

The Bulletin of the
UNIVERSITY of MINNESOTA

The School of Agriculture
Courses in Agriculture and Home Economics
Part I

Announcement of Courses for the Years 1948-1950



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Old Home Building

THE SCHOOL OF AGRICULTURE

The School of Agriculture seeks to serve the state and society by training responsible rural young people for creative, cooperative living in farm homes and communities.

It affords young men and women vocational education designed to make farming a profitable occupation, to elevate the standards of the farm home, and to make farm life attractive.

It will help the student to bridge the gaps that exist between theory and practice both in farming and in living.

The School of Agriculture desires to so enrich and to so stimulate the lives of its students that they in turn may be inspired to enrich and stimulate the home and community units in which they live.

It uses all its resources to provide for its students an environment that is favorable to living the good life.

GENERAL INFORMATION

FACULTY

ADMINISTRATION

James Lewis Morrill, B.A., LL.D., President, University of Minnesota
Clyde H. Bailey, Ph.D., Dean and Director of the Department of Agriculture
John O. Christianson, B.A., D.Sc., Superintendent, School of Agriculture and Director of Agricultural Short Courses
Robert E. Summers, M.S., M.E., Dean of Admissions and Records
Johanna Hognason, B.A., Matron, Boys' Dormitories
Laura A. Matson, M.A., Matron, Girls' Dormitories
Harriet W. Sewall, B.A., Librarian

THE MINNESOTA PLAN FOR A VOCATIONAL SCHOOL OF AGRICULTURE

Sixty years ago (1888) there was founded at the University of Minnesota the first vocational-school of agriculture to be made a division of a great university. This is the "Minnesota plan" which many states copied and still use.

As in the beginning of the school, so now, the facilities of the university are available to the student body of the School of Agriculture.

On the faculty of the school are men and women teachers who also instruct classes in the College of Agriculture, Forestry, and Home Economics. Many of them are outstanding leaders in their field of instruction and research.

Another advantage School of Agriculture students have is the proximity to the outstanding centers of interest in the state here in the Twin Cities. The students become acquainted with the various leaders and institutions in all lines of activities through speakers at assembly and occasional tours. A wide range of topics, many of which relate to rural and agricultural problems, are discussed by outstanding men and women who speak to the students of the School of Agriculture at the assembly held four times a week at noon. These speakers include prominent state and national officials, business men, particularly those connected with the agricultural industries, professional men and women, prominent clergymen of all denominations, educators from other institutions, and successful farmers and homemakers.

At the School of Agriculture it is this association with men who are recognized as outstanding authorities on agriculture, whether in class or assemblies or in open meetings, which is a worth-while feature of the education of its students.

OBJECTIVES

Three main objectives have been set up by the School of Agriculture in the University of Minnesota:

- A. To train rural young men and women to successfully operate the farm and the farm home**
- B. To prepare them for enriched farm, home, and community living**
- C. To inspire in them even greater love for the land as well as pride and respect for their vocations, farming and homemaking.**

It bases all these objectives on the idea that factual information is of greater use if it is coupled with a better understanding of those social and moral forces on which civilization rests.

For that reason, the School of Agriculture provides such training and experience for the student body as is most helpful in the development of a religious philosophy of life and aims to develop a sense of values which aid each student in working with and getting along with others whether in school, at home, or in one's community.

To gain these desirable objectives, the School of Agriculture has:

1. "Raised its sights" from year to year in each of the sixty years of its existence.
2. Constantly so changed its courses of study as to cut out dead wood and introduce better and more timely material.
3. Made valuable courses of study so numerous and so important that after their graduation students find it worth their while to spend an additional year of study at the School.
4. Steadily increased provisions for life experiences in recreation, leadership, and religion and surrounded students with countless opportunities to develop rounded lives.
5. Articulated the school with the farm and home by requiring summer projects that rate with the regular school courses toward graduation.
6. Reinforced the idea in the minds of its students that education has no terminus but is a continuing process throughout life.

Who May Come to the School of Agriculture?

The high school graduate is best equipped to pursue course work offered in the School of Agriculture.

It is also open to non-high school graduates who satisfy the minimum entrance requirements. Naturally the better the previous schooling a candidate for admission to the school has, the better equipped he is to pursue the courses offered in the school.

The minimum entrance requirements for admission to the school are three:

1. The candidate must be 17 years of age.
2. The candidate must have completed the eighth grade or its equivalent.
3. The candidate, if a young man, must have had one year of farm experience before applying for admission.

Applicants of mature years who cannot satisfy the minimum scholastic entrance requirements are admitted for special programs. By later satisfying both scholastic entrance requirements and the prescribed course requirements they may prepare for graduation from the school. Some of the most effective graduates from the school entered under these conditions.

Who Should Come to the School of Agriculture?

The high school graduate should come to the School of Agriculture.

The School of Agriculture is definitely set up to serve those rural high school graduates who desire to make farming or homemaking their life vocation, and who, for one reason or another, do not plan on a four-year college course.

Although 17 years is the minimum age requirement, the average age of the student body was 20 years in 1947-48.

Although the scholastic requirement for admission is only graduation from the eighth grade, over 70 per cent of the students entering the School of Agriculture in 1947-48 were high school graduates.

The laboratory, library, shop and classroom facilities are designed for the use of the college as well as school students.

The faculty of the School of Agriculture is suited by preparation and preference for instructing classes made up of mature, responsible young people who are high school graduates or who have finished at least two or three years of high school.

Because the present student body is made up largely of high school graduates or mature young people who have completed two or more years of high school, the level of instruction in many classes is now essentially that of a junior college, although no college credit is given for course work done in the School of Agriculture. Mature preparation for their vocations fits the graduates to take their places in a mature world.

Because of this, an increasingly large number of high school seniors from the farm are advised by their instructors to continue their education in the School of Agriculture and to follow lines of their particular interests in specialized courses.

To simplify the transfer from high school to the School of Agriculture certain changes are being made to give proper credit for course work already completed in high school.

The entering high school graduate is given a blanket credit of 36 credits for his high school work. This makes it possible for the high school graduate to complete his course in the School of Agriculture in two years of six months each. In the intervening summer, he must satisfy the summer project requirement.

Mature Young People Should Come to the School of Agriculture

There are thousands of rural young men and women over 17 years of age in the state of Minnesota who for one reason or another have had no education beyond the eighth grade who now find a need for it as well as the opportunity to get it.

Can they successfully carry course work in the School of Agriculture?

It has been the experience of the School of Agriculture that though their formal education may end at the eighth grade level, the informal education of these mature young people has continued. Their superior years of experience will permit them to compete successfully with those students who have had more years of formal schooling.

However, they must plan to remain in school for three years of six months each and meet the summer project requirement in order to be graduated from the School of Agriculture.

Girls Should Come to the School of Agriculture

Originally, when the School of Agriculture was founded, only young men were admitted and only courses in agriculture were taught.

But in 1896, the curriculum of the school was expanded to include courses in home economics and young women were admitted to the School of Agriculture. The year 1949 marks the fiftieth anniversary of the first graduation of young women from the school.

At no time, however, have only the courses in home economics been open to young women. Courses in agriculture are offered them, as well as the regular courses in home economics, practical nursing, and business and office practice.

Excellent and lucrative positions in practical nursing and business are open to the young woman who has completed these courses in the School of Agriculture.

Emphasis in the home economics courses in the School of Agriculture is placed on preparation for homemaking, to include the operation of a home and the care and rearing of children.

In addition the young woman who attends the School of Agriculture can take advantage of excellent instruction in music, both voice and instrumental, and cultural courses such as literature, history, public speaking, sociology, psychology, and dramatics.

Although, as was said before, courses in agriculture are offered young women students in the School of Agriculture, generally they have not enrolled in those courses but left them to the young men in the school just as today they are leaving Minnesota farms to their brothers.

Rural sociologists see rural home and rural community life endangered by this movement of girls from the farms. To assist in checking this trend has become one of the new objectives of the School of Agriculture.

It means to discharge this duty by first placing more emphasis on young women enrolling in agricultural courses.

It will also point out that young women leave the farms in larger numbers today than ever before because they seek economic independence when in reality they could find it on the farm.

