* *Minor Zoöl.*	*Durham*
Cushing, Helen Grant	*Major Botany* *Minor Chem.*	*Durham*
Fernald, Langdon Dewey	*Major Econ.* *Minor Educa.*	*Durham*

Name	Course	P. O. Address
Hubbard, Carroll Chauncey	*Major Chem.* *Minor Math.*	*Dover*
King, Margaret	*Major English* *Minor History*	*Montclair, N. J.*
Marston, Philip Mason	*Major History* *Minor Educa.*	*Ashland*
Patridge, Herman Milton	*Major Chem.* *Minor Agr. Ch.*	*Newfields*
Pearson, Oscar Harris	*Major Hort.* *Minor Agr. Ch.*	*Stratham*
Rice, Andrew Carl	*Major Chem.* *Minor Educa.*	*Durham*
Robes, Kenneth Hooper	*Major Botany* *Minor Chem.*	*Hanover*
Rollins, Howard Arthur	*Major Hort.* *Minor Eco.*	*West Alton*
Schaeffer, Harold F.	*Major Agr. Ch.* *Minor Chem.*	*Allentown, Pa.*
Sullivan, John Patrick	*Major Econ.* *Minor Educa.*	*Manchester*
Adams, John Vose	*Major Physics* *Minor Elec. Engs*	*Dover*

SENIORS

Akmakjian, Elliott	*Hort.*	*Salem Depot*
Alexander, Eleanor Margaret	*H. E. Tr.*	*Derry*
Alexander, Everett Humphrey	*E. E.*	*Salem*
Allquist, John William	*Ch. E.*	*Concord*
Atkinson, Thomas W. C.	*E. E.*	*Tilton*
Ayers, Sidney Seymour	*A. G.*	*Newport*
Barnard, Doris May	*H. E. Tr.*	*Kittery Depot, Maine*
Barnett, Harriet Isabelle	*H. E. Tr.*	*Whitefield*
Bartlett, Francis William	*A. G.*	*Manomet, Mass.*
Bixby, Arthur March	*M. E.*	*Wolfeboro*
Bloomfield, Benjamin	*A. G.*	*Laconia*
Bolduc, Albert Edward	*I. E.*	*Derry*
Bonaiuto, Louis	*A. G.*	*Wakefield, Mass.*
Boylston, Ward Nicholas	*A. G.*	*Durham*
Brady, Joseph Vincent	*A. G.*	*Malden, Mass.*

NAME	COURSE	P. O. ADDRESS
Bridges, Webster Easterbrook	*A. G.*	*Concord*
Bryant, John Sherwood	*I. E.*	*Portsmouth*
Burnham, Evelyn Hazel	*H. E. Tr.*	*Henniker*
Caldwell, Audrey Loraine	*A. G.*	*Newburyport, Mass.*
Campbell, Marshall Fields	*A. G.*	*Beverly Farms, Mass.*
Chase, Carl Eddie	*A. H.*	*Londonderry*
Chickering, Elsie	*H. E. Tr.*	*West Chesterfield*
Clark, George Blair	*A. G.*	*Boston, Mass.*
Clark, Kenneth Malcolm	*Agr. Tr.*	*Colebrook*
Colby, James Berton	*I. E.*	*Colebrook*
Colby, Salome Evlyn	*A. G.*	*Franconia*
Columbia, Hervey Dow	*E. E.*	*Canaan*
Conant, Dorothy	*A. G.*	*Canterbury*
Coombs, Albert Linscott	*A. G.*	*Hampstead*
Coughlin, William Edward	*A. Ch.*	*Concord*
Cowles, Ethel Lydia	*H. E. Tr.*	*Claremont*
Craig, Anne Kirkwood	*H. E. I.*	*Portsmouth*
Cunningham, Madeline	*A. G.*	*Franklin*
Cuthbertson, Doris Bertha	*A. G.*	*Valley Falls, R. I.*
Davidson, Gaston Howes	*A. G.*	*Tamworth*
Dexter, Douglas Hibbard	*D. H.*	*Lisbon*
Donovan, William Edwin	*A. G.*	*Norwood, Mass.*
Dooley, Helen Ward	*A. G.*	*Somersworth*
Drew, Gordon Wentworth	*D. H.*	*Concord*
Dyer, Carroll Francis	*A. G.*	*Winchester*
Eastman, Esther Beard	*A. G.*	*Manchester*
Emerson, Reginald Hill	*A. G.*	*Fitzwilliam*
Farnum, Paul Ervin	*D. H.*	*Penacook*
Farnum, Robert Bachelder	*A. H.*	*Penacook*
Flanders, Franklin	*Hort.*	*Manchester*
Floyd, Iva Sybil	*A. G.*	*Amesbury, Mass.*
Foote, Lewis Ford	*A. G.*	*Holyoke, Mass.*
French, Harold Campbell	*A. G.*	*West Lebanon*
Frizzell, Theodore Justin	*Agr. Tr.*	*Keene*
Geremonty, Francis Howard	*A. G.*	*Methuen, Mass.*
Goggin, Kathleen Mary	*A. G.*	*Dover*
Gordon, Howard French	*I. E.*	*Goffstown*
Gordon, Kenneth Elbridge	*I. E.*	*Hillsboro*
Graupner, Ernest Walter	*I. E.*	*Manchester*

NAME	COURSE	P. O. ADDRESS
Gray, Frederick Scarborough	*A. G.*	*Portsmouth*
Griffin, Elizabeth	*A. G.*	*Durham*
Groah, Marjorie Delia	*A. G.*	*Dover*
Gunn, Raymond Frederick	*A. G.*	*Newport*
Hammersley, Albert Raymond	*A. G.*	*Needham Heights, Mass.*
Hammond, Lester Fremont	*For.*	*East Jaffrey*
Hanney, John Charles	*I. E.*	*Manchester*
Haubrich, Frederick Rockwell	*A. G.*	*Claremont*
Healey, Helen Frances Mary	*A. G.*	*Lowell, Mass.*
Hedman, Sverker N. F.	*E. E.*	*Temple*
Hersey, Irving William	*A. Cn.*	*Somersworth*
Hewitt, Charles Elbert	*Hort.*	*Durham*
Hobson, William Briant	*A. G.*	*York Village, Maine*
Hoitt, Mary Georgene	*H. E. Tr.*	*Durham*
Holland, Lawrence Stover	*A. G.*	*Walpole*
Holmes, Clayton William	*M. E.*	*Durham*
Horn, Joseph Anthony	*A. H.*	*Laconia*
Hosking, Harry James	*Ch. E.*	*Claremont*
Hubbard, Austin Ira	*For.*	*Walpole*
Hudon, Camille Alexandra	*A. G.*	*Salmon Falls*
Hurford, Archibald Walter	*A. G.*	*Keene*
Hussey, Ivan Daniels	*A. Cn.*	*West Campton*
Jenkins, Ellery Wayne	*D. H.*	*Durham*
Jennings, Charles Winslow	*A. G.*	*Winchester, Mass.*
Johnson, Richard Schofield	*A. Cn.*	*Lisbon*
Johnson, William Dudley	*A. G.*	*Saugus, Mass.*
Kelly, Helen Lois	*A. G.*	*Portsmouth*
Kimball, Harold Stanley	*A. G.*	*Farmington*
Kimball, Helen Mae	*H. E. Tr.*	*Somersworth*
Lufkin, Wilfred Weymouth	*A. G.*	*Essex, Mass.*
MacDonald, Harold William	*A. G.*	*Salem, Mass.*
McDuffee, James Millard	*For.*	*Dover*
McGlynn, Leo James	*A. G.*	*Nashua*
McIntire, Bradford William	*A. G.*	*Durham*
McNally, Gertrude Elizabeth	*A. G.*	*Salmon Falls*
Magwood, Alice Anne	*A. G.*	*Epping*
Mann, Frederick White	*A. G.*	*East Concord*
Martin, Carl Libby	*A. H.*	*Colebrook*
Martin, Lawrence	*A. G.*	*Pembroke*

Name	Course	P. O. Address
Merritt, Roy Leon	*M. E.*	*Hinsdale*
Metcalf, Daniel Messer	*A. G.*	*Piermont*
Minehan, Samuel Augustus	*A. G.*	*Somersworth*
Morrissette, Merina Virginia	*A. G.*	*Newmarket*
Morse, Paul Atwood	*D. H.*	*New Boston*
Morton, John Ordway	*A. G.*	*Concord*
Neil, Ida Mae	*A. G.*	*East Kingston*
Nesbitt, Herman Eugene	*Ch. E.*	*Lynnfield Center, Mass.*
Norcross, Austin Sibley	*E. E.*	*Keene*
Norton, Louise Mason	*H. E. Tr.*	*Jamaica Plain, Mass.*
Noyes, Beatrice Ellen	*A. G.*	*Nashua*
Noyes, Everett Atwood	*E. E.*	*Lisbon*
Nutting, Louise	*H. E. I.*	*Manchester*
O'Gara, Edward James	*A. G.*	*Hanover*
O'Kane, Elizabeth Wells	*A. G.*	*Durham*
Page, Emily Wills	*A. G.*	*Newburyport, Mass.*
Paine, Florence Alice	*A. G.*	*Wolfeboro*
Pascoe, Thomas Ellsworth	*I. Tr.*	*Chocorua*
Patridge, Eva Small	*A. G.*	*Newfields*
Pejouhy, Russell A.	*Agr.*	*Durham*
Peterman, Gustave Conrad	*I. E.*	*Durham*
Pettee, Donald Abner	*D. H.*	*Francestown*
Phillips, Herbert	*E. E.*	*Littleton*
Phillips, William Stanley	*A. G.*	*Marblehead, Mass.*
Piper, Harold A.	*Hort.*	*Stratham*
Pray, Eleanor Frances	*A. G.*	*Somersworth*
Price, Frank Walter	*A. G.*	*Amesbury, Mass.*
Putnam, Pauline	*A. G.*	*Milford*
Rand, Harold Tinkham	*A. G.*	*Salem, Mass.*
Rasnick, Julius	*A. G.*	*Dorchester, Mass.*
Redden, John Daniel	*A. G.*	*Dover*
Reed, Florence Elizabeth	*A. G.*	*Kingston*
Ried, Edith	*A. G.*	*Manchester*
Riley, Mary Elizabeth	*A. G.*	*Somersworth*
Rollins, Willard Dow	*Agr.*	*West Alton*
Sampson, Donald Lewis	*A. G.*	*Worcester, Mass.*
Sargent, George Eaton	*A. G.*	*Bennington*
Sawyer, Blanche Eliza	*H. E. I.*	*Milford*
Sawyer, John Thomas	*M. E.*	*Dover*

NAME	COURSE	P. O. ADDRESS
Sayward, William Sewall	*A. G.*	*Durham*
Scott, Don Pitt	*A. G.*	*Tiverton, R. I.*
Seaman, Ralph Henry	*A. G.*	*Portsmouth*
Shea, Edward Augustine	*A. G.*	*Nashua*
Shepard, Morrill Francis	*A. G.*	*Concord*
Simpson, James Sharples	*A. G.*	*Pawtucket, R. I.*
Smith, William Alfred	*A. G.*	*South Royalton, Vt.*
Sneierson, Morris Frank	*A. G.*	*Laconia*
Spaulding, Ernest Frank	*A. Cn.*	*Concord*
Spaulding, Russell Smith	*M. E.*	*Walpole*
Sprague, Roger Edmund	*A. G.*	*Plaistow*
Stockwell, Ira Worcester	*A. G.*	*Marlboro*
Sullivan, George Patrick	*A. G.*	*Manchester*
Talbert, Elmer James	*A. Ch.*	*West Lebanon*
Tamcales, George Nicholas	*A. G.*	*Durham*
Temple, Earl Spencer	*I. E.*	*Concord*
Thurston, Dorothy Chase	*A. G.*	*Manchester*
Tinker, Jeanie Mildred	*A. G.*	*Manchester*
Tirrell, Alice Dorothy	*A. G.*	*Goffstown*
Tuttle, Eleanor Jane	*A. G.*	*Dover*
Varrell, Merton Wentworth	*Ch. E.*	*Portsmouth*
Viola, Louis Victor	*A. Cn.*	*Milford*
Voyagis, Michael Harry	*Agr. Ch.*	*Manchester*
Walker, James Edward	*A. G.*	*Concord*
Walker, Susan	*A. G.*	*Durham*
Wason, Bernard Albert	*M. E.*	*Chester*
Weston, Ralph Frank	*A. G.*	*Adams, Mass.*
Wheeler, Kenneth Cushman	*E. E.*	*Lebanon*
Wheelright, Ralph Douglas	*I. E.*	*Danvers, Mass.*
White, Emma Louise	*A. G.*	*Durham*
Wiggin, Elmer Stoddard	*A. G.*	*Penacook*
Wiggin, Herbert Austin	*I. E.*	*Norwood, Mass.*
Wilder, Parker Spinney	*A. G.*	*Newton*
Woodbury, Marjorie Helen	*H. E. I.*	*Manchester*
Woodman, George Bartlett	*E. E.*	*Plymouth*

JUNIORS

Abbot, Charles Mack	*P. H.*	*Wilton*
Andrews, Erma Louise	*A. G.*	*Somersworth*

JUNIORS

Name	Course	P. O. Address
Andrews, Paul Morgan	*Hort.*	*Dover*
Applin, Henry Beehler	*A. G.*	*Providence, R. I.*
Arnold, Constance	*A. G.*	*Wakefield, Mass.*
Arthur, Marian Elizabeth	*A. G.*	*Manchester*
Atherton, Raymond Putnam	*Agr. Tr.*	*Winchester*
Aulis, George Edgar	*A. G.*	*Hanover*
Avery, Chester Stuart	*A. G.*	*Milton, Mass.*
Avery, Dean Proctor	*A. G.*	*Hanover*
Avery, Howard Clifton	*I. E.*	*Wolfeboro*
Balch, West Steele	*E. E.*	*Lyme*
Batchelder, Bertha	*A. G.*	*Wilton*
Batchelder, Ila Grace	*H. E. Tr.*	*Manchester*
Bean, Joseph Demeritt	*E. E.*	*Rochester*
Beaton, Gladys Marjorie	*A. G.*	*Milton*
Bell, Lyle Wallace	*For.*	*Dover*
Bemis, Ralph Bernard	*P. H.*	*Chesham*
Bennett, Carlton Elwood	*A. G.*	*Dover*
Bessette, George Fred	*E. E.*	*Brooklyn, N. Y.*
Bethune, John Sylvester	*M. E.*	*Lynn, Mass.*
Bidwell, Evelyn Beatrice	*H. E. Tr.*	*Derry*
Blewett, Edward York	*A. G.*	*Braintree, Mass.*
Bloomfield, Joseph Jacob	*A. G.*	*Laconia*
Bogle, Alexander Patrick	*A. G.*	*Derry*
Booth, Helen Gifford	*A. G.*	*New Bedford, Mass.*
Boyd, Richard Harold	*E. E.*	*Chelmsford Center, Mass.*
Brady, Harriet Fiske	*A. G.*	*Union Hill, N. J.*
Britton, Beatrice Vivian	*H. E. Tr.*	*Claremont*
Brooks, Joseph John	*Ch. E.*	*Concord*
Brown, Charles Henry	*A. G.*	*Brandon, Vt.*
Brown, Charles Mitchel	*E. E.*	*East Lynn, Mass.*
Brown, Esther Mae	*A. G.*	*Manchester*
Brown, Ralph Everett	*E. E.*	*Salem, Mass.*
Bruce, Arthur Philip	*A. G.*	*Milton*
Calcutt, Alfred William	*Agr. Tr.*	*Dover*
Calderwood, Harold Frederick	*I. E.*	*Saugus, Mass.*
Campbell, Raymond Ellis	*I. E.*	*Woodsville*
Caron, Alfred Armand	*A. G.*	*Manchester*
Carpenter, Charles Hodgdon	*A. G.*	*Manchester*
Carr, Helen	*A. G.*	*Manchester*

NAME	COURSE	P. O. ADDRESS
Cassily, John Paul	*A. G.*	*Dover*
Chandler, John Winthrop	*A. G.*	*Lisbon*
Chase, Francis Gardner	*A. G.*	*Somerville, Mass.*
Clarkson, Dorothy	*A. G.*	*Newburyport, Mass.*
Clow, Howard Philpott	*I. E.*	*East Wolfeboro*
Codaire, Margaret Corinne	*A. G.*	*Manchester*
Conant, Elinor Baldwin	*A. G.*	*North Woodstock*
Cooper, Ruth Andrews	*A. G.*	*Henniker*
Corey, Floyd Palmer	*E. E.*	*Lisbon*
Corey, Raymond Earl	*E. E.*	*Manchester*
Cummings, Leslie Samuel	*Agr. Tr.*	*Hampton*
Cunningham, Grace Catherine	*A. G.*	*Franklin*
Currier, Clinton Henry	*A. G.*	*Plymouth*
Dahlgren, Carl Arvid	*A. G.*	*West Concord*
Davis, Leona Julia	*H. E. Tr.*	*Sunapee*
Davis, Philip Shackford	*A. G.*	*Conway*
Davis, Rachel Alden	*A. G.*	*Keene*
Davis, Wendell Mason	*A. G.*	*Fall River, Mass.*
Dickerson, Elizabeth Doris	*A. G.*	*Hill*
Dickson, Charles LeRoy	*I. E.*	*Milton*
Doe, Thelma Frances	*A. G.*	*Dover*
Dolan, Joseph Paul	*A. G.*	*Nashua*
Donahoe, Mary Frances	*A. G.*	*Waltham, Mass.*
Donovan, John Edward	*A. G.*	*Haverhill, Mass.*
Drew, Donald Willis	*E. E.*	*Dover*
Dube, Claudia Marie	*A. G.*	*South Berwick, Maine*
Duffy, Julia Dorothy	*A. G.*	*Dover*
Dyment, Ray Alexander	*I. E.*	*Concord*
Eaton, Douglass Lambert	*A. G.*	*Newburyport, Mass.*
Eaton, Forrest Martin	*I. E.*	*Union*
Emerson, John Andrew	*A. G.*	*Dover*
Erickson, Lawrence	*A. G.*	*Durham*
Evans, Roswell Hoyt	*A. G.*	*Wentworth*
Farnum, Hanford Alden	*A. G.*	*Exeter*
Farrar, Paul Charles	*D. H.*	*Henniker*
Finn, Ruth Genevieve	*A. G.*	*Exeter*
Fogg, Charles Hayward	*Agr. Tr.*	*Hancock*
Follansbee, Herbert E.	*A. G.*	*West Concord*
Folsom, Robert Bartlett	*A. G.*	*Dover*

NAME	COURSE	P. O. ADDRESS
Ford, Robert	*A. G.*	*Danbury*
Foss, Gerald Orin	*E. E.*	*Portsmouth*
Foster, Theodore Curtis	*A. G.*	*Manchester*
Fowle, Edna Caroline	*A. G.*	*Newburyport, Mass.*
Fudge, Frederic William	*A. G.*	*Stoneham, Mass.*
Gale, Edward Orison	*A. G.*	*Keene*
Gerrish, Carroll	*A. G.*	*Berlin*
Godbeer, John Norman	*A. G.*	*Fitchburg, Mass.*
Gordon, George Howard	*A. G.*	*Concord*
Gould, George Edward	*Ch. E.*	*Tilton*
Gove, Ira Newman	*E. E.*	*Concord*
Graves, Cecil Angier	*I. E.*	*Keene*
Gray, Charles William	*A. G.*	*Portsmouth*
Greene, Warren Hayward	*A. G.*	*Alstead*
Griffin, Dorothy Wells	*A. G.*	*Durham*
Grover, Elliott Edgar	*M. E.*	*Manchester*
Gunn, Kenneth Earl	*A. G.*	*Newport*
Gustafson, Elton Thorsander	*A. G.*	*Manchester*
Hartwell, Arthur Irving	*A. G.*	*Nashua*
Hartwell, Reginald Warner	*A. G.*	*Laconia*
Heald, Virginia Frances	*H. E. Tr.*	*Needham, Mass.*
Hebert, Dorothy Violet	*A. G.*	*Franklin*
Henderson, Edna	*A. G.*	*Durham*
Henderson, Edward Nathaniel	*E. E.*	*Winchester*
Higgins, William Alonzo	*P. H.*	*Littleton*
Hill, Bertha Mary	*A. G.*	*Hooksett*
Houle, Eldon Eugene	*E. E.*	*Raymond*
Hubbard, Sarah Marion	*A. G.*	*Peterboro*
Hudon, Lillian Blanche	*H. E. I.*	*Salmon Falls*
Hunt, Barbara Irma	*A. G.*	*Cornish Flat*
Hunter, Eleanor May	*A. G.*	*Exeter*
Jenkins, Ruth Ellen	*A. G.*	*Durham*
Jesseman, Robert George	*A. G.*	*Franconia*
Kemp, Ruth Marie	*H. E. I.*	*Cumberland Center, Maine*
King, Stanley Lewis	*A. G.*	*Keene*
Kinsman, Prescott Barber	*A. G.*	*Somersworth*
Kizirian, Vaughn Eli	*A. G.*	*Nashua*
Lafond, Joseph Oliver	*I. E.*	*Huntington, Mass.*
Landman, Vivian Ione	*A. G.*	*Plaistow*

NAME	COURSE	P. O. ADDRESS
Leighton, Myron Preble	*P. H.*	*Walnut Hill, Maine*
Littlefield, James Libby	*I. E.*	*Dover*
Littlefield, Willis Edwin	*A. Cn.*	*Dover*
Longley, Richard Morison	*E. E.*	*Peterboro*
MacConnell, Stanley Ward	*A. G.*	*Salisbury, Mass.*
McCooey, Mary Rose	*A. G.*	*Dover*
McIntosh, Jessie Murdoch	*A. G.*	*Dover*
McKinley, John Lawrence	*A. G.*	*New York City*
McLaughlin, Margaret Elizabeth	*A. G.*	*Exeter*
McManus, James Francis	*A. G.*	*Durham*
McRae, Horace Truman	*E. E.*	*Springfield, Mass.*
Macdonald, Floyd Perkins	*A. G.*	*Quincy, Mass.*
Maki, Hjalmar Sulo	*E. E.*	*New Ipswich*
Maloney, Robert Owen	*E. E.*	*Meredith*
Mathews, Francis Alexander	*I. E.*	*Somerville, Mass.*
Maxam, Eugene Charles	*A. G.*	*Concord*
Maynard, Leo Henry	*E. E.*	*Nashua*
Mears, Russell Stanley	*A. G.*	*Haverhill, Mass.*
Michelson, Gunnar	*A. G.*	*Berlin*
Miller, Edward Gibson	*I. E.*	*Woodsville*
Minichiello, Lewis Allan	*For.*	*Portsmouth*
Mitchell, Ellsworth Douglas	*A. G.*	*Manchester*
Moore, William Ephraim	*A. G.*	*Jackson*
Morrill, William Stanley	*M. E.*	*Penacook*
Morse, William Sanders	*A. G.*	*East Haverhill*
Murphy, Herbert Evans	*E. E.*	*Swampscott, Mass.*
Nash, George Henry	*A. G.*	*Nashua*
Nedeau, Ernest Henry	*Agr. Tr.*	*Meredith*
Nims, Marion Maxwell	*A. G.*	*Keene*
O'Malley, Leo Freeman	*A. G.*	*Somersworth*
O'Neil, Robert Dravo	*I. E.*	*Exeter*
Partridge, Mildred Evelyn	*A. G.*	*Winchester*
Pasquale, John Carmen	*A. G.*	*Lewiston, Maine*
Pattee, Charles Walter	*A. G.*	*Durham*
Pearlstein, Vere Eric	*A. G.*	*Colebrook*
Pearson, Haydn S.	*A. G.*	*Hancock*
Pease, Perley Henry	*A. G.*	*Meredith*
Peaslee, Fred William	*Agr.*	*Reed's Ferry*
Pellerin, Jesse Lee	*A. G.*	*Enfield*

NAME	COURSE	P. O. ADDRESS
Philbrick, Florence Edith	*A. G.*	*Concord*
Pillsbury, Albert Elliot	*A. G.*	*Rutland, Mass.*
Potts, Sherburne Moore	*I. E.*	*Lincoln*
Priest, John Jenkins	*Ch. E.*	*Newmarket*
Proper, Argyle Burrill	*A. G.*	*Melvin Mills*
Reid, Russell Rollin	*Agri.*	*Epsom*
Reynolds, Fred Irving	*A. G.*	*Dover*
Robinson, Ethel Jennie	*H. E. Tr.*	*South Danbury*
Robinson, Marion Frances	*H. E. Tr.*	*South Danbury*
Rydin, Doris Elizabeth	*A. G.*	*Manchester*
Sampson, Eleanor Agnes	*A. G.*	*Manchester*
Sanborn, Daniel Bradbury	*A. G.*	*Manchester*
Sanborn, Rachel Alice	*A. G.*	*Goffstown*
Sanders, George Edward	*M. E.*	*Nashua*
Sargent, Lloyd Gilman	*A. G.*	*Plaistow*
Savithes, Edith Dorothea	*A. G.*	*Somersworth*
Sawyer, Wallace Wells	*Agr. Ch.*	*Whiting, Vt.*
Schurman, David Badger	*M. E.*	*Portsmouth*
Scott, Winifred Louise	*A. G.*	*Tiverton, R. I.*
Seddon, Edgar Harrison	*D. H.*	*Brooklyn, N. Y.*
Shaw, Marion Elizabeth	*A. G.*	*Warner*
Sheedy, James Augustine	*A. G.*	*Lawrence, Mass.*
Sherburne, Ronald	*P. H.*	*Nashua*
Sibley, Frederic Elmer	*Agr.*	*Walpole*
Sibley, Laurence Chapell	*A. G.*	*Amherst*
Skillings, Carleton Douglas	*A. G.*	*North Berwick, Maine*
Sleeper, Charles Henry	*Agr.*	*Laconia*
Smalley, Elizabeth Marion	*A. G.*	*Dover*
Smith, Alfred Frank	*P. H.*	*Lakeport*
Spencer, Leon Leroy	*A. G.*	*Plymouth*
Spinney, Vesta Enid	*A. G.*	*Portsmouth*
Stearns, Glenn Atherton	*A. G.*	*Winchester*
Steere, Harry Wing	*I. E.*	*Amesbury, Mass.*
Stewart, Pauline Frances	*A. G.*	*Portsmouth*
Stimson, Wallace Atwood	*P. H.*	*Woodsville*
Storey, Lena May	*H. E. Tr.*	*Sanbornville*
Summerville, George Herbert	*A. G.*	*Manchester*
Sweeney, Edward Kenneth	*A. G.*	*Exeter*
Swett, Catharine	*A. G.*	*Plymouth*

NAME	COURSE	P. O. ADDRESS
Taylor, Melville Lincoln	*A. G.*	*Seabrook*
Taylor, Ralph Stocker	*Agr.*	*Durham*
Thurber, Walter Percival	*E. E.*	*Attleboro, Mass.*
Towle, Edward Chester	*Ch. E.*	*Pittsfield*
Tracy, Paul Emory	*A. G.*	*Concord*
Tuck, Harold Edward	*A. G.*	*Exeter*
Twombly, George Adam	*I. E.*	*Laconia*
Virgil, Elizabeth Ann	*H. E. Tr.*	*Portsmouth*
Wakefield, Rudolph Huse	*A. Cn.*	*Plymouth*
Walker, Una Elizabeth	*A. G.*	*Nashua*
Ware, Wallace Shirley	*E. E.*	*Hampton*
Watson, Ruth Emma	*A. G.*	*Dover*
Webster, Helen Elizabeth	*A. G.*	*Milford*
Webster, Robert Gordon	*For.*	*Newburyport, Mass.*
Wentworth, Shirley Preble	*A. G.*	*Salem, Mass.*
Wheelright, Cedric Preston	*A. G.*	*Danvers, Mass.*
Whitcomb, Harold William	*A. G.*	*Berlin*
Whitehead, Frederick Gale	*M. E.*	*North Andover, Mass.*
Wightman, Henry George	*Hort.*	*Walpole*
Williamson, Clayton Marnoch	*E. E.*	*Dover*
Wilson, Stanley Edward	*Hort.*	*North Charlestown*
Young, Sumner Dowlin	*I. E.*	*Wolfeboro*
Young, Waldo Abiatha	*A. G.*	*Sunapee*