At a time when all farm operations require less physical labor, at a time when the successful operation of a farm requires not only careful planning but the keeping of accurate records, the young woman who is a member of a farm family may properly reconsider what place she may hold in a farm family partnership.

It is with this idea in mind that the School of Agriculture will celebrate its fiftieth year of coeducation by advising its young women students to take stock of the courses offered in agriculture in order to prepare themselves for partnership in the family enterprise.

Does the School of Agriculture Prepare a Student for Admission to the University?

This question is frequently asked by candidates for admission who are not high school graduates.

In answer to that, this may be said. The purpose of the school is not to prepare its graduates for college but for the vocations of farming and homemaking, and practical nursing.

However, a student graduating from the School of Agriculture above the lower quartile of his class who was admitted with only the minimum scholastic requirement, may meet the requirements for admission to the College of Agriculture, Forestry, and Home Economics, by returning for a fourth year, called the intermediate year, for certain required courses, and in addition, by completing additional summer projects.

The graduate of a certified high school is usually prepared for university entrance, though he will find that all colleges of the University do not have the same entrance requirements.

The student who entered the School of Agriculture as a high school graduate may lack certain entrance credits required by a given college in the University such as mathematics or literature. He may complete these courses in the School of Agriculture for credit toward university entrance.

REQUIREMENTS FOR GRADUATION

The diploma of the School of Agriculture is granted on the completion of:

1. The prescribed course of study, including all of the required work and enough elective work to make 113 credit hours for agriculture students, 3 of which must be earned in summer project work taken each summer after the student has been in residence. Not more than 9 credits of project work may be counted toward graduation. Home economics students are required to complete 110 credits for graduation.
2. Physical education, 1 credit hour for each term of residence.
3. An honorable standing in department.

HOME PROJECTS

Putting science into practice on the farm and in the home is the aim of the summer projects. The School of Agriculture is organized on a plan which provides for teaching agriculture through six months of study at the school, October through March, and six months of supervised home project work on the farm. Home project work is advised for every student in the school but is as yet **required for graduation of the students in agriculture only**. The purpose of the home project work is to give the students an opportunity to apply some phase of their classroom instruction to the operation of a farm or farm home.

The students may have free choice as to the nature of their projects but are advised to choose those connected with the class work being taken. Registration should be completed before the student leaves the school in the spring. At the time of registration a project book with forms suitable for recording the necessary data will be provided.

During the summer season the work of the students will be inspected by instructors from the school in so far as possible. The project book must be submitted to the classroom instructors and be graded by them and must have the final approval of the Home Project Committee. Home project work cannot be accepted for credit from students who are not properly registered **before** starting upon the project.

THE STUDENT'S HEALTH

Because good health is one of the bases of good performance in school, the entering student is given a medical examination as he is admitted to the School of Agriculture. This is the first attention given to the students' health at the Students' Health Service on the St. Paul Campus. If corrective medicine is necessary, the student is asked to return for consultation and is advised what steps to take to remedy any adverse health conditions.

Preventive health methods are always stressed. Everything possible is done to protect the student from contagious diseases. He is encouraged to consult the staff of the Health Service at the first symptoms of any illness.

The Students' Health Service building on the St. Paul Campus houses the offices of the Health Service and the Students' Hospital and Dispensary. An X-Ray room is one of the important features of the building. On the staff of the Health Service are always one or more physicians, a graduate nurse, a dentist, and an oculist.

The services of the hospital and dispensary are available at all hours of the day and night. Physicians on the staff are in attendance daily. Where the need arises, students are referred for consultation and treatment to medical specialists on the staff of the University Students' Health Service.

Each term, the student pays a health fee of \$5, included in the incidental fee, for the maintenance of the Students' Health Service. For this fee, the student receives his medical examination and certain professional services of the staff.

For services which are specialized and individual in character, such as operations, board and laundry when a patient in the hospital, drugs, X rays, out-patient calls, dentistry, etc., special fees, calculated on a cost basis, are charged. However, no student will be denied medical services because of inability to pay those fees.

HOME LIFE ON THE CAMPUS

The life of the student while attending the School of Agriculture is subject to supervision. The home life of each student is carefully guarded, and everything is done to promote a healthful and moral atmosphere.

The use of tobacco in the dormitories and the use of alcoholic liquors of any kind are strictly forbidden.

No student will be allowed to have a car while attending the School of Agriculture.

During the day and also after 7:30 p.m. students not in class or assembly are expected to be in their rooms or at the library studying or reading. The rooms shall at all times be quiet, especially in the evening, so that no student will be disturbed.

Anyone not in accord with these restrictions and not willing to lend a hand toward promoting a strong moral growth should not come to the School of Agriculture. It is the aim of the administration to be firm, reasonable, and sympathetic. A student who becomes antagonistic to the spirit of the school will be dismissed whenever the general welfare requires it. The school does not wish to undertake the problem of disciplining students who are not in sympathy with its purpose.

A pamphlet containing the rules and regulations of the school will be furnished each student at the time of registration or upon application to the Office of Admissions and Records.

The students' social and dormitory life is supervised and directed by two women instructors of the school faculty, one in charge of the girls' dormitory and the other in charge of the men's dormitories.

Resident in each of the men's dormitories is a young college man who acts as a counselor.

All regulations governing the campus life of the student are subject to the approval of the dean of the Department of Agriculture and the superintendent of the School of Agriculture.

The buildings are all lighted by electricity and heated with steam. The sleeping rooms are each furnished with a bedstead, mattress, dressing bureau, chairs, and a table. The student provides sheets, blankets or quilts, dresser scarves, bedspread, pillow, pillowcases, and towels. Laundry is collected weekly and is returned a week later. This necessitates having a sufficient supply of clothing and bedding.

Each prospective student who desires a room in the dormitory should request that a room be reserved by writing to the superintendent, School of Agriculture.

EXTRACURRICULAR ACTIVITIES

Each Sunday morning at 8:30, throughout the school year, students of the School of Agriculture meet at a song service sponsored by the Y.M.C.A. and the Y.W.C.A. The Y.M.C.A. and the Y.W.C.A. are active voluntary organizations on the campus, the members having regular weekly meetings as well as sponsoring occasional get-togethers of all the students.

Other opportunities for a student to participate in whatever line of activity he is interested while attending the school are afforded by the International Relations Club for those who are interested in world affairs, the 4-H Club, Camera Club, Dairy and Livestock Club, Rural Theatre Players for those interested in dramatics, the Girls' Athletic Association, the extemporaneous speaking contest, debate teams, literary societies, and student religious groups, both Protestant and Catholic.

Students who play instruments, or sing, have opportunities of being members of musical groups such as the band, orchestra, vocal trios, quartets, glee clubs, and chorus. These groups often appear at assemblies during the year, as well as at meetings of other groups and organizations in the cities. Students are occasionally asked to appear on the School of Agriculture radio program, "The Friendly Road," which is presented over the University Station KUOM (770) on Mondays at 12 noon.

The *Agreview*, the school paper, is published monthly during the school year by a selected group of students under the supervision of a faculty adviser. It aims to give publicity to matters of interest to students and alumni and to serve as a tie between the school and alumni.

The *Agrarian* is the yearbook published by the senior class of the school. Two faculty members are advisers for the staff of seniors who plan and prepare the year book for publication and sale. This book reviews and pictures the activities of the whole school for the year.

PHYSICAL EDUCATION—RECREATION AND ATHLETICS

Physical Education has a twofold program—Broadly speaking, the department of physical education has a twofold program. It is designed first to provide training in varied recreational physical activities with both pleasure and benefit to the student. Because participation is not enough, the student is also given training in the administration of those activities both in and out of school.

The outcome desired from this twofold program of training in both participation and administration of recreational physical activities is that students will find continuing pleasure in both of these fields in their own communities whether as youths or adults.

ATHLETICS

Interscholastic—Competition in basketball, wrestling, and cross-country running provides an opportunity for the men students to try their skills in competition with other schools and organizations. Games and contests with other schools of agriculture are highlights of the interschool program. During the winter term the girls participate in basketball games with other school teams. Athletics are regarded as an important phase of the activities of the Department of Physical Education, the aim of the interscholastic athletic program being to realize through proper organization and administration as many of the educational opportunities of athletics as possible.