SOPHOMORES

Abbiati, Furio Alexander	*Ch. E.*	*Barre, Vt.*
Agrafiotis, Chris John	*Agr.*	*Manchester*
Andrews, Pauline Mae	*A. G.*	*Somersworth*
Atwood, Eleanor Elizabeth	*A. G.*	*Gloucester, Mass.*
Avery, Clara Beatrice	*A. G.*	*East Kingston*
Ayers, Lester Charles	*A. G.*	*Beverly, Mass.*
Baldwin, Howard Bradford	*Agr. Ch.*	*Wilton*
Barnes, Ernest Edward	*Agr. Tr.*	*Mason*
Beals, Robert Vernon	*A. G.*	*Manchester*
Beeler, William Francis	*A. G.*	*Fall River, Mass.*
Berry, Norman Jonathan	*M. E.*	*Rochester*
Betz, Edwin	*A. G.*	*Whitefield*
Betz, Joseph Alexander	*A. G.*	*Peterboro*
Biathrow, Frederic Moore	*A. G.*	*Hanover*

Name	Course	P. O. Address
Blodgett, Marguerite Lillian	*A. G.*	*Henniker*
Blum, Leopold Bernard	*E. E.*	*Newbury, Mass.*
Bowles, Armand Clinton	*Ch. E.*	*Claremont*
Boyd, James Alexander	*A. G.*	*Dedham, Mass.*
Brady, Helen	*A. G.*	*Union Hill, N. J.*
Breen, Daniel Francis	*A. Cn.*	*Hardwick, Mass.*
Brooks, Dorothy	*A. G.*	*Portsmouth*
Bruce, Edgar Brown	*A. G.*	*Milton*
Bryant, Burnell Varnum	*For.*	*Portland, Maine*
Brydon, Lloyd Harris	*E. E.*	*Cumberland Center, Maine*
Buckminster, William Dudley	*A. G.*	*Keene*
Burnham, Robert Francis	*M. E.*	*Durham*
Burpee, Dorothy Follansby	*A. G.*	*Exeter*
Calderwood, Donald Cameron	*Engr.*	*Nashua*
Callahan, John Russell	*E. E.*	*Wakefield, Mass.*
Carli, Armando Ralph	*A. G.*	*Malden, Mass.*
Carlisle, Kenneth Dudley	*Agr.*	*Northwood Center*
Carpenter, John Thurston	*A.Cn.*	*Nashua*
Carter, Benjamin Edwin	*A. G.*	*Portland, Maine*
Cassily, Catherine Mary	*A. G.*	*Dover*
Caswell, Maurice Harold	*Engr.*	*Barnstead*
Chase, Charles Elroy	*A. Cn.*	*North Stratford*
Chipman, Walter Albert	*A. G.*	*Manchester*
Clark, George Henry	*A. G.*	*Worcester, Mass.*
Clarke, Ernest Jennings	*A. G.*	*Montclair, N. J.*
Clarke, Frank Kenneth	*A. G.*	*Canaan*
Clay, John Arthur	*A. G.*	*Milford*
Coe, Helen Jewell	*A. G.*	*Newfields*
Colby, Nathaniel Henry	*I. E.*	*New London*
Colman, Charles David	*A. G.*	*Rochester*
Colovos, Nicholas Filip	*Agr. Ch.*	*Manchester*
Connor, Clyde Cedric	*M. E.*	*Henniker*
Cook, Charles Atkinson	*For.*	*Newburyport, Mass.*
Cooper, Ruth Audrey	*A. G.*	*Lawrence, Mass.*
Cotton, Harold Parker	*A. G.*	*Ashland*
Courser, Edith Jeannette	*A. G.*	*Warner*
Cross, Clayton Russell	*Hort.*	*Derry*
Crowley, Helen	*A. G.*	*Fall River, Mass.*
Curran, Frank Andrew	*A. G.*	*Nashua*

NAME	COURSE	P. O. ADDRESS
Currie, James Carlton	*Ch. E.*	*Biddeford, Maine*
Currier, Alton Chauncey	*A. G.*	*Orford*
Curtis, Harry Melville	*P. H.*	*Swampscott, Mass.*
Danforth, Clifton Abbott	*A. G.*	*Warner*
Daniels, Forsaith	*I. E.*	*Manchester*
Davis, Edward Raymond	*A. G.*	*Boston, Mass.*
Day, John Woodberry	*A. G.*	*Beverly, Mass.*
Dearborn, Roland Balch	*Agr.*	*New Boston*
Derby, Carl Calvin	*A. G.*	*Peterboro*
Dicey, Irving Tilton	*A. G.*	*East Derry*
Dickson, George Trenholme	*A. Ch.*	*Colebrook*
Dimock, Morris Wilton	*A. G.*	*Portsmouth*
Dionne, Isabelle Rita	*A. G.*	*Nashua*
Dodge, Carolyn Ella	*A. G.*	*New Boston*
Dolan, Mary Agnes	*A. G.*	*Nashua*
Donovan, Frances	*A. G.*	*Braintree, Mass.*
Dustin, Ralph Clement	*E. E.*	*Penacook*
Eastwood, Medora Viola	*A. G.*	*Plymouth, Mass.*
Eaton, Hazel Winnifred	*A. G.*	*Portsmouth*
Fairchild, Frances Faith	*A. G.*	*White Plains, N. Y.*
Farr, Annie Gertrude	*A. G.*	*North Weare*
Farrar, Elbert Raymond	*Agr.*	*Hillsboro*
Fitch, Alice Lila	*A. G.*	*Claremont*
Flynn, Dorothy	*A. G.*	*Berlin*
Folsom, Russell Willand	*E. E.*	*Dover*
Foss, Kenneth Lucius	*E. E.*	*Keene*
French, Wilford Albion	*E. E.*	*Sanbornville*
Frizzell, Burton Leo	*Agr. Tr.*	*Colebrook*
Frost, Lore Alford	*E. E.*	*Windham*
Galvin, Vernon Vincent	*A. G.*	*Fall River, Mass.*
Garvin, Carl Hanson	*A. G.*	*Dover*
Gelpke, William Joseph	*E. E.*	*Manchester*
George, Charles Adna	*Agr.*	*Contoocook*
Gerrish, Grace Elizabeth	*A. G.*	*Dover*
Gill, McLean John	*A. G.*	*Woodsville*
Gitelman, William	*A. G.*	*Brooklyn, N. Y.*
Hall, Florence Ellen	*A. G.*	*Keene*
Hammerstrom, George Albert	*A. G.*	*Gossville*
Handy, Glenroy Smith	*I. E.*	*Winchester*

NAME	COURSE	P. O. ADDRESS
Harris, Gladys Annie	*A. G.*	*Manchester*
Hartshorn, Pearl Editha	*A. G.*	*Mont Vernon*
Hatch, Ralph Lord	*E. E.*	*Biddeford, Maine*
Hayden, Leslie Forrest	*Agr.*	*Newfields*
Heald, Benjamin	*A. G.*	*Manchester*
Henault, Norman Joseph	*A. G.*	*Norwich, Conn.*
Hitchcock, Russell William	*E. E.*	*Medway, Mass.*
Hixon, Stanley Radcliffe	*A. G.*	*Worcester, Mass.*
Hoag, Albert Buffum	*I. E.*	*Center Sandwich*
Hoagland, William Lloyd	*A. G.*	*Dedham, Mass.*
Hodge, Lucille Clarke	*A. G.*	*Concord*
Hodges, Stephen Emmons	*Agr.*	*Newton, Mass.*
Holt, Clarence Dodge	*Ch. E.*	*New Boston*
Holt, Esther	*A. G.*	*Suncook*
Hopkins, Walter Scott	*A. G.*	*Reading, Mass.*
Horne, Roger Bigelow	*M. E.*	*Millbury, Mass.*
Hourihane, Cecelia Marie	*A. G.*	*Somersworth*
Hourihane, Ellen Wren	*A. G.*	*Somersworth*
Howe, Lloyd Sanborn	*E. E.*	*Concord, Mass.*
Hubbard, Leslie Stoddard	*I. E.*	*Walpole*
Humphrey, Helen	*A. G.*	*Ipswich, Mass.*
Hunt, Anna Calvert	*A. G.*	*Nashua*
Huntoon, Grovenor Ariel	*A. G.*	*Contoocook*
Hussey, Frank Wentworth	*I. E.*	*Rochester*
Hutchins, John Welsh	*A. Ch.*	*Whitman, Mass.*
Ide, Nicolas Philip	*For.*	*Durham*
Jenkins, Ralph Richards	*Agr.*	*Lowell, Mass.*
Jensen, Laurence Vorbeau	*A. G.*	*Ashburnham, Mass.*
Johnson, Barney George	*A. Arch.*	*Berlin*
Johnson, Harold Ludlow	*I. E.*	*Concord*
Johnson, Paul Shattuck	*A. G.*	*Stoneham, Mass.*
Jones, Helen Gwendolyn	*A. G.*	*Concord*
Jordan, Harland Carl	*A. Cn.*	*Berlin*
Keenan, Alice Julia	*A. G.*	*Penacook*
Kelleher, Paul Edward	*A. G.*	*Boston, Mass.*
Kelley, Ethel Etta	*A. G.*	*Manchester*
Kelsea, Oscar George	*A. G.*	*Colebrook*
Kennedy, Edward Henry	*I. E.*	*Somersworth*
Kennedy, Mary Josephine	*A. G.*	*Somersworth*

NAME	COURSE	P. O. ADDRESS
Keough, George Harland	*A. G.*	*Gorham*
KillKelley, James Roy	*E. E.*	*Wilton*
Kimball, Kenneth Robie	*A. G.*	*Concord*
Kimball, Ralph Lawson	*I. E.*	*Somersworth*
Kimball, Roy George	*A. G.*	*Enfield*
Kinsman, Emma Lena	*A. G.*	*Somersworth*
Kirk, Frank Wilkins	*A. G.*	*Portsmouth*
Kunz, Gordon Howard	*A. Arch.*	*Boston, Mass.*
Langdell, Merritt Raymond	*A. G.*	*Manchester*
Langford, Anice Elizabeth	*A. G.*	*East Candia*
Larson, Norman Luther	*A. G.*	*Berlin*
Layne, Haven Dwight	*A. G.*	*Dover*
Lee, Dana Huntley	*Agr.*	*Concord*
Lewis, Steven Asa	*E. E.*	*Winchester*
Lightbown, James Pearson	*A. G.*	*Fall River, Mass.*
Litchfield, Stephen	*A. G.*	*Brunswick, Maine*
Littlefield, Ralph Batchelder	*For.*	*Salem*
Long, Ruth Florence	*A. G.*	*Walpole*
Lord, George David	*A. Chem.*	*Milton*
Lord, Richard Theodore	*E. E.*	*North Berwick, Maine*
Lovering, Marguerite	*A. G.*	*Farmington*
McDonald, John Joseph	*Ch. E.*	*Dover*
McDonough, John Charles	*A. G.*	*Manchester*
McGrail, Thomas Henry	*A. G.*	*Dover*
McIntire, Everett Marden	*A. G.*	*Lancaster*
McLeod, Donald Kenneth	*P. H.*	*Peterboro*
McMorrow, William Francis	*A. G.*	*Lawrence, Mass.*
McPherson, Donald Davis	*A. G.*	*Worcester, Mass.*
Manchester, Everett Hiram	*A. G.*	*Fall River, Mass.*
Manikian, Jerayr	*Engr.*	*Lynn, Mass.*
Marnoch, Margaret Shaw	*A. G.*	*Dover*
Marsden, Edwin Leroy	*M. E.*	*Spencer, Mass.*
Martin, Arme Cunningham	*A. G.*	*Hartland, Vt.*
Mason, Laurence Everett	*A. G.*	*Marlboro*
Matthews, Daniel Joseph	*A. G.*	*Manchester*
Melville, George Charles	*A. G.*	*Swampscott, Mass.*
Moody, Frank Bailey	*E. E.*	*Dover*
Mooney, Chester Ernest	*A. G.*	*West Canaan*
Mooney, Leslie Levi	*I. E.*	*West Canaan*

NAME	COURSE	P. O. ADDRESS
Moore, Winthrop Perkins	*A. G.*	*Sharon, Mass.*
Moulton, Nathalie Marion	*A. G.*	*Portsmouth*
Mountain, Pauline Letitia	*A. G.*	*Berlin*
Moylan, Clare Patricia	*A. G.*	*Dorchester, Mass.*
Mulligan, Paul Vincent	*A. G.*	*Revere, Mass.*
Munroe, Edward Mansfield	*M. E.*	*Peabody, Mass.*
Nagel, Charles Fred	*A. G.*	*Beverly, Mass.*
Neville, John Patrick	*A. G.*	*Portsmouth*
Newell, Thelma Katherine	*A. G.*	*Whitefield*
Nicora, Robert Julia	*A. G.*	*Barre, Vt.*
Nutter, Arthur Preston	*A. G.*	*Sanford, Maine*
O'Brien, James Barry	*A. G.*	*Concord*
O'Brien, William Francis	*A. G.*	*Lynn, Mass.*
O'Connor, Edward Leo	*A. G.*	*Peabody, Mass.*
O'Kane, Catherine VandeWater	*A. G.*	*Durham*
O'Leary, Otho Francis	*A. G.*	*Newfields*
Osgood, Alice Louise	*A. G.*	*Pittsfield*
Page, George Elliott	*A. G.*	*Exeter*
Page, Harry Oliver	*A. G.*	*Swampscott, Mass.*
Paige, Catherine Eliza	*A. G.*	*North Weare*
Paige, Edna May	*A. G.*	*North Weare*
Patten, Roger William	*Agr.*	*Framingham, Mass.*
Perkins, Theodore Jacob	*Agr.*	*Meredith*
Phelps, Robert Thayer	*Ch. E.*	*Jefferson*
Philbrick, Earle Dexter	*A. Arch.*	*Berlin*
Pineo, Harold	*A. G.*	*Dover*
Pinkham, Austin Marston	*A. G.*	*Somerville, Mass.*
Pinkham, Rolland Francis	*A. G.*	*Dover*
Pitts, Thomas Michael	*A. G.*	*Concord*
Poor, Bernice Lillian	*A. G.*	*Atkinson*
Pratt, Wilfred Raymond	*A. G.*	*Boston, Mass.*
Prince, William Morris	*A. G.*	*New Boston*
Proudman, William	*A. Arch.*	*West Roxbury, Mass.*
Pulsifer, Walter Trueman	*A. G.*	*Dover*
Reed, Roger Allbee	*A. G.*	*Woodsville*
Remick, Edwin Crafts	*A. G.*	*Tamworth*
Rhodes, Margaret Esther	*A. G.*	*Brookline, Mass.*
Roberts, Samuel Woodbury	*E. E.*	*Wakefield*
Robinson, Frederick LeBaron	*A. G.*	*Brookline, Mass.*

NAME	COURSE	P. O. ADDRESS
Rodden, Clement James	*Ch. E.*	*Dover*
Rolfe, Mary Florence	*A. G.*	*Penacook*
Rowe, Bernice Lydia	*A. G.*	*Exeter*
St. Clair, Roger Couch	*E. E.*	*Portsmouth*
Sanborn, Victor Paul	*A. G.*	*Topsfield, Mass.*
Sargent, Benjamin Ricker	*A. G.*	*Wolfeboro*
Schlenker, Frank Stott	*Agr. Ch.*	*Haverhill, Mass.*
Scribner, Caryl Edith	*A. G.*	*Contoocook*
Seager, Beatrice Field	*A. G.*	*Brandon, Vt.*
Sentner, Robert Verrill	*A. G.*	*Dover*
Sharples, Robert Edmond	*A. Cn.*	*Newmarket*
Shepard, Rachel Elizabeth	*A. G.*	*West Epping*
Simmons, Emily Blanchard	*A. G.*	*New Ipswich*
Simpson, John Roger	*A. G.*	*Newton, Mass.*
Simpson, Lloyd Atherton	*A. G.*	*Concord*
Sleeper, Cleveland	*A. G.*	*Newton, Mass.*
Smalley, Frederick Christopher	*Agr.*	*Dover*
Smith, Claire Elizabeth	*A. G.*	*Center Sandwich*
Smith, Dorothy Tuck	*A. G.*	*Hudson*
Smith, Evelyn Hope	*A. G.*	*Tilton*
Smith, Langdon Cornwall	*A. G.*	*Middletown, Conn.*
Smith, Maurice Basil	*M. E.*	*North Hampton*
Smith, Robert Elbridge	*A. G.*	*Franklin*
Smith, Stanley Newton	*P. H.*	*Loudon*
Snow, Cedric Winthrop	*E. E.*	*Claremont*
Snow, Martin Fayette	*A. G.*	*Littleton*
Southmayd, Clarendon Lester	*M. E.*	*Franklin*
Spaulding, Claude Cary	*For.*	*Montpelier, Vt.*
Spillane, Charles Jerremiah	*E. E.*	*Newmarket*
Starrett, Jasper Ellis	*A. G.*	*Bangor, Maine*
Stevens, Ruth Cornelia	*A. G.*	*Nashua*
Stone, Fred Byron	*E. E.*	*Dover*
Straw, Raymond Williams	*I. E.*	*Contoocook*
Symonds, Benjamin Shapleigh	*A. G.*	*Portland, Maine*
Tappan, Thomas Capron	*E. E.*	*Chester*
Tarleton, Sherman William	*E. E.*	*Hampton*
Tetzlaff, Eugene Anthony	*A. G.*	*Manchester*
Thomas, A. Janette	*H. E. I.*	*Durham*
Thompson, George Clifford	*E. E.*	*Hudson*

NAME	COURSE	P. O. ADDRESS
Thompson, Helen Hannah	*A. G.*	*Worcester, Mass.*
Thompson, Wilbur Emons	*For.*	*Wilmot Flat*
Tobey, Louise	*A. G.*	*Wolfeboro*
Tomasian, Thomas	*E. E.*	*Nashua*
Trombley, Napoleon Arthur	*E. E.*	*Concord*
VanAllen, Albert David	*A. G.*	*Woodstock*
Varney, Gilbert Leslie	*For.*	*Plymouth*
Vatter, Edwin Bryant	*I. E.*	*Salem, Mass.*
Waite, Frederick	*Ch. E.*	*Allston, Mass.*
Wales, Gardner Howard	*A. G.*	*Penacook*
Wallace, Maynard Stuart	*A. G.*	*Nashua*
Wallace, Todd Bryce	*A. Cn.*	*Newton Highlands, Mass.*
Webber, Ruth L.	*A. G.*	*Springvale, Maine*
Wendell, Charles Perkins	*Hort.*	*Portsmouth*
Wentworth, Irene Martin	*A. G.*	*Somersworth*
White, Elizabeth Alice	*A. G.*	*Rye Beach*
White, William Prescott	*Ch. E.*	*Rye Beach*
Whyte, Russell Paul	*A. G.*	*Lancaster*
Wiggin, Stanley Lyman	*A. Ch.*	*Gonic*
Willard, Herbert Andrew	*Agr.*	*Temple*
Willard, Mervin Edwin	*Agr.*	*Temple*
Willgeroth, George Edward	*P. H.*	*Hillsboro*
Williams, Chester Elmer	*E. E.*	*Newcastle*
Wilmot, Manly A.	*A. G.*	*Enfield*
Wilson, Joseph Bassett	*E. E.*	*Exeter*
Wilson, Ralph Brockett	*E. E.*	*Townsend, Mass.*
Wood, Katherine Alma	*A. G.*	*Randolph*
Woodman, Margaret Cushman	*A. G.*	*Wakefield, Mass.*
Wright, Linwood Arlon	*A. Cn.*	*Sanford, Maine*

FRESHMEN

Abbott, Harold Elliott	*Ch. E.*	*Lakeport*
Abrahamson, Herman Oscar	*A. G.*	*Bergenfield, N. J.*
Ahern, Daniel Keleher	*A. G.*	*Charlestown*
Aiken, Oscar Sumner	*A. G.*	*Farmington*
Albiani, Settino John	*A. G.*	*Dorchester, Mass.*
Altieri, Natalie Virginia	*A. G.*	*Waterbury, Conn.*
Altman, Edward Mitchell	*A. G.*	*Lawrence, Mass.*
Anderson, Verne Sawyer	*Engr.*	*North Woodstock*

NAME	COURSE	P. O. ADDRESS
Angell, Philip Alvin	*A. G.*	*Brookfield, Vt.*
Anglin, John Ignatius	*A. G.*	*Peabody, Mass.*
Appiani, Leo Armando	*E. E.*	*Medford, Mass.*
Appleton, Scott Severance	*E. E.*	*Keene*
Armitage, William O.	*A. G.*	*Sanford, Maine*
Ashe, Harry Burbank	*Ch. E.*	*Groveton*
Ashey, Edward Metchel	*A. G.*	*Lebanon*
Atkins, Reginald French	*A. G.*	*Concord*
Auerback, Eugene Kimball	*A. G.*	*Melrose, Mass.*
Avery, Carroll Wood	*M. E.*	*Wolfeboro*
Avery, Martin Baker	*A. G.*	*Laconia*
Bailey, Helen Weeks	*A. G.*	*Lancaster*
Baker, Clifton Leroy	*I. E.*	*Raymond*
Balch, Grant Pushee	*E. E.*	*Lyme*
Baldi, Atilia Mary	*A. G.*	*Laconia*
Balfour, Valmore	*A. G.*	*New York City*
Bancroft, James Merritt	*A. G.*	*Bradford, Mass.*
Barclay, Lawrence Earl	*A. G.*	*Winthrop, Mass.*
Barker, George Clarence	*M. E.*	*Hopedale, Mass.*
Barron, Catherine Frances	*A. G.*	*Newfields*
Bartlett, William Stuart	*E. E.*	*Kingston*
Batchelder, Edna Gertrude	*A. G.*	*Laconia*
Batchelder, Helen Agnes	*A. G.*	*Durham*
Batchelder, Leon Wallace	*Agr.*	*Durham*
Batchelder, Ray Merton	*Agr.*	*Durham*
Bean, Willard Frederick	*M. E.*	*Errol*
Beane, Randolph Newhall	*E. E.*	*Newington*
Beattie, Robert Archibald	*A. G.*	*Woodsville*
Beckingham, James Joseph	*A. G.*	*Dover*
Beede, Frank Ellsworth	*E. E.*	*Fremont*
Beggs, Martin Francis	*A. G.*	*Concord*
Berg, Harold Roger	*I. E.*	*Kittery, Maine*
Bernstein, Henry Rufus	*A. G.*	*Somersworth*
Berry, Elmer Clinton	*A. G.*	*Damariscotta, Maine*
Bickford, Paul Parker	*Agr.*	*Chocorua*
Birmingham, Harold Francis	*A. G.*	*Haverhill, Mass.*
Bissonett, Roland Lester	*A. G.*	*Claremont*
Blaisdell, Margaret Ester	*A. G.*	*Dover*
Blake, Winston Paige	*A. G.*	*Warner*

NAME	COURSE	P. O. ADDRESS
Blodgett, Grace Burnham	*A. G.*	*Henniker*
Boehner, Ruth Parker	*A. G.*	*Suncook*
Boles, Pearl Townsend	*A. G.*	*Derry*
Bond, Jerry	*A. G.*	*Needham, Mass.*
Bond, Waldo Smart	*Engr.*	*Exeter*
Boodey, Leon Eli	*E. E.*	*East Barrington*
Bowen, Ruth Verna	*A. G.*	*Keene*
Bowen, Whitman Chandler	*A. G.*	*Bartlett*
Boyle, Frederick Patrick	*A. G.*	*Lincoln*
Bradley, Charles Stuart	*E. E.*	*Goffstown*
Bradshaw, Harold James	*E. E.*	*Fall River, Mass.*
Brannen, Mildred Evelyn	*A. G.*	*Amesbury, Mass.*
Bray, Dana Spencer	*A. G.*	*Haverhill, Mass.*
Breckwoldt, Marie Hill	*A. G.*	*Wolfeboro*
Bridge, George Samuel	*A. G.*	*Portland, Maine*
Brooks, Lester Stewart (2)	*A. G.*	*Dorchester, Mass.*
Brooks, Lewis Frederick	*A. G.*	*Derry*
Brown, Margaret Frances	*A. G.*	*Exeter*
Brown, Robert Ives	*A. G.*	*Newtonville, Mass.*
Bruce, Robert Edmund	*A. G.*	*Ashland*
Bryant, William	*Ch. E.*	*Manchester*
Buckley, John Ogden	*A. G.*	*Nashua*
Burbank, Henry Parker	*A. G.*	*Gorham*
Burdett, Miriam Lois	*A. G.*	*Leominster, Mass.*
Burke, William Michael	*Ch. E.*	*Barre, Vt.*
Burnham, Alice Maude	*A. G.*	*Henniker*
Burpee, Eldora Haines	*A. G.*	*Exeter*
Burpee, Willena Florence	*A. G.*	*Newport*
Buswell, William Walton	*M. E.*	*Salisbury, Mass.*
Camann, Yetta	*A. G.*	*Laconia*
Carlisle, Walter Scott (2)	*For.*	*Exeter*
Carpenter, Glendon Morgan	*A. G.*	*Manchester*
Carpenter, Marion Heath	*A. G.*	*Manchester*
Cash, Thomas Philip	*E. E.*	*Dover*
Castle, Gladys May	*A. G.*	*Newburyport, Mass.*
Cella, Romeo Alfred	*Ch. E.*	*Barre, Vt.*
Chambers, John Richard	*I. E.*	*Portsmouth*
Chandler, Roland Francis	*A. G.*	*Winchester*
Chaplin, Charles Frederick (2)	*A. G.*	*Nashua*