Instruction, team and individual practice periods under competent coaches will be held the latter part of each afternoon at the gymnasium. Cross-country practice begins with the opening of school in the fall, and matches are held in the early part of the fall term. Basketball and wrestling team practice start in November with scheduled contests beginning in December and extending through the winter quarter.

The athletic "A," one of the most highly prized awards, is given to those men and women who have achieved distinction in interscholastic athletics and have fulfilled the participation, scholastic, and citizenship requirements during the season.

Intramural—The intramural program provides for every student in the school the opportunity to enjoy and participate in athletics and recreational activities. Emphasis is placed on those sports which develop leisure time interests and habits. Intramural athletics are a natural outgrowth of the required program of physical education.

A varied program of activities consisting of diamondball, touchball, football, horseshoes, table tennis, archery, swimming, basketball, volleyball, track and field meet, and boxing and wrestling tournaments is offered during the school year. An intramural committee, composed of a representative from each class, serves the director in an advisory capacity.

The Department of Physical Education and Athletics urges students to participate in the varied program and to use the facilities and equipment of the gymnasium. A large basketball court, running track, swimming pool, badminton and volleyball courts, archery range, handball and squash courts, separate boxing and wrestling rooms, golf driving net, social games room provide adequate indoor facilities, and the excellent recreational field adjoining the gymnasium offers opportunities to each student to take part in activities which are physically wholesome, mentally stimulating and satisfying, and socially sound.

STATE AID

The state of Minnesota, believing in the value of the School of Agriculture, has provided funds to apply upon the tuition, laboratory, and equipment fees for any farm boy or girl under twenty-one years who has completed the eighth grade, but who is not yet a high school graduate, and who comes from a school district which does not maintain an accredited high school within its own jurisdiction. A rate of \$7 per month has been established to apply upon the tuition, laboratory, and equipment fees (except deposits) of such students.

STUDENT AID

The School of Agriculture has maintained a helpful policy in furnishing employment for students and in providing loans. The prospective student who desires to make application for such work or loan in order to help meet his expenses while attending school should write directly to the superintendent, School of Agriculture, University Farm, St. Paul 1. Various organizations have maintained student scholarship and loan funds so that for any deserving young man or young woman from a farm in Minnesota who is really interested in attending the school, there is always a way of making that interest become an actuality. The **Ludden Trust**, the **Minnesota Farm Bureau Loan Fund**, and **funds left by the classes of 1902, 1916, 1924, 1925, 1929, 1930, 1931, and 1932** are available for temporary loans to students who are worthy and who need such help in order to attend.

SCHOLARSHIPS

A fund willed by **Caleb Dorr** of Minneapolis furnishes cash prizes amounting to \$150 each year, which are offered to students securing the highest standings in general scholarship. All students carrying the full work of 18 credit hours per term are eligible for these prizes. Prizes will be awarded at the close of the second term for the senior students graduating from the School of Agriculture with the highest scholarship.

The annual income from a fund of \$500, which was established in memory of **Peter Gideon**, the originator of the Wealthy apple, is divided into two prizes for the best home projects in horticulture.

Interest from the **LeRoy Cady scholarship fund** of \$1,500, which was raised by popular subscription by the Minnesota Garden Flower Society, is used to aid deserving students who are pursuing courses in horticulture.

Sears, Roebuck and Company of Chicago, Illinois, has established a scholarship fund to aid worthy farm boys attending the School of Agriculture who have maintained a satisfactory grade of scholarship and citizenship, who come from farm homes, and who intend to continue in agricultural work.

The **Minnesota Livestock Breeders' Association** has made available the interest from a fund which has accumulated in connection with the Junior Livestock Show in memory of **William A. McKerrow**. These McKerrow scholarships are awarded to worthy boys and girls, who, in the light of their opportunities, have made commendable progress in livestock development and activities.

The **Land o' Lakes Creameries, Inc.**, of Minneapolis, provide annually two scholarships; one for an outstanding young woman and one for an outstanding young man from the student body.

COST OF ATTENDING

The school year is made up of two terms of approximately three months each, the fall term beginning the early part of October and ending around Christmas time, and the winter term beginning the first part of January and ending the latter part of March.

All university fees are subject to modification without notice.

TABLE OF CHARGES

Tuition fee, per term	
Resident of Minnesota	\$ 3.00
Nonresident	6.00
Deposit, as guarantee for the return of books and equipment	5.00
Incidental fee, per term	12.20
Textbook rental fee (for those not desiring to purchase their books) per term	3.00
Music fee, per course (private lessons if desired)	8.00
Room in dormitory, per term (price subject to change)	26.00
Board—per term (price subject to change)	104.10
Laundry, per term (price subject to change). Required of all in dormitories	4.00
Gymnasium suits—	
Boys (price subject to change)	2.00-3.00
Girls (price subject to change)	1.50
Average cost drawing instruments, notebooks, stationery, and supplies, per year	3.00-5.00
Special course fees—	
Agr.Eng.A16, Mechanical Training	2.50
Agr.Eng.A17, Metal Working	6.00
Agr.Eng.A22, Farm Carpentry	1.00
Agr.Eng.A23, Building Construction	1.00

The total charge for each student will vary according to the subjects taken.

The \$5 deposit fee, which is required at the time of enrolling, is refunded at the close of the school year when the student has returned all books and equipment satisfactorily, minus such charges as may be incurred for lockers, library penalties, breakage, damage, loss of equipment, etc.

The expenses given above are to be paid in full at the beginning of the term unless the student desires to pay his board and room by installments. Permission to pay by installments must be secured from the superintendent's office.

VETERANS

The veterans enrolled in the School of Agriculture should report to the University Bureau of Veterans' Affairs, 207 Administration Building, St. Paul Campus. The Bureau will assist the veteran in every way possible in getting training started under the G.I. Bill.

Veterans of World War II are entitled to training under Public Law 16, Vocational Rehabilitation, or Public Law 346 (G.I. Bill). The Veterans Administration will, for veterans approved for training under either law, pay tuition fees and provide books, supplies, etc. The government will make an allowance for subsistence which automatically is paid to veterans properly enrolled under the veterans' training program. The University Bureau of Veterans' Affairs will aid the veteran student in applying for educational benefits. Prior to registering in the School of Agriculture all veterans must have a Certificate of Eligibility which is to be presented at the time of registration. This Certificate of Eligibility may be applied for through any Veterans Administration Center or through the county service officer or the service officer of any veterans' organization. Veterans enrolling in the School will do so with the training objective of one of the curricula listed in this catalog.

YEARS OF OPPORTUNITY

Any young man or young woman in a rural area who is interested in more training along the line of agriculture or homemaking and who plans and wants to be a good farmer and homemaker may write to the superintendent, School of Agriculture, University Farm, St. Paul 1, for further information about this school. The golden years between seventeen and twenty come only once—they are the greatest years of opportunity that any person ever knows. The faculty of the School of Agriculture on the St. Paul Campus wishes to be of service to the youth of this state in helping them to make the most of those years.





CURRICULA IN AGRICULTURE

Figures following the names of courses indicate the number of credit hours. One credit hour is equivalent to one class period devoted to recitation or lecture or to two such periods devoted to laboratory work.

For description of the courses listed in the following outline see pages 27 to 39, and for schedule of classes, see *School of Agriculture Bulletin*, Part II.

See page 7 for statement with reference to home project work.

Courses which may be taken either term are indicated by (f,w), those which are offered in the fall term only are indicated by (f), and those offered only in the winter term by (w).

Every student in agriculture who plans to graduate is expected to select one of the following curricula: (a) general farming, (b) farm mechanics, (c) horticulture, (d) livestock production, or (e) crop production.

Adults desiring special courses should consult the curriculum committee.

The program for men at the School of Agriculture is intended primarily for those who expect to return to the farm. With the increased complexity of operating a farm, with more mechanization and larger capital investments, successful management calls for a high degree of skill and knowledge through agricultural training such as provided in the School of Agriculture.