NAME	COURSE	P. O. ADDRESS
Churchill, Fred May	*A. G.*	*Exeter*
Churnick, Lewis	*A. G.*	*Malden, Mass.*
Cilley, Raymond Gardner	*A. G.*	*Contoocook*
Clark, John Revie	*A. G.*	*Manchester*
Clark, Leslie Martin	*A. G.*	*Manchester*
Cleland, Philip Augustus	*A. G.*	*Malden, Mass.*
Cleveland, Harlan Samuel	*A. G.*	*North Stratford*
Cohen, David Miller	*A. G.*	*Portsmouth*
Colburn, Eunice	*A. G.*	*Hillsboro*
Coleman, George Ephriam	*Agr.*	*Peabody, Mass.*
Columbia, Richard	*A. G.*	*Canaan*
Conant, Malcolm Willey	*A. Cn.*	*Canterbury*
Coolidge, Irma	*A. G.*	*Bristol*
Cotter, Henry Eugene	*M. E.*	*Milo, Maine*
Cotton, Chester Arthur	*A. G.*	*Alton*
Cotton, Dana Meserve	*A. G.*	*Gorham, Maine*
Cragin, Joseph Sheldon	*M. E.*	*Leominster, Mass.*
Craig, Ralph Briry	*A. G.*	*Pittsfield, Maine*
Cuddire, Laurence Joseph	*A. G.*	*Peabody, Mass.*
Cummings, Edward Sawyer	*A. G.*	*Concord*
Cummings, James Peaslee	*Engr.*	*Manchester*
Currier, Charles Albert	*E. E.*	*Newburyport, Mass.*
Custeau, Emile Michael	*A. G.*	*Rochester*
Daggett, Albert Frederick	*Ch. E.*	*Concord*
Daland, Richard Williams	*A. G.*	*Salem, Mass.*
Danforth, H. Raymond	*A. G.*	*Concord*
Daniels, Jessie Isabel	*A. G.*	*Henniker*
Davis, Dorothy Helen	*A. G.*	*Rochester*
Davis, Evelyn Mabel	*A. G.*	*Fremont*
Davis, Frances Garland	*A. G.*	*Saco, Maine*
Dawson, Raymond John	*A. G.*	*Methuen, Mass.*
Dearborn, Robert Ambrose	*A. G.*	*Nashua*
Dearington, Searls	*A. G.*	*Melrose, Mass.*
DelBianco, Angelo Natale	*A. G.*	*Concord*
Dexter, Edward Augustus	*P. H.*	*Bethlehem*
Dillon, Gomer Stanley	*A. G.*	*Manchester*
Dixon, Paul J.	*Hort.*	*Milton*
Dodge, Charles Eben	*A. G.*	*Pittsfield*
Dodge, Grenville Taylor	*For.*	*Penacook*

NAME	COURSE	P. O. ADDRESS
Doe, Rachel Margaret	*A. G.*	*Milton*
Dolan, Robert Francis (2)	*A. G.*	*Wayland, Mass.*
Donovan, Margaret Elizabeth	*A. G.*	*Exeter*
Doucette, Marion Gertrude	*A. G.*	*North Walpole*
Drew, Frederick Wentworth	*E. E.*	*Dover*
Duerr, John Lathrop	*E. E.*	*Laconia*
Duffy, Arthur Daniel	*Ch. E.*	*Lynn, Mass.*
Duffy, Peter Andrew	*A. G.*	*Dover*
Duquenne, Georges Charles (2)	*A. G.*	*Holyoke, Mass.*
Eadie, James	*M. E.*	*Manchester*
Eastman, Clifford Herman	*A. G.*	*Newport*
Eastman, Edson Farnum	*Agr.*	*West Concord*
Eastman, Hazel Mae	*A. G.*	*Meriden*
Edgerly, Carleton Sanborn	*Ch. E.*	*Hampton Falls*
Elliott, Charles Ned	*A. G.*	*Contoocook*
Emery, Winston Frank	*For.*	*West Swanzey*
Engel, L. Arnold	*A. G.*	*Concord*
English, James Hugh	*A. G.*	*Manchester*
Esersky, Etta Rose	*A. G.*	*Claremont*
Evans, Lloyd Llewellyn (2)	*A. G.*	*Wentworth*
Evans, Walter Horace	*A. G.*	*Barnstead*
Feitelberg, Frank Sydney	*A. G.*	*Fall River, Mass.*
Ferguson, John Edwin	*A. G.*	*Goffstown*
Fields, Dorothy Amelia	*A. G.*	*Reed's Ferry*
Fifield, Bernard George	*Engr.*	*Nashua*
Fifield, Mildred	*A. G.*	*Conway*
Fifield, Stanley Clarence	*A. G.*	*West Thornton*
Fisk, Maynard Clark	*For.*	*Lancaster*
Flaherty, Edna Grace	*A. G.*	*Manchester*
Flanagan, Katherine Patricia	*A. G.*	*Portsmouth*
Flint, Margaret Merrill	*A. G.*	*Meredith*
Fogg, Bessie Lakin	*A. G.*	*Hancock*
Foss, Alice Mildred	*A. G.*	*Suncook*
Foster, Alice Page	*A. G.*	*Plymouth*
Foy, Peter Joseph	*A. G.*	*Gorham*
Francoeur, Jeffrey Francis	*Ch. E.*	*Somersworth*
French, Alvin Watson	*A. Cn.*	*Salisbury, Mass.*
French, Chauncey Wentworth	*A. G.*	*South Deerfield*
Gale, Marjorie Harriet	*A. G.*	*Dover*

NAME	COURSE	P. O. ADDRESS
Gardner, Calvin Leland	*I. E.*	*South Swansea, Mass.*
Garner, Robert Sherlock	*A. G.*	*Methuen, Mass.*
Garvey, Leo Francis	*A. G.*	*Dover*
Gaskins, Arthur Lawrence	*A. G.*	*Milton, Mass.*
Gelman, Samuel	*A. G.*	*Portsmouth*
George, Avery Brewster	*Ch. E.*	*Haverhill, Mass.*
Gillingham, John Willis	*A. G.*	*East Lempster*
Gitter, Joseph	*A. G.*	*Malden, Mass.*
Goldberg, Charles	*A. G.*	*Peabody, Mass.*
Goodwin, Edwin Alonzo	*E. E.*	*Somersworth*
Goodwin, Marion Louise	*A. G.*	*West Lebanon, Maine*
Gordon, Dorothy Matula	*A. G.*	*Hillsboro*
Gordon, Fay Ella	*A. G.*	*Pleasant Lake, N. D.*
Gove, Ruth Alice	*A. G.*	*Wentworth*
Grady, Catherine Elizabeth	*A. G.*	*Winthrop, Mass.*
Green, Russel	*A. G.*	*Hampstead*
Greenough, William	E. E.	*Wakefield, Mass.*
Greenwood, Raymond Edward	*Agr.*	*Lancaster*
Grevior, Archie	*M. E.*	*Manchester*
Griffin, Kelsea	*A. G.*	*Manchester*
Gulliver, Reginald Everett	*A. G.*	*Needham, Mass.*
Guptill, Alexander Leo	*Agr.*	*Northwood Ridge*
Guptill, George Herbert	*A. G.*	*Raymond*
Gustafson, Clarence Henry	*A. G.*	*Manchester*
Gustafson, Walter Ludwig	*A. G.*	*Portsmouth*
Haines, Walter Blake	*A. Cn.*	*Winthrop, Mass.*
Haley, Harold Edward	*A. G.*	*Exeter*
Hall, Herbert Lorenzo	*A. G.*	*Plymouth*
Hall, Phillips Russell	*Agr.*	*Plymouth*
Hall, Roscoe Davis	*A. G.*	*Nashua*
Hallisey, Mildred Louise	*A. G.*	*Nashua*
Hammond, Gordon Elvington	*A. G.*	*North Berwick, Maine*
Hammond, Ruth Wilson	*A. G.*	*Laconia*
Hanagan, Joseph John	*A. G.*	*Somersworth*
Hanson, Elizabeth Frances	*A. G.*	*Concord*
Hanson, Eric Waldemar	*A. G.*	*South Boston, Mass.*
Harriman, Aellene Winifred	*A. G.*	*Manchester*
Harriman, Carl Edward	*A. G.*	*Ashland*
Harris, William Wesley	*A. G.*	*Swampscott, Mass.*

NAME	COURSE	P. O. ADDRESS
Hartshorn, Mary Elizabeth	*A. G.*	*Derry*
Hartson, Charles Frederick	*A. G.*	*Portsmouth*
Hatch, Ervin Nerva	*M. E.*	*Intervale*
Hatch, Harris	*A. G.*	*Stratham*
Hatch, Herbert Oren	*A. G.*	*Sanbornville*
Haubrich, Alta Lusetta	*A. G.*	*Claremont*
Hawkins, Hubert Wheeler	*A. G.*	*Taunton, Mass.*
Hayes, Milton Ware	*E. E.*	*Milton*
Heath, Cecil Newton	*A. G.*	*Dover*
Hemingway, Ellis Lewis	*A. G.*	*Berwick, Maine*
Herlihy, Daniel Patrick	*A. G.*	*Newfields*
Higgins, George Warren	*Agr.*	*Salem Depot*
Hildreth, Malcolm Dee	*A. G.*	*Plymouth*
Hill, Henry Bertram	*A. G.*	*Needham, Mass.*
Hill, Margaret Evelyn	*A. G.*	*Franklin*
Hilliard, Harry Eugene	*A. G.*	*Concord*
Hobbs, Dorothy Gilmore	*A. G.*	*Hampton*
Hobbs, Llewellyn Frank	*Ch. E.*	*North Hampton*
Hoffses, Barbara Sterling	*A. G.*	*Manchester*
Hoitt, Dorothy Emma	*A. G.*	*Manchester*
Holly, Miriam Ursula	*A. G.*	*Littleton*
Horn, Elizabeth Agnes	*A. G.*	*Laconia*
Horne, Evelyn Louise	A. G.	*Wolfeboro*
Horne, Frank Wescott	*E. E.*	*Conway*
Horne, Ruth Frances	*A. G.*	*Rochester*
Houle, Edmond James	*A. G.*	*Rochester*
Howard, Stephen Edward	*A. Arch.*	*Pike*
Hoyt, Raymond Albert	*A. G.*	*Plaistow*
Huckins, John Haven	*A. G.*	*Concord*
Hunt, Henry	*A. Arch.*	*Sanford, Maine*
Hunt, Paul Merryman	*M. E.*	*Haverhill, Mass.*
Hutchinson, Harold Curtis	*A. G.*	*Wilton*
Hyatt, Allen Thompson	*A. G.*	*St. Albans, Vt.*
Jack, Gerald Albion	*A. G.*	*Topsham, Maine*
Jackson, John Alfred	*A. G.*	*Durham, Conn.*
Jackson, Lewis Leonard	*A. G.*	*Lebanon*
Jacobs, Norris Henry	*M. E.*	*Rochester*
James, Clifford Edward	*A. G.*	*Malden, Mass.*
Jewett, Charles Henry	*E. E.*	*Mendon, Mass.*

NAME	COURSE	P. O. ADDRESS
Johnson, Elizabeth	*A. G.*	*Laconia*
Johnson, Stanley Pulcifer	*Agr.*	*Hampstead*
Joslin, George Elias	*A. G.*	*Spofford*
Joy, Ruth Elizabeth	*A. G.*	*Somersworth*
Kearns, John Joseph	*M. E.*	*Manchester*
Kelley, Pauline Joan	*A. G.*	*Newport*
Kemp, Robert Dudley	*A. G.*	*Kingston*
Kenerson, Elsie Dean	*A. G.*	*Cliftondale, Mass.*
Kenison, Frederick Damon	*E. E.*	*North Conway*
Keniston, Wendell Cyrus	*Agr.*	*Plymouth*
Kenniston, Margaret	*A. G.*	*Exeter*
Kidder, Katherine	*A. G.*	*Hanover*
Killeen, Elizabeth Catherine	*A. G.*	*North Walpole*
KillKelley, Thomas Joseph	*Engr.*	*Nashua*
Kirtland, Philip	*I. E.*	*Exeter*
Krinsky, Marcia	*A. G.*	*Somersworth*
Ladd, Karl Plumer	*Ch. E.*	*Epping*
Ladd, Ruth M.	*A. G.*	*Raymond*
Lafond, Edward Francis	*E. E.*	*Huntington, Mass.*
Lamb, Liliane Theresa	*A. Ch.*	*Portsmouth*
Lamont, Herbert Arthur	*A. G.*	*Beverly, Mass.*
Landon, Lester L.	*M. E.*	*Hillsboro*
Lang, Mary Ellen	*A. G.*	*Somersworth*
Langley, Sydney Jordan	*A. G.*	*Durham*
Lawry, Henry Madison	*E. E.*	*Dover*
Learned, Theda Louise	*A. G.*	*Woodsville*
Lee, Arthur Raymond	*Engr.*	*Concord*
Lee, James Maurice	*Engr.*	*Dover*
Lindsay, Roger Manus	*For.*	*Woodsville*
Little, Dorothy Mae	*A. G.*	*Methuen, Mass.*
Lizio, Ralph Americo	*A. G.*	*Portsmouth*
Lobdell, Winston Ball	*A. G.*	*Winchester*
Lord, Grace Lillian	*A. G.*	*Salem Depot*
Lougee, Dorothy Ellen	*A. G.*	*Milton*
Lough, Norbert Francis	*A. G.*	*Dover*
Loughlin, Harry Augustine	*Ch. E.*	*Portsmouth*
Lowell, John Newton	*A. G.*	*Marlboro, Mass.*
Lyford, Agnes Elsina	*A. G.*	*Epping*
Lyman, Joseph Roland	*For.*	*Silver Lake*