Some school graduates are occupying positions as farm managers. The demand for farm managers increases as farms are operated in larger units with hired help and more machinery. Young men who have had training at the School of Agriculture are especially fitted to go out as **testers for cow-testing** associations. This is an excellent means of gaining valuable experience in dairy management.

Many who take the regular farm mechanics curriculum find employment as **garage men**. Courses in Mechanical Training and Gas Engines and Tractors provide a very fine training for this work.

A regular course is planned for those desiring to take up **landscape gardening and nursery work**. The instruction is very practical. Some of the most successful nurseries in the state are owned and managed by graduates of the School of Agriculture.

Practically all counties in Minnesota are hiring properly prepared young men and women as **county 4-H Club leaders**. The School of Agriculture training obtained in courses in Leaders and Leadership, Field Work in Leadership, Parliamentary Law, and Psychology equips those who have natural leadership qualities for county 4-H leadership jobs.

The School of Agriculture lays stress upon the adaptation of the student's curriculum to his future plans. In order to make this aim effective, every student is assigned to an adviser who helps him plan a program. Upon the recommendation of the adviser and with the approval of the Students' Work Committee the outlines of study summarized in the following pages may be varied.

Course names printed in bold face (heavy type) are requirements common to all two-year curricula in Agriculture.

The following two-year curricula are planned for high school graduates.

GENERAL FARMING

JUNIOR YEAR—REQUIRED

Orientation, 1
Personal Health, 1
Farm Mathematics, 3
 Livestock Production, 3
Mechanical Training, 3
Social Problems for Boys, 2
Contemporary Literature, 3 or
Advanced Public Speaking, 3
First Aid, 1

Animal Biology, 3*
Chemistry in Agriculture, 3*
 Agricultural Botany, 3*
 Forage Crops, 3
 Farm Dairying, 3
 General Poultry Management, 3
 Farm Records and Accounts, 3
Physical Education†

SENIOR YEAR—REQUIRED

Farm Horticulture, 3
 Dairy Stock Feeding, 3
 Livestock Feeding, 3
 Farm Forestry, 3
American Democracy, 3
 Livestock Breeding, 3

Farm Management, 3
 Grain Crops, 3
 Crop Breeding, 3
Soils, 3
Rural Sociology, 3
Physical Education†

FARM MECHANICS

JUNIOR YEAR—REQUIRED

First Aid, 1
Orientation, 1
Personal Health, 1
Farm Mathematics, 3
 Livestock Production, 3
 Gas Engines and Tractors, 3
 Physics in Agriculture, 3*
 Farm Records and Accounts, 3

Social Problems for Boys, 2
Contemporary Literature, 3 or
Advanced Public Speaking, 3
 Agricultural Botany, 3*
Chemistry in Agriculture, 3*
Mechanical Training, 3
Physical Education†

SENIOR YEAR—REQUIRED

Farm Management, 3
 Farm Carpentry, 3
Soils, 3
 Farm Implements, 3
 Drawing and Farm Buildings, 3
 Farm Dairying, 3

Livestock Feeding, 3
 Grain Crops, 3 or
 Forage Crops, 3
American Democracy, 3
Rural Sociology, 3
Physical Education†

HORTICULTURE

JUNIOR YEAR—REQUIRED

Orientation, 1
Personal Health, 1
Farm Mathematics, 3
Social Problems for Boys, 2
Soils, 3
First Aid, 1
 Agricultural Botany, 3*

Contemporary Literature, 3 or
Advanced Public Speaking, 3
Mechanical Training, 3
Chemistry in Agriculture, 3*
 Animal Biology, 3*
Physical Education†

* Not required if student has high school credit for this subject.

† One course required each term in attendance.

SENIOR YEAR—REQUIRED

Landscape Gardening, 2
American Democracy, 3
 Plant Diseases, 3
 Insect Pests of Plants, 3
Rural Sociology, 3

Plant Propagation, 3
 Vegetable Gardening, 3
 Bookkeeping I, 3*
Physical Education†

OPTIONAL COURSES§

Home Floriculture, 3
 Greenhouse Management, 3
 Commercial Fruit Growing, 3
 Potato Production, 3

Special Problems in Horticulture,
 variable credit
 Seed Testing, 2
 Farm Forestry, 3

LIVESTOCK PRODUCTION

JUNIOR YEAR—REQUIRED

First Aid, 1
Orientation, 1
Personal Health, 1
Social Problems for Boys, 2
Farm Mathematics, 3
Contemporary Literature, 3 or
Advanced Public Speaking, 3
 Livestock Production, 3

Chemistry in Agriculture, 3*
 Animal Biology, 3*
 Agricultural Botany, 3*
 Farm Records and Accounts, 3
 Farm Dairying, 3
American Democracy, 3
Physical Education†

SENIOR YEAR—REQUIRED

Management and Care of Livestock, 3
 Forage Crops, 3
 Livestock Feeding, 3
 Dairy Stock Feeding, 3
Rural Sociology, 3
 Farm Management, 3

Veterinary Studies, 3
 Livestock Breeding, 3
Soils, 3
Mechanical Training, 3
Physical Education†

CROP PRODUCTION

JUNIOR YEAR—REQUIRED

Orientation, 1
Personal Health, 1
Social Problems for Boys, 2
First Aid, 1
Contemporary Literature, 3 or
Advanced Public Speaking, 3
Farm Mathematics, 3
Mechanical Training, 3

Grain Crops, 3
Soils, 3
 Agricultural Botany, 3*
Chemistry in Agriculture, 3*
 Forage Crops, 3
 Livestock Production, 3
 Genetics and Eugenics, 3
Physical Education†

SENIOR YEAR—REQUIRED

Farm Horticulture, 3
 Farm Records and Accounts, 3
American Democracy, 3
Rural Sociology, 3
 Weeds, 2
 Plant Diseases, 3
 Insect Pests of Plants, 3

Farm Management, 3
 Crop Breeding, 3
 Dairy Stock Feeding, 3
 Potato Production, 3
 Seed Testing, 2
 Livestock Feeding, 3
Physical Education†

* Not required if student has high school credit for this subject.

† One course required each term in attendance.

§ Four courses must be selected from this group to fulfill graduation requirements in Horticulture course.

Course names printed in bold face (heavy type) are requirements common to all three-year curricula in Agriculture.

Students should register for the following courses if they are not high school graduates.

GENERAL FARMING

FRESHMAN YEAR—REQUIRED

Communications I. 3
Communications II. 3
Orientation. 1
Personal Health. 1
Farm Mathematics. 3
 Livestock Production, 3
Mechanical Training. 3
 Agricultural Botany, 3*
Social Problems for Boys. 2

Soils. 3
 Animal Biology, 3*
Chemistry in Agriculture, 3*
How to Study. 1
First Aid. 1
Physical Education†

JUNIOR YEAR—REQUIRED

Communications III. 3
Communications IV. 3
 Forage Crops, 3
 Farm Horticulture, 3
 Dairy Stock Feeding, 3
 Livestock Feeding, 3
 Farm Records and Accounts, 3

Grain Crops, 3
 Farm Dairying, 3
 General Poultry Management, 3
 Farm Forestry, 3
Physical Education†

SENIOR YEAR—REQUIRED

Public Speaking. 3 or
Argumentation and Debate. 3 or
English Literature. 5 or
American Literature. 5§
 Livestock Breeding, 3
 Farm Management, 3

American Democracy. 3
Rural Sociology. 3
 Crop Breeding, 3
Physical Education†

FARM MECHANICS

FRESHMAN YEAR—REQUIRED

Communications I. 3
Communications II. 3
Orientation. 1
Personal Health. 1
Farm Mathematics. 3
 Livestock Production, 3
 Gas Engines and Tractors, 3
 Agricultural Botany, 3*

Social Problems for Boys. 2
Mechanical Training. 3
Chemistry in Agriculture, 3*
How to Study. 1
First Aid. 1
Physical Education†

JUNIOR YEAR—REQUIRED

Communications III. 3
Communications IV. 3
 Physics in Agriculture, 3*
 Livestock Feeding, 3
 Farm Carpentry, 3
Soils. 3
 Farm Records and Accounts, 3

Grain Crops, 3 or
 Forage Crops, 3
 Farm Dairying, 3
 Farm Implements, 3
Physical Education†

* Not required if student has high school credit for this subject.