NAME	COURSE	P. O. ADDRESS
MacCasland, Willis Eugene	*A. G.*	*Exeter*
McClenning, Edward	*Agr.*	*Westmoreland*
McCollister, Russell William	*A. G.*	*Haverhill, Mass.*
McCooey, Daniel Farley	*A. G.*	*Dover*
McCrillis, Virginia Mary	*A. G.*	*Laconia*
McGuire, George Babise (3)	*A. G.*	*Syracuse, N. Y.*
McHale, Letha Moreen	*A. G.*	*Durham*
MacLaren, Edward Wallace	*A. G.*	*Alstead*
McLeod, Daniel Nickol	*A. G.*	*Littleton*
McMahon, Everett James	*A. G.*	*Fall River, Mass.*
MacPhee, Donal Francis	*For.*	*Springfield, Mass.*
Macy, Robert Simpson	*Agr.*	*Berlin*
Mallen, Richard James	*A. G.*	*Dover*
Manning, John Marcellus	*A. G.*	*Lewiston, Maine*
Marden, Melvin Francis	*A. G.*	*Holderness*
Marston, Norman Oswald	*M. E.*	*North Hampton*
Martin, Harry Stephen	*A. G.*	*Marblehead, Mass.*
Martin, Linn Seaver	*E. E.*	*Union Village, Vt.*
Mason, Alberta Mae	*A. G.*	*Greenland*
Mason, Muriel Ruth	*A. G.*	*Keene*
Matheson, Lester Augus	*A. G.*	*Somerville, Mass.*
Matthew, Robert John	*A. G.*	*Lancaster*
Melendy, Evelyn Alice	*A. G.*	*Manchester*
Meloon, Charles Leighton	*For.*	*New Castle*
Merrill, Beulah	*A. G.*	*Wilkinsonville, Mass.*
Merrill, Fred Rounsevel	*For.*	*Hudson*
Merrill, Robert Pillsbury	*Agr.*	*Northwood Narrows*
Milan, Ruth Annette	*A. G.*	*Nashua*
Mitchell, Frederick Barr	*E. E.*	*Manchester*
Monat, Urgel Alcid	*For.*	*Springfield, Mass.*
Moore, Gerard William	*A. G.*	*Boston, Mass.*
Moore, Howard Cross	*A. G.*	*Malden, Mass.*
Moore, Roger Edwin	*Engr.*	*Lebanon*
Moriarty, Mortimer Joseph	*A. G.*	*Manchester*
Morin, Louis Raymond	*A. G.*	*Derry*
Morreels, Charles Louis	*E. E.*	*Manchester*
Morris, John Kendall	*A. G.*	*Newton, Mass.*
Morris, Priscilla	*A. G.*	*Epping*
Morrison, Ralph Burnham	*A. G.*	*Laconia*

NAME	COURSE	P. O. ADDRESS
Morrison, Stanley William	*A. G.*	*Derry*
Munhall, Genieve Elizabeth	*A. G.*	*Antrim*
Murnane, Patrick John	*A. G.*	*Somersworth*
Murphy, Edward James	*E. E.*	*North Andover, Mass.*
Murphy, James Patrick	*A. G.*	*Fall River, Mass.*
Necker, Edward Arthur	*Engr.*	*West Norwood, N. J.*
Nedeau, Arthur Clifford	*Agr.*	*Meredith*
Nelson, Ralph Sylvester	*E. E.*	*Manchester*
Nelson, William Earle	*A. G.*	*Worcester, Mass.*
Nelson, William Pettee	*E. E.*	*Durham*
Nichols, John Ballon	*A. G.*	*Danvers, Mass.*
Nilsen, Anne-Marie Agersborg	*A. G.*	*Keene*
Nossiff, George Seavey	*A. G.*	*Dover*
Noyes, Parker Elwood	*A. G.*	*Salem, Mass.*
Nutter, Bertrand Burgess	*A. G.*	*Malden, Mass.*
Orchard, Dorothy Haskell	*A. G.*	*Gloucester, Mass.*
Osgood, Georgia	*A. G.*	*Concord*
Osgood, James Diamond	*A. G.*	*Pittsfield*
Ossen, Samuel Solomen	*A. G.*	*Newburyport, Mass.*
Palisoul, Arthur Henry	*Engr.*	*Manchester*
Paterson, Allen McGiffert	*A. G.*	*Newburyport, Mass.*
Percival, Warren Edward	*Agr.*	*Gorham*
Perkins, Albert Beckwith	*A. G.*	*Gorham*
Perkins, Alice May	*A. G.*	*Dover*
Perkins, Charles Willard	*M. E.*	*Reading, Mass.*
Perkins, John Fremont	*E. E.*	*Meredith*
Perry, Frank William	*Ch. E.*	*Newport*
Philbrook, Anna Lester	*A. G.*	*Meredith*
Pickford, Thomas Arnold	*A. G.*	*Berlin*
Pickwick, George Bradley	*I. E.*	*Manchester*
Pierce, Aubrey Roger	*Engr.*	*Springvale, Maine*
Pierce, Norman James	*E. E.*	*Wakefield, Mass.*
Pike, Helen Elizabeth	*H. E. Tr.*	*Epping*
Pollard, Marguerite Ruth	*A. G.*	*Newport*
Porter, Florence Celestia	*A. G.*	*Turners Falls, Mass.*
Pray, Dorothy Allen	*A. G.*	*Somersworth*
Preble, Allan Curtis	*A. G.*	*Woburn, Mass.*
Prince, George Howard (2)	*A. G.*	*New Boston*
Pulsifer, Bertram Worthen	*E. E.*	*Plymouth*

NAME	COURSE	P. O. ADDRESS
Pushee, Ruth Margaret	*A. G.*	*Lyme*
Putnam, Edwin Herbert	*Agr.*	*South Lyndeboro*
Quint, Muriel Edna	*A. G.*	*Conway*
Ramsay, William Talcott	*P. H.*	*Walpole*
Ramsey, Walter Metcalf	*A. G.*	*Winthrop, Mass.*
Ray, Edgar Leo	*E. E.*	*Rochester*
Ray, Lloyd Sanford	*E. E.*	*West Newbury, Mass.*
Record, Louis DeWitt	*A. G.*	*Nashua*
Redden, Elizabeth Adelaide	*A. G.*	*Dover*
Reed, John Bowyer	*A. G.*	*Lynn, Mass.*
Regali, Ralph Anthony	*A. G.*	*Everett, Mass.*
Reid, Helen Louise	*A. G.*	*Manchester*
Reid, Neil Gordon	*A. H.*	*Epsom*
Reinhart, Alvin Richard	*A. Arch.*	*West Roxbury, Mass.*
Reynolds, Robert Hodgkins	*A. G.*	*Dover*
Ricciardi, Salvatore	*A. G.*	*Milford*
Ricker, Elizabeth	*A. G.*	*Laconia*
Robeck, Esther Caroline	*A. G.*	*Portsmouth*
Roberts, Frances Jennie	*A. G.*	*Meredith*
Robinson, David Dunlop	*E. E.*	*Lawrence, Mass.*
Robinson, Elsie Louise	*A. G.*	*Somersworth*
Robinson, Horace Forbes	*E. E.*	*Amesbury, Mass.*
Robinson, Max George	*A. G.*	*North Haverhill*
Robinson, William Evans	*Ch. E.*	*Newmarket*
Rogers, John Edward	*A. G.*	*Everett, Mass.*
Rogers, Neil Conner	*A. G.*	*Franklin*
Rollins, Gladys Louise	*A. G.*	*Pike*
Romani, Olympia	*A. G.*	*Milford*
Rose, Harry Broadbent	*E. E.*	*East Kingston*
Rosenthal, Edward Isaac	*A. G.*	*Malden, Mass.*
Rowden, William Grant	*M. E.*	*Groveton*
Roy, Edgar Leo	*E. E.*	*Rochester*
Russell, Charles Henry	*A. H.*	*Winthrop, Mass.*
Russell, Robert Alexander	*A. G.*	*Woodstock*
St. Clair, Elgar Lincoln	*E. E.*	*Laconia*
Sargent, Eben Rolfe	*Agr.*	*Penacook*
Sargent, Francis Albert	*A. G.*	*Lebanon*
Sargent, Harrison Erastus	*M. E.*	*Laconia*
Sargent, Malcolm Benjamin	*I. E.*	*New London*

NAME	COURSE	P. O. ADDRESS
Savage, Francis Chadbourne	*M. E.*	*Groveton*
Schurman, Charles Artis	*A. G.*	*Portsmouth*
Schurman, Dorothy Gardner	*A. G.*	*Lancaster*
Scribner, Bernard Morrill	*A. G.*	*Franklin*
Sebra, Louis Joseph	*A. Cn.*	*Penacook*
Segel, Sidney	*A. G.*	*Lawrence, Mass.*
Shaw, Hazel Della	*A. G.*	*Dover*
Sheehan, John Francis	*A. G.*	*Portsmouth*
Shepard, Maitland Charles	*A. G.*	*New London*
Shepard, Maurice Everett	*M. E.*	*New London*
Silverman, David Bernard	*A. G.*	*Dover*
Silverstein, Maurice Zolman	*A. G.*	*Dover*
Simon, Moses I.	*A. G.*	*Salem, Mass.*
Simpson, Edwin Kershaw	*A. G.*	*Tilton*
Simpson, LeRoy Clayton	*E. E.*	*Wolfeboro*
Sinclair, James Ambrose	*A. Cn.*	*Newmarket*
Sinclair, William Benjamin	*A. G.*	*Three Rivers, Mass.*
Slayton, Foster Herbert (2)	*A. G.*	*Barre, Vt.*
Smith, Barbara Annette	*A. G.*	*Tilton*
Smith, Catherine Frances	*A. G.*	*Exeter*
Smith, Charlotte Marie	*A. G.*	*Dover*
Smith, John Clark	*A. G.*	*Lynn, Mass.*
Smith, Lawrence Everett	*M. E.*	*Lincoln*
Smith, Royal William	*Agr.*	*Laconia*
Smith, Wilmot Haven	*A. Cn.*	*Plymouth*
Snyder, Clarence Eber	*A. G.*	*Berlin*
Soderlund, Winifred Maud	*A. G.*	*Medford, Mass.*
Soule, Leon Leslie	*A. G.*	*Brunswick, Maine*
Spaulding, Charles Warren W.	*Ch. E.*	*Stratham*
Spencer, Harold Chesley	*A. G.*	*East Barrington*
Spiller, Doris Nathalie	*Ch. E.*	*Dover*
Stackpole, George Herbert	*A. G.*	*Exeter*
Staples, Maurice Ellsworth	*A. G.*	*Berlin*
Steeves, Muriel Frances	*A. G.*	*Dover*
Stephens, Edna Beede	*A. G.*	*Wilton*
Stevens, John Fisher	*E. E.*	*Franklin*
Stewart, Thomas Armour	*A. G.*	*Derry*
Stewart, William Andrew	*A. G.*	*Portland, Maine*
Stimson, Lloyd Keith	*A. Cn.*	*Milford*

NAME	COURSE	P. O. ADDRESS
Stockwell, Frank Whitten	*Ch. E.*	*Marlboro*
Stoddard, Ervilla Annette	*A. G.*	*Concord*
Story, Dorothy	*A. G.*	*Hopkinton*
Striplin, William Howard	*A. G.*	*Dover*
Sullivan, John Patrick	*A. G.*	*Nashua*
Sullivan, Mary Louise	*A. G.*	*Concord*
Sullivan, Mary Margaret	*A. G.*	*Manchester*
Swasey, Muriel Elin	*A. G.*	*Exeter*
Taft, Albert Hamilton	*A. G.*	*Winchester*
Taggart, Elizabeth	*A. G.*	*Manchester*
Tatarcuk, Albert Joseph	*E. E.*	*Nashua*
Taylor, Byron Pineo	*A. G.*	*Taunton, Mass.*
Thompson, Marjorie Lucille	*A. G.*	*Keene*
Tibbetts, Elizabeth Fales	*A. G.*	*Somerville, Mass.*
Todd, John Loring	*A. G.*	*New Boston*
Toolin, Paul Vincent	*A. G.*	*Leominster, Mass.*
Toone, Malcolm Percival	*A. Cn.*	*West Concord*
Torrey, Margaret Bean	*A. G.*	*Manchester*
Towne, Sumner Andrew	*E. E.*	*Dedham, Mass.*
Trask, Norman Stewart	*Agr.*	*Auburn, Maine*
Trudell, Edmund Albert	*A. G.*	*Concord*
True, John Hyde	*A. G.*	*Chester*
True, Russell Marston	*M. E.*	*Hampton*
Turschmann, Carl Emil	*Engr.*	*Somersworth*
Vennard, Harold Dame	*A. G.*	*East Lynn, Mass.*
Vincent, Roger J.	*A. G.*	*Concord*
Volpe, Henry	*A. G.*	*Plymouth*
Waite, Leona	*A. G.*	*Manchester*
Waling, Maurice Gilbert	*A. G.*	*Keene*
Walker, Dexter Augustus	*Agr.*	*Newmarket*
Walker, John Edward	*Agr.*	*Newmarket*
Walker, Stanley	*A. G.*	*Newmarket*
Wallace, Harold George	*E. E.*	*Plymouth*
Wallace, Russell Gould	*E. E.*	*Keene*
Ward, Edward Hugh	*A. G.*	*Wakefield, Mass.*
Warren, Arlin Brown	*E. E.*	*Manchester*
Warren, George Churchill	*A. G.*	*Arlington, Mass.*
Warren, Ruth Evangeline	*A. G.*	*Derry*
Waters, Leslie Warren	*E. E.*	*Pittsfield*

NAME	COURSE	P. O. ADDRESS
Watson, Alice Louise	*Ch. E.*	*Durham*
Watts, Frank Emil	*Ch. E.*	*Malden, Mass.*
Webb, George Daland	*A. G.*	*Marlboro*
Weeks, G. Newton	*Agr.*	*Portsmouth*
Weeks, Norman Stephen	*A. G.*	*Gilmanton*
Weinback, Alice Emily	*A. G.*	*Lowell, Mass.*
Wellman, Eleanor Blanche	*A. G.*	*Durham*
Wentworth, Hubert Arnold	*E. E.*	*Brownfield, Maine*
Wentworth, Warren Gilbert	*Agr.*	*Dover*
Westgate, Warren Adelbert	*Agr. Ch.*	*Plainfield*
Weston, Stewart Norton	*A. G.*	*Concord*
Wheeler, Edward Franklin (3)	*A. G.*	*Nashua*
Wheeler, Evelyn Mason	*A. G.*	*New London*
Wheeler, Gordon Emery	*E. E.*	*Manchester*
White, Lawrence Arden	*A. G.*	*Marlboro*
Whitney, Ward Parker	*A. G.*	*Nashua*
Whittemore, John Kenneth	*Agr.*	*Londonderry*
Whitten, Lionel Peterson	*E. E.*	*Manchester*
Wilkinson, Randolph Hyde (3)	*A. G.*	*Lyme Center.*
Wilkinson, Richard Hill	*A. G.*	*West Medway, Mass.*
Willey, Audrey Emerson	*A. G.*	*Durham*
Williams, Donald Herbert	*E. E.*	*Meriden*
Wilson, Doris Standley	*A. G.*	*Worcester, Mass.*
Witham, Mavis Eleanor	*A. G.*	*Nashua*
Withington, Walter Thayer	*M. E.*	*Malden, Mass.*
Woods, Carolyn Elizabeth	*A. G.*	*Epping*
Wright, Esther Alice	*A. G.*	*Keene*
Wright, Ruth Elizabeth	*A. G.*	*Methuen, Mass.*
Wyman, Eliot	*A. G.*	*Manchester*
Zacharias, Mary Jean	*A. G.*	*Portsmouth*