† One course required each term in attendance.

§ Any combination of two courses.

SENIOR YEAR—REQUIRED

Public Speaking, 3 or	Farm Management, 3
Argumentation and Debate, 3 or	American Democracy, 3
English Literature, 5 or	Physical Education†
American Literature, 5§	
Drawing and Farm Buildings, 3	
Rural Sociology, 3	

HORTICULTURE

FRESHMAN YEAR—REQUIRED

Communications I, 3	Soils, 3
Communications II, 3	Mechanical Training, 3
Orientation, 1	Plant Propagation, 3
Personal Health, 1	First Aid, 1
Farm Mathematics, 3	How to Study, 1
Agricultural Botany, 3*	Physical Education†
Chemistry in Agriculture, 3*	
Social Problems for Boys, 2	

JUNIOR YEAR—REQUIRED

Communications III, 3	Animal Biology, 3*
Communications IV, 3	Physical Education†
Vegetable Gardening, 3	
Landscape Gardening, 3	

SENIOR YEAR—REQUIRED

Public Speaking, 3 or	Insect Pests of Plants, 3
Argumentation and Debate, 3 or	American Democracy, 3
English Literature, 5 or	Rural Sociology, 3
American Literature, 5§	Bookkeeping I, 3*
Plant Diseases, 3	Physical Education†

OPTIONAL COURSES‡

Home Floriculture, 3	Special Problems in Horticulture, variable credit
Greenhouse Management, 3	Seed Testing, 2
Commercial Fruit Growing, 3	Farm Forestry, 3
Potato Production, 3	

LIVESTOCK PRODUCTION

FRESHMAN YEAR—REQUIRED

Communications I, 3	Social Problems for Boys, 2
Communications II, 3	Soils, 3
Orientation, 1	Animal Biology, 3*
Personal Health, 1	Chemistry in Agriculture, 3*
Farm Mathematics, 3	How to Study, 1
Livestock Production, 3	First Aid, 1
Mechanical Training, 3	Physical Education†
Agricultural Botany, 3*	

* Not required if student has high school credit for this subject.

† One course required each term in attendance.

§ Any combination of two courses.

¶ Four courses must be selected from this group to fulfill graduation requirements in Horticulture Course.

JUNIOR YEAR—REQUIRED

Communications III, 3
Communications IV, 3
 Forage Crops, 3
 Livestock Feeding, 3
 Dairy Stock Feeding, 3

Farm Records and Accounts, 3
 Veterinary Studies, 3
 Farm Dairying, 3
Physical Education†

SENIOR YEAR—REQUIRED

Public Speaking, 3 or
Argumentation and Debate, 3 or
English Literature, 5 or
American Literature, 5§
 Rural Sociology, 3
 Farm Management, 3

American Democracy, 3
 Livestock Breeding, 3
 Management and Care of Livestock, 3
Physical Education†

CROP PRODUCTION

FRESHMAN YEAR—REQUIRED

Communications I, 3
Communications II, 3
 Orientation, 1
 Personal Health, 1
 Farm Mathematics, 3
 Social Problems for Boys, 2
 Mechanical Training, 3
 Agricultural Botany, 3*
 Soils, 3

Chemistry in Agriculture, 3*
 Grain Crops, 3
 Forage Crops, 3
 Livestock Production, 3
 First Aid, 1
 How to Study, 1
Physical Education†

JUNIOR YEAR—REQUIRED

Communications III, 3
Communications IV, 3
 Livestock Feeding, 3
 Genetics and Eugenics, 3
 Farm Horticulture, 3
 Farm Records and Accounts, 3

Seed Testing, 2
 Potato Production, 3
 Weeds, 2
Physical Education†

SENIOR YEAR—REQUIRED

Public Speaking, 3 or
Argumentation and Debate, 3 or
English Literature, 5 or
American Literature, 5§
 Rural Sociology, 3
 Plant Diseases, 3
 Insect Pests of Plants, 3

Farm Management, 3
American Democracy, 3
 Crop Breeding, 3
 Dairy Stock Feeding, 3
Physical Education†

CURRICULA IN HOME ECONOMICS AND HOME NURSING

HOME ECONOMICS

The primary purpose of the Home Economics Curriculum is to train young women to become efficient homemakers. It is also possible for them to elect work along several different lines in preparation for wage earning. Many girls go out as home nursing aids, doing practical home

* Not required if student has high school credit for this subject.

† One course required each term in attendance.

§ Any combination of two courses.

nursing in their home communities. Those who intend to enter training to become professional nurses receive an advantageous background of related course work at the school. Some girls qualify for positions as nursemaids or governesses.

Girls may elect business courses and prepare to become clerks, stenographers, or bookkeepers. This general training fits them particularly well for work in county agent offices or other similar offices, as well as for bookkeeping or clerical work in village or country stores.

Several school graduates are employed as county 4-H Club leaders. The training at the school equips those who have natural leadership qualities for these positions.

Positions as home managers are often taken by girls who have had School of Agriculture training.

Courses in music give, to those who have special ability along that line, an opportunity to learn to conduct community singing and orchestras and to give elementary instruction in music. Each girl makes her program under the direction of one of the members of the Home Economics faculty.

In the following list of courses required in Home Economics, curriculum for high school graduates, the course names printed in **bold face** (heavy type) are requirements common to both the Home Economics curriculum for high school graduates and the Home Management and Practical Nursing curriculum for high school graduates.

HOME ECONOMICS CURRICULUM—HIGH SCHOOL GRADUATE

The following two-year home economics curriculum is planned for the high school graduate. Advanced courses are provided in all aspects of homemaking and electives may be chosen to meet individual needs and interests of students.

JUNIOR YEAR—REQUIRED

Expository Communication, 3	Home Nursing, 5
Orientation, 1	Social Training, 2
Art in Everyday Life, 3	Advanced Meal Planning and
Science Applied to the Home, 3	Preparation, 3
Textiles and Dressmaking, 3	Personal Health, 1
American Democracy, 3	Physical Education*
Child Care and Development, 3	Electives, 9
First Aid, 1	

SENIOR YEAR—REQUIRED

Advanced Public Speaking, 3 or	Household Buying, 3
Contemporary Literature, 3	Rural Sociology, 3
History of Civilization, 3	Fabrics, 2
Foods and Nutrition, 3	Housing, 2
Home Planning and Furnishing, 3	Physical Education*
Home Management, 3	Electives, 9

In the following list of courses required in Home Economics, three-year curriculum, the course names printed in **bold face** (heavy type) are requirements common to both the Home Economics three-year curriculum and the Home Management and Practical Nursing three-year curriculum.

* One course required each term in attendance.

THREE-YEAR HOME ECONOMICS CURRICULUM

Students should register for the following courses if they are not high school graduates.

FRESHMAN YEAR—REQUIRED

Communications I, 3	Social Training, 2
Communications II, 3	Advanced Meal Planning and Preparation, 3
Orientation, 1	How to Study, 1
Science Applied to the Home, 3	Personal Health, 1
Selection and Preparation of Food, 3	First Aid, 1
Art in Everyday Life, 3	Physical Education*
Clothing Planning and Construction, 3	Electives, 9

JUNIOR YEAR—REQUIRED

Communications III, 3	Animal Biology, 3
Communications IV, 3	Child Care and Development, 3
Foods and Nutrition, 3	Home Nursing, 5
Textiles and Dressmaking, 3	Physical Education*
American History, 3	Electives, 7
House Planning and Furnishing, 3	

SENIOR YEAR—REQUIRED

Public Speaking, 3 or	Housing, 2
Argumentation and Debate, 3 or	Rural Sociology, 3
English Literature, 5 or	Clothing Problems, 3
American Literature, 5†	Fabrics, 2
American Democracy, 3	Physical Education*
Household Buying, 3	Electives, 13
Home Management, 3	

HOME MANAGEMENT AND PRACTICAL NURSING

In the course in Home Management and Practical Nursing the students receive training which enables them to care for persons with illnesses which are not serious enough to require the services of a graduate nurse—and also to manage the home itself. There is great need of persons with such training in the rural communities. Graduates of this course are accepted for registry with the Physicians Exchange in St. Paul as practical nurses. In the rural communities girls with this training are very much in demand. For those who do not intend to work as **practical nurses**, this training is ideal for their own homes—a training that every homemaker should have. The following are the primary objectives of the course:

Objectives of the course from the nursing standpoint:

- Understand first aid methods and home safety precaution.
- Learn how to care for a person having minor illnesses and injuries that may occur in the home.
- Understand the relationship of the home nurse to the doctor, the supervisory nurse, the patient, and the family.
- Gain a working knowledge of the needs for sanitation in the home and community.
- Obtain practical experience in dealing with cases of illness in the home.
- Know and observe desirable physical and mental health practices.

* One course required each term in attendance.

† Any combination of two courses.

Learn something of the sciences upon which the nursing and medical professions are based.

Understand current preventive medicine procedures.

Objectives from the home management standpoint:

Understand the problems involved in running a home where there is illness and develop judgment in organization and management of the work.

Gain experience in planning, preparing, and serving attractive and nutritious meals to both sick and well family members.

Learn how to properly care for, control, and direct the children in the family.

Be able to make a home attractive and livable.

Know methods for proper care of home furnishings and equipment.

Develop ability to do sewing and know how to give clothing satisfactory care.

Keep morale of patient, family, and self at a high level.

In addition to the training objectives noted above, there is also the related line of employment as office attendants for doctors if the business course given at the school is combined with this course in Home Management and Practical Nursing.

To enroll for this course in Home Management and Practical Nursing a girl must be at least seventeen years of age and of such personality and disposition as is necessary in caring for the sick. Each person must present application before enrolment—application blanks may be secured from the office of the superintendent of the School of Agriculture, University Farm, St. Paul 1, Minnesota.

In the following list of courses required in Home Management and Practical Nursing for high school graduates, the course names printed in **bold face** (heavy type) are requirements common to both the Home Management and Practical Nursing curriculum for high school graduates and the Home Economics curriculum for high school graduates.

HOME MANAGEMENT AND PRACTICAL NURSING— HIGH SCHOOL GRADUATE

JUNIOR YEAR—REQUIRED

Expository Communication, 3 Orientation, 1 Art in Everyday Life, 3 Science Applied to the Home, 3 Clothing Planning and Construction, 3 or Textiles and Dressmaking, 3 American Democracy, 3 Child Care and Development, 3 Home Nursing, 5	Advanced Meal Planning and Preparation, 3 Physiology, 3 Chemistry in Agriculture, 3 Personal Health, 1 First Aid, 1 Social Training, 2 Physical Education* Electives, 4
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SENIOR YEAR—REQUIRED

Advanced Public Speaking, 3 or Contemporary Literature, 3 History of Civilization, 3 Foods and Nutrition, 3 Household Buying, 3 Home Management for Home Nurses, 3 Psychology, 3	Rural Sociology, 3 Elements of Bacteriology, 3 Rural Sanitation, 3 Field Work in Home Nursing, 3 Physical Education* Electives, 3
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* One course required each term in attendance.

In the following list of courses required in Home Management and Practical Nursing three-year curriculum, the course names printed in **bold face** (heavy type) are requirements common to both the Home Management and Practical Nursing three-year curriculum and the Home Economics three-year curriculum.

THREE-YEAR HOME MANAGEMENT AND PRACTICAL NURSING CURRICULUM

Students should register for the following courses if they are not high school graduates.

FRESHMAN YEAR—REQUIRED

Communications I, 3	Science Applied to the Home, 3
Communications II, 3	Physiology, 3
Orientation, 1	Chemistry in Agriculture, 3
Selection and Preparation of Food, 3	First Aid, 1
Personal Health, 1	How to Study, 1
Social Training, 2	Physical Education*
American History, 3	Electives, 6
Art in Everyday Life, 3	

JUNIOR YEAR—REQUIRED

Communications III, 3	Elements of Bacteriology, 3
Communications IV, 3	Rural Sanitation, 3
Psychology, 3	Advanced Meal Planning and Preparation, 3
Home Management for Home Nurses, 3	Home Nursing, 5
Clothing Planning and Construction, 3	Physical Education*
Animal Biology, 3	Electives, 4

SENIOR YEAR—REQUIRED

Public Speaking, 3 or	Fabrics, 2
Argumentation and Debate, 3 or	American Democracy, 3 or
English Literature, 5 or	History of Civilization, 3
American Literature, 5†	Field Work in Home Nursing, 3
Household Buying, 3	Rural Sociology, 3
Foods and Nutrition, 3	Physical Education*
Child Care and Development, 3	Electives, 10
Housing, 2	

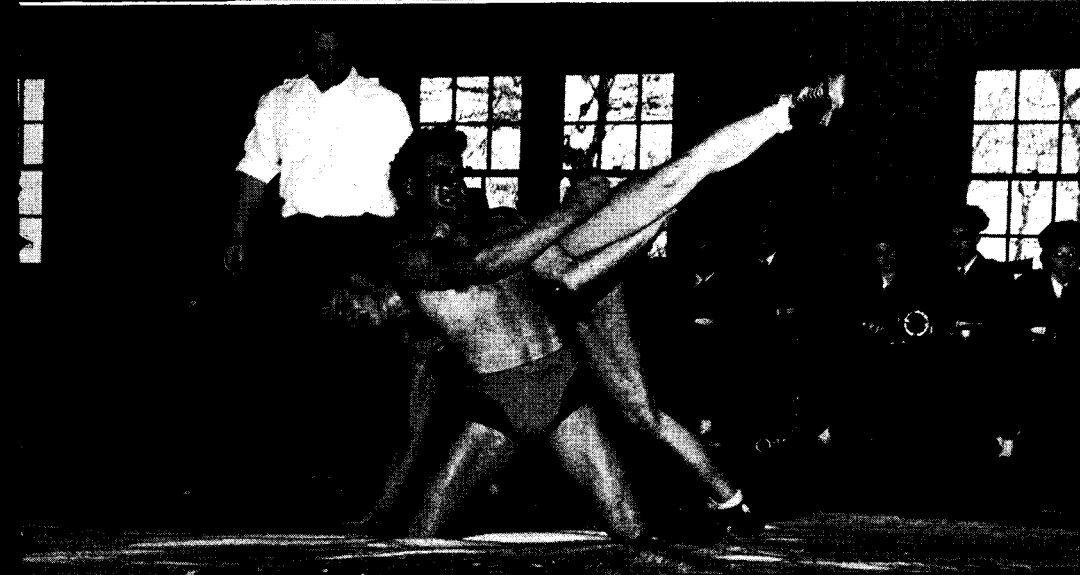
NEW COURSES IN COMMUNICATIONS

In line with reforms being made in many schools and colleges over the country, the basic training in Rhetoric taught in the School of Agriculture has been considerably revised. Whereas in the past training has been primarily upon correct written composition, now a great deal of attention is given to three other basic communication skills—reading, listening, and speaking. The program in "Communications" strives to do five specific things:

1. To give much greater emphasis to the two great processes (reading and listening) through which almost all knowledge is acquired.
2. To integrate work in the four basic communications skills to stimulate greatest possible development.
3. To emphasize, for the individual student, those particular skills which are least adequately developed.
4. To increase greatly our emphasis upon language as a tool.
5. To stress vocabulary building, the single factor common to all communication.

* One course required each term in attendance.

† Any combination of two courses.





DESCRIPTION OF COURSES

AGRICULTURAL BIOCHEMISTRY

- A4. Chemistry in Agriculture. A survey discussion—lecture course indicating the important part that chemistry plays in agriculture and modern civilization.