TWO-YEAR AGRICULTURAL MEN

First Year

NAME	P. O. ADDRESS
Annis, Herman Lester	*Loudon*
Barker, Morris Kidder	*Keene*
Bartlett, George B.	*Mill Village*
Bell, Woodbury Dow	*Hollis*

Bickford, Maurice Elmer	*Center Harbor*
Brown, Marvin Augustus	*Manchester*
Caldwell, John	*Derry Village*
Crane, Charles Bradford	*Millbury, Mass.*
Currie, Alexander Blackwood	*Manchester*
Elwell, Richard Leavitt	*Melrose Highlands, Mass.*
Gile, Alonzo Robertson	*Tilton*
Harrison, Charles Winfield	*Concord*
Higgins, Thomas Craven	*Stratham*
Jackson, Waldo Philip	*Manchester*
Maynard, Clarence Virgin	*Concord*
Moorehouse, Clifton Davis	*Tilton*
Nelson, Arthur Winfred	*Mill Village*
Nichols, John Hayden	*Newmarket*
Rowe, Allan Fuller	*Lakeport*
Smith, Norman Pulsifer	*Plymouth*
Worthen, Donald E.	*Melrose Highlands, Mass.*

Second Year

NAME	P. O. ADDRESS
Andrews, Clifford Spence	*Berwick, Maine*
Biathrow, Harry Burton	*Enfield*
Boothby, Raymond Arthur	*Berlin*
Davis, Arthur Newbury	*Derry*
Dudley, David Freeman	*Concord*
Grace, Will Anslo	*Concord*
Jackson, Stanley French	*Brockton, Mass.*
Legge, Ralph Clyde	*East Weare*
McIntire, Clinton Chester	*Jefferson*
Neal, William Joseph	*Meredith*
Porter, Lewis Holmes	*Center Barnstead*
Price, Edward Lewis	*Madbury*
Quimby, Olney Adams	*Claremont*
Sandquist, Oscar	*Concord*
Stannard, George Walter	*Manchester*
Whittier, Donald Moses	*Manchester*

SPECIALS

NAME	COURSE	P. O. ADDRESS
Abbot, Edith Hale	*A. G.*	*Durham*
Badger, Phillips Brooks	*D. H.*	*Portsmouth*
Bailey, Louise	*A. G.*	*Suncook*
Barton, Carlton Claudius	*Agr.*	*Croydon*
Churchill, Evadne Ruth	*A. G.*	*Durham*
Dodge, Gladys Wilma	*A. G.*	*Durham*
Fischer, Robert Hathaway	*A. G.*	*Pittsfield*
Glidden, Betty Inah	*Agr.*	*Epping*
Hill, Norris Wendell	*Agr.*	*Fryeburg, Maine*
Huggins, Gratia Thrasher	*A. G.*	*Durham*
Neal, Granville Wyman	*Agr.*	*Newfields*
Pennock, Grace Lavinia	*A. G.*	*Augusta, Maine*
Piper, Ethel Hoyt	*A. G.*	*Portsmouth*
Piper, Walter Irving	*A. G.*	*Portsmouth*
Stewart, Arthur P.	*A. G.*	*Durham*
Washburn, Mary	*A. G.*	*Portsmouth*

SHORT COURSE—POULTRY

NAME	P. O. ADDRESS
Clough, Harry Elias	*Ashburnham, Mass.*
Dixon, Elmer Thornton	*Milton*
Dixon, Wayne Rodney	*Milton*
Lafoe, George A.	*Ashland*
Morey, James Bernard	*Wilmot*
Murphy, Blanche Hard	*Lowell, Mass.*
Nealey, Herbert Chestley	*Manchester*
Pettingill, Luther David	*Goffstown*
Reid, Rupert Clarence	*Gorham*
Stevens, Earl W.	*South Berwick, Maine*
Stevens, Henry L.	*Gossville*
Sweatt, Ralph Towne	*Penacook*

SUMMER SCHOOL, 1924

NAME	P. O. ADDRESS
Adams, Amy Lindsay	*Claremont*
Agrafiotis, Chris John	*Manchester*

NAME	P. O. ADDRESS
Aldrich, Richard H.	*East Douglas, Mass.*
Allan, Kenneth Thomson	*White River Junction, Vt.*
Atwood, Albert Brown	*Chocorua*
Avery, Dean Proctor	*Hanover*
Badger, Frances Whidden	*Portsmouth*
Banister, Seth Warrener	*Center Strafford*
Batchelder, Leon Wallace	*Durham*
Beane, Doris	*Durham*
Beauchesne, Dorothy Greene	*Barrington, R. I.*
Berry, Elizabeth	*Rochester*
Blanchard, Katherine Agnes	*Danvers, Mass.*
Boodey, Cecil Webster	*Barrington*
Bourdon, Irene	*Manchester*
Boylston, Ward Nicholas	*Durham*
Brady, Harriet Fiske	*Union Hill, N. J.*
Brady, Helen	*Union Hill, N. J.*
Brady, Joseph Vincent	*Durham*
Brick, Frank Augustine	*Hanover*
Brooks, Dorothy	*Portsmouth*
Brown, Charles D.	*Marshfield, Vt.*
Browne, Ethel Charlotte	*Portsmouth*
Bunting, William Boddie	*New York, N. Y.*
Burke, Geraldine Mary	*New York, N. Y.*
Burlingame, Philip Russell	*Manchester*
Burnham, Gertrude Mary	*Grafton Center*
Burns, Leslie Arthur	*Westminster, Mass.*
Burroughs, George Lawrence	*Hudson*
Callahan, Ruth Virginia	*Rochester*
Castle, Willard Medford	*Melrose, Mass.*
Cavanough, Mary Elizabeth	*Dover*
Chase, Carl Eddie	*Londonderry*
Chase, Philip Rockingham	*Hanover*
Chipman, Roscoe Dyer	*Manchester*
Churchill, Dorothy M.	*Rochester*
Clarke, Ernest Jennings, Jr.	*Lynnfield Center, Mass.*
Clarke, Ida Amelia	*Farmington*
Connor, Regina	*Newmarket*
Copeland, Brenda Martin	*Rochester*
Cummings, Clarence	*Colebrook*

NAME	P. O. ADDRESS
Cunningham, Frances Marie	*Springfield, Mass.*
Curtin, Alice Geraldine	*East Orange, N. J.*
Cushing, Helen Grant	*Durham*
Davis, Rachel Reed	*Ward Hill, Mass.*
Davis, Ruth Louise	*Groveland, Mass.*
Dawson, Andrew McGrouther	*Andover*
DeFay, Irene Veronica	*Keene*
DePew, Heber F.	*Durham*
Dickerson, Elisabeth Doris	*Hill*
Dolan, Joseph Paul	*Nashua*
Dooley, Helen Ward	*Somersworth*
Drennan, Anna M.	*Manchester*
Dwyer, Catherine Regina	*Mt. Vernon, N. Y.*
Dwyer, Rosamond Angela	*Mt. Vernon, N. Y.*
Dyment, Ray Alexander	*Concord*
Eastman, Esther Beard	*Manchester*
Eckford, May McLaren	*Methuen, Mass.*
Engel, John Nicholas	*Concord*
Erickson, Lawrence	*Durham*
Faneuf, Geraldine Marion	*Lebanon*
Farnum, Paul Ervin	*Penacook*
Foote, Lewis Ford	*Holyoke, Mass.*
Gaskins, Arthur Lawrence	*Milton, Mass.*
Geremonty, Francis Howard	*Durham*
Godbeer, John Norman, Jr.	*Fitchburg, Mass.*
Golding, Norman R.	*Newmarket*
Gordon, George Howard	*Concord*
Gordon, Kenneth Elbridge	*Hillsboro*
Gould, Malcolm Piper	*Lakeport*
Graham, Edward Dewey	*Montpelier, Vt.*
Graham, Helen Ann	*Montpelier, Vt.*
Gunn, Raymond Frederick	*Newport*
Gushee, Rosa Cynthia	*Winthrop, Mass.*
Haapanen, Olive Esther	*Newport*
Hanney, John Charles	*Manchester*
Harrington, Marjorie	*Everett, Mass.*
Hawley, James Benjamin	*Summit, N. J.*
Healey, Helen F. M.	*Lowell, Mass.*
Henderson, Edna	*Durham*

NAME	P. O. ADDRESS
Hixon, Stanley Radcliffe	*Worcester, Mass.*
Holmes, Clayton William	*Durham*
Hounsell, William Booth	*Conway*
Howard, Fairman S.	*Stafford Springs, Conn.*
Howard, Marjorie Mary	*Derry*
Hutchins, Paul Aiken	*Stratford*
Ishall, Ona Byron	*Somersworth*
Jackman, Charlotte Tilton	*Concord*
Jenkins, Ellery Wayne	*Durham*
Jesseman, Alice Mary	*Lisbon*
Johnson, Ralph Willard	*Natick, Mass.*
Johnson, William Dudley	*Saugus, Mass.*
Jordan, Wilson R.	*Waltham, Maine*
Kimball, Ralph Lawson	*Somersworth*
Knight, Velma Mae	*Haverhill, Mass.*
Knox, Alice R.	*Dover*
Ladd, Harold Marden	*Hanover*
Lawrence, Frederic Stanton	*Newmarket*
Learned, Theda Louise	*Woodsville*
Littlefield, Aubrey Lord	*Dover*
Lovell, Gladdeus M.	*New York City*
MacDonald, Harold William	*Salem, Mass.*
McGaughan, T. Francis	*Adams, Mass.*
McGuirl, Mary Elizabeth	*Fordham, N. Y.*
McLaughlin, Marietta	*Dover*
McMahon, Mary Eugenie	*South Norwalk, Conn.*
McPherson, Donald Davis	*Worcester, Mass.*
Manchester, Bertha C.	*Orford*
Mann, Frederic White	*East Concord*
Mason, Muriel Ruth	*Keene*
Mattoon, Donald Potter	*Charlestown*
Mattoon, Gertrude Beckler	*Charlestown*
Mears, Russell Stanley	*Haverhill, Mass.*
Mitchell, Ellsworth Douglas	*Manchester*
Morrill, Edith Grace	*Penacook*
Morse, William Sanders	*East Haverhill*
Moylan, Clare	*Dorchester, Mass.*
Noyes, Everett Atwood	*Lisbon*
Nyland, Ithamar	*Hartford, Conn.*

NAME	P. O. ADDRESS
O'Brien, William Francis	*Lynn, Mass.*
O'Kane, Catherine VandeWater	*Durham*
O'Kane, Elizabeth Wells	*Durham*
Olmstead, Shirley Herbert	*Lancaster*
Palmer, Leota Dorothea	*Berlin*
Pattee, Charles Walter	*Durham*
Pearson, Haydn S.	*Hancock*
Perkins, Alice May	*Dover*
Perkins, Arthur Fiske	*Manchester*
Peterman, Gustave Conrad	*Durham*
Phillips, Herbert	*Littleton*
Pillsbury, Charles Kenneth	*Amesbury, Mass.*
Piper, Ethel Hoyt	*Portsmouth*
Piper, Walter Irving	*Portsmouth*
Poor, Bernice Lillian	*Atkinson*
Priest, John Jenkins	*Newmarket*
Pritchard, Charles Gregory	*Manchester*
Putney, Charles Henry	*East Andover*
Rasnick, Julius	*Dorchester, Mass.*
Reardon, Margaret Ursula	*New Rochelle, N. Y.*
Redden, John Daniel	*Dover*
Rhodes, Margaret Esther	*Brookline, Mass.*
Robes, Kenneth Hooper	*Hanover*
Rowe, Willard Irving	*Exeter*
Sanders, Marion Gertrude	*Dover*
Sawin, Edward Parker	*Northwood Center*
Scott, Don Pitt	*Tiverton, R. I.*
Service, Elizabeth Campbell	*Norwich, Conn.*
Sheedy, James Augustine	*Lawrence, Mass.*
Simpson, James Sharples	*Richmond, Maine*
Smith, Charles Wesley	*Portsmouth*
Smith, Dorothy	*Hudson*
Smith, Stanley Newton	*Loudon*
Smith, William Alfred	*South Royalton, Vt.*
Spaulding, Russell Smith	*Walpole*
Stockwell, Ira Worcester	*Marlboro*
Sullivan, Dorothy Eleanor	*New Haven, Conn.*
Sullivan, George Patrick	*Manchester*
Sullivan, John Patrick	*Manchester*

NAME	P. O. ADDRESS
Talbert, Elmer James	*West Lebanon*
Taylor, Rowena Buckland	*Chicopee Falls, Mass.*
Temple, Earl Spencer	*Concord*
Voyagis, Michael Harry	*Manchester*
Waite, Frederick	*Allston, Mass.*
Walker, James Edward	*Concord*
Washburn, Emily	*Portsmouth*
Wason, Bernard Albert	*Chester*
Watson, Ruth Emma	*Dover*
Weeks, Maude May	*Burlington, Vt.*
Wentworth, Irene Martin	*Somersworth*
Weston, Ralph Frank	*Adams, Mass.*
Wheelright, Ralph Douglas	*Danvers, Mass.*
Whiteley, Annie Elizabeth	*Dover*
Whittemore, Arthur Benjamin	*Londonderry*
Whittemore, Hollis Leon	*Durham*
Wiggin, Herbert Austin	*Norwood, Mass.*
Wilder, Parker Spinney	*Newton*
Williams, Helen	*Portland, Maine*
Williams, Marion Dunlap	*Portsmouth*
Wright, Murray J.	*Alton*
Young, Clairborne Hart	*Wilton*

SUMMARY OF REGISTRATION, 1922–1923

Regular Courses	Agricultural Division								Arts and Science Division						Engineering Division							Men	Women	Total
	Gen.	T. T.	P. H.	A. H.	D. H.	For.	Hort.	Total	Gen.	H. E. T. T.	H. E. Inst.	Arts Chem.	T. T.	Total	Gen.	Ind.	Ch.	Arch.	E. E.	M. E.	Total			
Seniors	13	2	3	2	....	3	4	27	69	5	4	3	....	81	....	7	9	2	7	6	31	102	37	139
Juniors	7	....	2	....	2	2	2	15	68	11	2	4	....	85	....	6	7	3	14	8	38	89	49	138
Sophomores	23	....	1	2	1	3	1	31	140	14	3	5	....	162	6	13	8	8	23	19	77	209	61	270
Freshmen	60	....	....	....	....	4	1	65	211	6	1	6	1	225	12	17	16	15	56	30	146	352	84	436
Graduate	6	....	....	....	....	....	....	6	8	....	....	....	....	8	....	....	....	....	....	....	.....	11	3	14
Special	4	....	9	....	....	2	....	15	18	....	....	1	....	19	2	....	1	1	1	.....	5	30	9	39
Total 4-yr. students	113	2	15	4	3	14	8	159	514	36	10	19	1	580	20	43	41	29	101	63	297	793	243	1,036
Short Courses																								
2d-yr. two year	17	....	....	....	....	....	....	17	....	....	....	....	....	.....	....	....	....	....	....	....	.....	17	.....	17
1st-yr. two year	29	....	....	....	....	....	....	29	....	....	....	....	....	.....	....	....	....	....	....	....	.....	29	.....	29
Forestry (special)	....	....	....	....	....	8	....	8	....	....	....	....	....	.....	....	....	....	....	....	....	.....	8	.....	8
Summer School	.....	....	....	....	....	....	....	.....	107	....	....	....	....	107	....	....	....	....	....	....	.....	73	34	107
Total, short courses	46	....	....	....	....	8	....	54	107	....	....	....	....	107	....	....	....	....	....	....	.....	127	34	161
Grand tota	159	2	15	4	3	22	8	213	621	36	10	19	1	687	20	43	41	29	101	63	297	920	277	1,197
Less duplicates	.....	....	....	....	....	....	....	.....	44	....	....	....	....	44	....	....	....	....	....	....	.....	36	8	44
Total	159	2	15	4	3	22	8	213	577	36	10	19	1	643	20	43	41	29	101	63	297	884	269	1,153

SUMMARY OF REGISTRATION, 1923–1924

Regular Courses	Agriculture									Liberal Arts					Technology								Men	Women	Total
	Gen.	T. T.	P. H.	A. H.	D. H.	For.	Hort.	Ag. Ch.	Total	Gen.	H. E. T. T.	H. E. Inst.	Arts Chem.	Total	T. T.	Gen.	Ind.	Ch.	Arch.	E. E.	M. E.	Total			
Seniors	3	....	3	....	3	2	2	....	13	81	12	5	4	102	3	....	4	4	1	13	5	30	91	54	14
Juniors	3	2	3	3	3	3	3	1	21	91	9	3	1	104	1	....	3	2	4	10	6	26	105	46	15
Sophomores	21	1	1	....	3	5	5	3	39	185	10	2	2	199	....	5	28	11	4	35	19	102	268	72	34
Freshmen	31	1	1	1	....	10	2	1	47	276	2	....	1	279	....	18	7	20	19	48	21	133	370	89	45
Graduate	4	....	....	....	....	....	....	....	4	8	....	....	....	8	....	3	....	....	....	....	....	3	9	6	1
Special	13	....	....	....	....	....	....	....	13	26	....	....	....	26	....	5	....	....	....	....	....	5	28	16	4
Total 4-yr. students	75	4	8	4	9	20	12	5	137	667	33	10	8	718	4	31	42	37	28	106	51	299	871	283	1,15
Short Courses																									
2d-yr. two year	10	....	....	....	....	....	....	....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....	
1st-yr. two year	24	....	....	....	....	....	....	....	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24	.....	
Summer School	.....	.....	.....	.....	.....	.....	.....	.....	.....	141	.....	.....	.....	141	.....	.....	.....	.....	.....	.....	.....	.....	88	53	14
Total short courses	34	....	....	....	....	....	....	....	34	141	....	....	....	141	....	....	....	....	....	....	....	.....	.....	.....	1
Grand total	109	4	8	4	9	20	12	5	171	808	33	10	8	859	4	31	42	37	28	106	51	299	993	336	1,32
Less duplicates	.....	.....	.....	.....	.....	.....	.....	.....	.....	51	.....	.....	.....	51	.....	.....	.....	.....	.....	.....	.....	.....	35	16	
Total	109	4	8	4	9	20	12	5	171	757	33	10	8	808	4	31	42	37	28	106	51	299	958	320	1,27
Poultry	.....	.....	8	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	.....	
Dairy	.....	.....	13	.....	.....	.....	.....	.....	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	.....	

COMPARATIVE REGISTRATION

	Regular Courses	Summer School and Short Courses	Men	Women	Total
1893–94	64	..	54	10	64
1894–95	93	15	78	30	108
1895–96	83	29	80	32	112
1896–97	88	17	79	26	105
1897–98	82	50	90	42	132
1898–99	82	10	79	13	92
1899–1900	86	33	103	16	119
1900–01	93	32	115	10	125
1901–02	102	29	125	6	131
1902–03	103	18	117	4	121
1903–04	110	24	126	8	134
1904–05	123	36	151	8	159
1905–06	154	41	183	12	195
1906–07	172	38	196	14	210
1907–08	183	20	188	15	203
1908–09	198	33	218	13	231
1909–10	193	55	312	16	248
1910–11	207	73	249	17	280
1911–12	231	84	285	22	315
1912–13	259	95	306	30	354
1913–14	300	103	322	63	403
1914–15	387	131	405	87	518
1915–16	461	192	505	113	653
1916–17	574	92	514	152	666
1917–18	530	32	399	163	562
*1918–19	593	14	439	168	607
1919–20	774	44	631	187	818
1920–21	845	46	682	209	891
1921–22	907	66	759	214	973
1922–23	1036	161	922	275	1197
1923–24	1154	175	993	336	1329
†1924–25	1193	229	1020	402	1422

* During 1918–19 there were 1,467 additional men registered for special military work under the S. A. T. C. organization.

† Does not include those who enrolled for the first time the third term.

UNIVERSITY OF NEW HAMPSHIRE ALUMNI ASSOCIATION

The Alumni Association expects all two- and four-year graduates to become active members, and all former students to become associate members of the Alumni Association. The dues, together with subscription to the *Alumni Bulletin*, are $2.00 per year, payable in advance.

The fiscal year of the Association commences on the first day of July.

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Gardner W. Hazen (2 year), '15

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Vice-Pres. W. A. Dudley, '17, 157 Halsey St., Brooklyn, N. Y.
Sec.-Treas. H. Forbes, '21, 62 W. 96th St., New York City.

WASHINGTON, D. C., BRANCH. Organized April 29, 1921.

President R. N. Johnson, '21, Silver Spring, Md.
Secretary Miss R. C. Colby, '17, Room 220, Evening Star Building, Washington, D. C.
Treasurer D. J. Byrne, '23, 1804 Mintwood Place N. W., Apt. 202, The Knickerbocker, Washington, D. C.

CONNECTICUT BRANCH. Organized Nov. 12, 1920.

President E. M. Stone, '92, 37 Willard St., Hartford, Conn.
Vice-Pres. Regina O'Connor, '13, 60 Winter St., New Britain, Conn.
Sec.-Treas. T. C. Bailey, '12, 57 Oakland Terrace, Hartford, Conn.

EASTERN NEW YORK BRANCH. Organized April 16, 1921.

President G. N. Perkins, '14, 34 Keyes Ave., Schenectady, N. Y.
Vice-Pres. B. Woodward, '14, 3 Poplar St., Schenectady, N. Y.
Secretary Maurice George, '18, 157 Furman St., Schenectady, N. Y.
Treasurer O. W. Pike, '20, 404 Michigan Ave., Schenectady, N. Y.
Pub. Man Paul Anderson, '24, 1716 State St., Schenectady, N. Y.

CONNECTICUT VALLEY BRANCH. Organized Jan. 21, 1921.

President J. W. Fullerton, '98, 24 Princeton St., Holyoke, Mass.
Vice-Pres. Melba Shuttleworth, '19, 162 Western Ave., West Springfield, Mass.
Sec.-Treas. Don Melville, '20, 92 Wellington St., Springfield, Mass.

PITTSBURGH BRANCH. Organized July 1, 1921.

President H. I. Leavitt, '21, 1029 South Ave., Wilkinsburg, Pa.
Vice-Pres. E. W. Christensen, '23, 658 Maryland Ave., E. Pittsburgh, Pa.
Sec.-Treas. Mary E. Bailey, '20, 4339 Dakota St., Pittsburgh, Pa.

CLAREMONT BRANCH.

President Mrs. Dorothy Rice Churchill, '20, 35 Middle St., Claremont, N. H.
Sec.-Treas. C. S. Richardson, '09, 72 Chestnut St., Claremont, N. H.

CONCORD BRANCH. Organized 1921.

President W. R. Hill, '20, 93 Center St., Concord, N. H.
Vice-Pres. C. M. Strong, Jr., Non-Grad. '22, 11 Chapel St., Concord, N. H.
Sec.-Treas. A. S. Baker, '21, 32 So. Spring St., Concord, N. H.

OKLAHOMA BRANCH.

President Chester L. Lane, '20, H. L. Doherty & Co., Box 990, Oklahoma City, Okla.
Treasurer K. D. Blood, '20, Y. M. C. A., Oklahoma City, Okla.

NORTHERN VERMONT AT BARRE, VT. Organized May 27, 1923.

President H. A. Holbrook, 2 yr., '17, 15 Clymer St., Burlington, Vt.
Vice-Pres. Henry B. Caswell, '19, 372 North St., Burlington, Vt.
Sec.-Treas. Mrs. Helen A. Graham, 22 North St., Montpelier, Vt.

CHESHIRE COUNTY AT KEENE, N. H. Organized June 13, 1923.

President R. H. Bissell, '17, School St., Marlboro, N. H.
Vice-Pres. Ingeborg Laaby, '23, Academy House, Keene, N. H.
Sec.-Treas. H. V. Ingham, '22, Farm Bureau Office, Keene, N. H.

LACONIA BRANCH. Organized Sept. 17, 1923.

President E. J. Roberts, '06, 16 Fenton Ave., Laconia, N. H.
Sec.-Treas. Irene Huse Crimmin, '18, 21 Edwards St., Laconia, N. H.

LOWELL, MASS., BRANCH AT LOWELL. Organized Oct. 17, 1923.

President Forrest W. Merrill, '24, Chelmsford, Mass.
Vice-Pres. Mrs. James Kiberd, Jr., Non-Grad. '22, Lowell, Mass.
Secretary Ralph W. Pierce, Non-Grad. '23, 52 Bellevue St., Lowell Mass.
Treasurer Ralph W. Doeg, '16, Y. M. C. A., Lowell, Mass.

DURHAM, N. H., BRANCH. Organized Nov. 6, 1923.

President J. C. Kendall, '02, Durham, N. H.
Vice-Pres. Edythe Tingley, '22, Durham, N. H.
Sec.-Treas. M. G. Eastman, '13, Durham, N. H.

MANCHESTER, N. H., BRANCH. Organized Dec. 12, 1923.

President Sumner Carlisle, Non-Grad., '17, 1143 Union St., Manchester, N. H.
Vice-Pres. Franklin Hazeltine, '20, Reeds Ferry, N. H.
Sec.-Treas. Mrs. Arthur E. Twaddle, '20, 414 Walnut St., Manchester, N. H.

CHICAGO GROUP. Organized Oct. 31, 1924.

President Harry E. Barnard, '99, 1133 Forest Ave., Evanston, Ill.
Vice-Pres. A. J. Leighton, '12, 4814 N. Lawndal Ave., Chicago, Ill.
Sec.-Treas. Harold S. Brown, '16, 7145 Normal Blvd., Chicago, Ill.

NORTHEASTERN MASSACHUSETTS BRANCH. Organized Nov. 5, 1924.

President R. H. Sawyer, '18, 571 Salem St., Bradford, Mass.
Vice-Pres. O. C. Whitney, '22, 42 Second St., No. Andover, Mass.

Secretary Mary A. Worcester, '17, 45 Highland Ave., Haverhill, Mass.
Treasurer Howard Meserve, '23, 49 Balmoral St., Shawsheen Village, Andover, Mass.

AKRON, OHIO, BRANCH. Organized Nov. 7, 1924.

President W. W. Evans, '08, 230 Casterton Ave., Akron, Ohio.
Sec.-Treas. G. F. Lane, '13, 145 Vesper St., Akron, Ohio.

PHILADELPHIA BRANCH. Organized Dec. 1, 1924.

President M. C. Huse, '08, 7015 Boyer St., Philadelphia, Pa.
Vice-Pres. Mildred Flanders, '16, 1 West St., Media, Pa.
Secretary Lewis H. Kenney, '99, Building No. 7, Navy Yard, Philadelphia, Pa.
Treasurer R. W. Smart, '14, 5100 Springfield Ave., Philadelphia, Pa.

PROVIDENCE GROUP. Organized Dec. 9, 1924.

President Brackett Fernald, '15, 135 Armington St., Providence, R. I.
Vice-Pres. John Robinson, '12, 188 High St., Bristol, R. I.
Sec.-Treas. L. E. Pierce, '11, 27 Pembroke Ave., Providence, R. I.

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