AGRICULTURAL ECONOMICS

- A21. Farm Records and Accounts. Practice in recording and analyzing a year's business for a Minnesota farm. Forms and procedure for recording inventories, cash receipts and expenses, crop acreages and yields, feed for livestock, family living from the farm, and other information concerning the farm business. Calculation of earnings and management efficiency.
- A22. Farm Management. Farm selection and farm tenure: tenancy and farm leases, personal and business factors affecting farm financial success; factors affecting the selection of crops and livestock for a particular farm and efficiency of use of labor, power, and equipment.
- A23. Farm Organization and Planning. Special problems in organizing and planning the student's home farm based on summer project records kept by the student and his family. Special emphasis on selecting and organizing the cropping systems and livestock enterprises which seem to best fit the farm.
- A43. Economics. Principles underlying the economic processes of production, consumption and distribution of income. A study of forces affecting prices. The economic relationships between agriculture and the national and international economy. Some attention is given to programs designed to improve the position of agriculture.
- A44. Marketing. Elementary principles of the marketing of farm products, marketing services and marketing organization for Minnesota farm products. Principles of cooperation. A brief review of cooperative marketing of farm products in Minnesota.
- A49. Farm Finance. A brief review of elements of money and banking. The relation of money and banking systems to price levels and business activity. The sources, methods and problems of production and mortgage credit for farmers.

AGRICULTURAL ENGINEERING

- A10. Farm Implements. Selection, operation, and care of farm machinery, also the cost, depreciation, and adaptability of the various machines to the work to be accomplished.
- A11. Gas Engines and Tractors. Theory and practice work in gasoline Diesel engines and tractors.
- A16.† Mechanical Training. General. Instruction and laboratory practice in rope splicing, knots, belt lacing, pulleys, soldering, electric wiring.
- A17.†† Metal Working. Instruction and laboratory practice in pipe fitting, valves, cold metal work, oxyacetylene welding, brazing, cutting, and electric arc welding.
- A18. Physics in Agriculture. The mechanics of solids, liquids, and gases. Special emphasis on farm applications.

† A fee of \$2.50 per quarter is charged for this course.

†† A fee of \$6 per quarter is charged for this course.

- A19. Farmstead Conveniences. Principles of heating, lighting, sanitation and water supply.
- A22.††† Farm Carpentry. Instruction and practice in the use of wood-working tools and machines, and the construction, repair and maintenance of lumber-built farmstead equipment. Practice in tool sharpening, glazing, and painting.
- A23.††† Building Construction. Instruction and practice in the framing of farm buildings. Floor, wall, and roof construction.
- A32. Drawing and Farm Buildings. Preparation and interpretation of working drawings. Planning, details of construction, and maintenance of farm buildings.

AGRONOMY AND PLANT GENETICS

- A1. Grain Crops. The history, culture, and uses of the important grain crops and corn.
- A2. Forage Crops. The identification, culture, harvesting methods, storage, value for feed and market, and uses for soil conservation of the important forage grasses and legumes.
- A3. Genetics and Eugenics. The laws of heredity with plants, animals, and human beings, inheritance of important characters in man, including physical abnormalities, mental deficiencies, intelligence, etc., and the relation of these principles to problems of race improvement.
- A4. Crop Judging. Identification of farm crops, weeds, and plant diseases from plant and seed specimens, varietal identification, practice in judging wheat, oats, barley, flax, alfalfa, and sweet clover.
- A5. Crop Breeding. Modern methods of breeding and propagating the various farm and horticultural crops with plans for growing and certifying pedigreed seed.

ANIMAL HUSBANDRY

- A3. Livestock Production. The products and adaptations of farm animals; specialized livestock production enterprises; characteristics and adaptations of the pure breeds; the market classes and grades of farm animals; practice in judging livestock.
- A4. Farm Butchering and Curing of Meats. Lectures, demonstrations, and practice in slaughtering and dressing animals and in cutting and curing meats.
- A5. Livestock Breeding. Livestock improvement and variation: heredity, environment, and selection as factors therein; line breeding, inbreeding, crossbreeding, and grading up; the purebred sire; pedigree registration; practical breeders' problems.
- A6. Livestock Judging. Practice in judging horses, cattle, sheep, and hogs from the marketing and breeding standpoint.
- A7. Utilization of Meats. Lectures on methods of utilizing cuts from the beef, pork, and lamb carcass; curing and storing meats for summer use; laboratory practice in preparing cuts of meat for cooking; sausage making; and lard rendering. (This course is intended primarily for women students although it is also open to men students.)
- A9. Livestock Feeding. The important principles involved in the selection and preparation of feeds; methods of feeding beef cattle, swine, sheep, and horses.
- A10. Management and Care of Livestock. Planning the livestock enterprise, the business side of livestock production, buying and selling animals, housing, care and sanitary measures.

††† A fee of \$1 per quarter is charged for this course.

DAIRY HUSBANDRY

- A1. Dairy Stock Feeding. The principles of feeding. A study of feed-stuffs, and formulation of rations for dairy animals. Feeding problems.
- A2. Farm Dairying. Development of the dairy industry, breeds of dairy cattle, composition and properties of milk and milk products, dairy farm sanitation, care and operation of dairy farm equipment.
- A3. Dairy Stock Judging. Analysis and evaluation of type standards and of the structure, function, growth and inheritance involved in the practice of judging. Relation of form and function.
- A5. Milk Production. A study of the problems in dairy herd management, raising of calves and young stock, and factors influencing the cost of producing milk.
- A6. Advanced Dairy Stock Feeding. An advanced course dealing with rations and special feeding problems.
- A7. Dairy Stock Selection. An evaluation of inherited characteristics of dairy cattle useful in selecting herd sires and foundation females through consideration of breed differences, methods of measuring transmitting ability and pedigree analysis.
- A8. Dairy Testing. Laboratory practice in use of the Babcock test and other simple tests for milk and milk products. Offered in 1948-49 and alternate years.

ENTOMOLOGY AND ECONOMIC ZOOLOGY

- A1. Animal Biology. Fundamental principles of animal life such as metabolism, respiration, digestion, growth, and reproduction. The more important groups of the animal kingdom and their relation to man.
- A5. Elementary Beekeeping. Fundamentals of bee behavior and of beekeeping practice during the year. Spring management. Swarming. Swarm control and increase. Pollination. Honey production, processing and food value. Queen rearing and requeening. Feeding. Wintering of bees. Bee diseases and enemies.
- A6. Advanced Beekeeping. Commercial and out-apiaries. Migratory beekeeping. Package bees and nuclei. Home queen rearing. Marketing of honey.
- A16. Insect Pests of Plants. Life cycles of insect pests injurious to cultivated plants and methods of combating them.
- A18. Special Problems. Properly qualified students will be given opportunity to carry on individual work in biology, economic entomology, and beekeeping. In each case permission of the instructor must be obtained in advance.

FORESTRY

- A1. Farm Forestry. Tree identification. Planting and care of farm windbreaks and shelterbelts. Farm woodland management. Preservative treatments for farm timbers and fence posts. Marketing of woodlot products.

HOME ECONOMICS

- A2. Clothing Planning and Construction. A study of the student's clothing needs for the improvement of personal appearance. The care and repair of clothing, cleaning, laundering, and study of cotton clothing. The construction of a cotton garment.

- A4. Textiles and Dressmaking. The selection of suitable fabrics and designs for clothing. The construction of dresses or other garments for school and home use. Tailored technique applied to rayon or wool fabrics.
- A5. Clothing Problems. The application of design, textile, and economic information to the problems of assembling a wardrobe. The planning and construction of garments suited to the student's needs.
- A6. Housing. A study of farm housing needs, making best use of present housing, minor repairs and safety measures, kitchen planning, cost of housing in relation to the family budget.
- A8. Fabrics. A study of textile fibers and fabric structures. Projects in the selection, use and care of fabrics for clothing and house furnishings.
- A21. Art in Everyday Life. The principles of design and color applied in the selection of clothing and home furnishings. Actual experience in room arrangement. Craft projects.
- A26. House Planning and Furnishing. A consideration of the house in relation to the needs of the family. Consideration will be given to location, exterior design, convenient arrangement of floor space; selection of interior finish, wall and floor coverings, furniture, curtains, and pictures; furniture refinishing.
- A27. Foods for Special Occasions. Planning and preparing unusual dishes which add variety to meals. Foods used in other countries. Foods for home hospitality.
- A28. Home Crafts. The principles of design and color harmony are applied to articles made of wood, metal, paper, and fabrics.
- A31. Selection and Preparation of Food. A study of food in relation to planning, preparation, and serving of luncheons and suppers. The care and upkeep of kitchen and dining room equipment. Methods of food preservation.
- A32. Advanced Meal Planning and Preparation. Food study in relation to the preparation and serving of meals. Food combinations, marketing, and plans for family meals. Opportunity for small groups to prepare and serve meals.
- A33. Foods and Nutrition. A study of the food needs for optimum health of individuals and families. Food for different individuals, infants, children, and the sick.
- A34. Home Management. Analysis of the problems of the homemaker as manager. Selection and use of techniques for utilizing material and human resources for greater efficiency and happiness. Planning for hospitality.
- A35. Child Care and Development. A study of the factors influencing the proper growth (mental, physical, emotional, and social) of the small child. A discussion of the best literature and toys for children's use. Direct experience with observation of children in their own homes is provided.
- A37. Household Buying. A study of the availability, the market, the price, the basis for selection, and the methods of purchase of commodities in common use by the average person or family.
- A39. Advanced Foods. A study of desirable standards for foods for home use and for salable products. Development of skill in their preparation. Food purchasing.
- A40. Home Economics Projects. Students may select a project in the home economics field with guidance, carry on independent work, report to the teacher at intervals, and make a final report. Credit will be granted according to the quality of the completed project.

- A50. Science Applied to the Home. A study of certain science principles and applications that relate to foods, textiles and clothing, equipment, electricity, and the physical care of the home.
- A53. Home Management for Home Nurses. A study of the care and management of the home under conditions of illness or other emergencies.
- A73. Problems in Home Living. The study of the selection of food; fundamental processes of cooking; adequate food for the family; financial management; selection and care of clothing; family and community relationships. This course is planned for young men.

HORTICULTURE

- A1. Farm Horticulture. Principles of landscape planning, cellar and frozen storage of fruits and vegetables. Growing fruits and vegetables for use on the farm. Location and planting of the orchard and garden, and culture of the important crops.
- A2. Commercial Fruit Growing. Establishment and management of commercial orchard and small fruit plantings suitable for growing in the Upper Midwest. An advanced course open to students who have completed A1 or to students who obtain permission of the instructor.
- A3. Vegetable Gardening. Growing of vegetable crops for market. Locating, planting, and care of the commercial garden; consideration of the important crops; marketing methods; types of glass structures, their uses, and the production of vegetables under glass. Offered in alternate years. Not offered in 1948-49.
- A5. Plant Propagation. Methods of propagation of plants by seeds, cuttings, layers, grafting, and budding are studied. The principles of greenhouse management, transplanting, watering, and ventilation are studied.
- A7. Home Floriculture. A working knowledge of the culture and use of house plants, annuals, and perennials. Offered in alternate years. Not offered in 1948-49.
- A8. Landscape Gardening. Practice and principles of ornamental plantings as applied to the home and community, with special reference to the small place and the farmstead.
- A10. Greenhouse Management. Management of the greenhouse from the standpoint of the flower grower. Various crops in relation to types of glass construction. Practice work in crops in the greenhouse.
- A14. Potato Production. Growth, climatic requirements, regional distribution, standardization of varieties according to soil, climate, and markets. Identification, exhibiting, judging, handling of seed plots, certification, cultural methods, storage, and marketing.
- A15. Special Problems in Horticulture. Individual instruction in the various phases of horticulture adjusted to meet the needs of the student. Credit may be earned in one or more quarters.

PHYSICAL EDUCATION AND ATHLETICS

MEN

The Department of Physical Education and Athletics attempts to present to the student a well-rounded program embracing required physical education, interschool athletics, and intramural activities to provide for growth and development of the physical, psychological, social, and recreational abilities of each individual.

Intramural or interclass athletics are organized and established to provide the opportunity and enjoyment of participation in athletic activities for every student of the school. Student recreation and health is the purpose of the varied intramural program offering activity in softball, touchball, touch football, horseshoe, table tennis, archery, swimming, basketball, volleyball, track and field meet, boxing and wrestling tournaments, ice skating, and social dancing.

Interscholastic competition with other schools of agriculture and colleges in basketball, cross-country running, swimming, and wrestling is an important part of the school program each term.

All students should register for a regularly scheduled class in physical education as listed below. The student may try out for any athletic team, and if he becomes a sports squad member, the physical education director will excuse that student from the class in physical education for which he has registered. When the student is no longer a squad member, he will return to the class for which he was originally registered.

The required physical education course activities consist of the following:

- A1. **Physical Education Activities.** Development of skills and sports fundamentals; a comprehensive knowledge of rules, techniques, and strategies; body control, team play and cooperation; and the health habits and safety factors associated with these various physical activities. Fall term—softball, touchball, speedball, volleyball, tumbling, swimming; winter term—basketball, track, boxing, wrestling, volleyball, handball, marching, social games, tumbling and pyramids, ice skating, hockey, and skiing.
- A2. **Beginning Swimming.** For non-swimmers and those unable to swim in deep water. Health and safety factors in the pool; developing confidence in the water; elementary strokes; artificial respiration.
- A4. **Social Games and Recreational Sports Activities.** Instruction in social games of both the active and the quiet type. Games for home play with the family or small groups as a unit, coupled with the construction of play and game apparatus and materials by the individual in the home or in the rural workshop. Mixers, singing games, square dances, games both quiet and active, hiking, bicycle outings, art and craft, camping, rifle shooting and hobbies are stressed.
- A5. **Sports and Recreation Administration.** Leadership, initiative factors in sports; development of play and recreation facilities; principles of physical education; practice in administration and organization of various athletic events; history of sports; rural recreation organizations.
- A6. **Advanced Swimming.** Instruction for those individuals able to swim in deep water. Technique of basic swimming strokes, development of endurance and stamina for distance swimming, methods of water rescue and diving.

WOMEN

The physical education program for girls at the School of Agriculture has been planned to meet their particular needs and interests. A variety of activities is offered by the department each quarter which gives the students skills and games to use during their leisure time at home and school. Class experience is given in leading games and sports suitable for use in recreational programs in the rural community. The offerings of the department include activities from the following areas

of the field of physical education: Rhythms, Team Games, Individual and Dual Games, Aquatics, Conditioning Exercises, and Posture. During the time the student takes work in this department she is encouraged to select activities from each of the above areas. Individual programs are planned with the instructor during the physical education conference time. The results of the health examination as well as the particular interests of each are considered in scheduling the student's physical education program for each quarter's work. The importance of correct posture is stressed during the teaching of all activities. Special help in posture correction is given individually to those needing it. Instruction in healthful living is an important part of all class work.

An excellent recreational program is arranged through the Girls' Athletic Association in which every girl registered in the school is a member. Opportunities for participation in class and inter-school tournaments are provided. Through this program the school girls can meet new friends, develop desirable social qualities and enjoy wholesome recreational activities under experienced leadership. The activities offered are: basketball, volleyball, archery, swimming, badminton, skating, shuffleboard, table tennis, tumbling, track, and softball.

- A1. Team Games. An opportunity for experience in team games of softball and volleyball (fall quarter); and basketball and volleyball (winter quarter). Discussion of rules and techniques of various skills of each sport.
- A2. Individual and Dual Sports. Instruction in archery, shuffleboard, badminton, and table tennis.
- A3. Rhythmical Activities. Instruction in folk dancing, singing games, American country dance, and musical mixers.
- A4. Beginning Swimming. A course for those who do not know how to swim or who are not at home in deep water. Instruction is given in elementary strokes, diving, and water emergency measures.
- A5. Lifesaving and Water Safety. Instruction in junior and senior lifesaving tests and methods of water rescue which have been set up by the American Red Cross.
- A6. Recreational Leadership. Instruction in organizing, conducting, and planning a program of recreational activities for various age levels. Knowledge of team games, individual sports, social games, and mixers, presented with the idea of developing teaching ability and leadership.
- A7. Intermediate and Advanced Swimming. Instruction in basic swimming strokes, correction of self-taught swimming activities to more efficient movements, water emergency measures, diving and water safety.

PLANT PATHOLOGY AND BOTANY

- A1. Agricultural Botany. The structure and life processes of economic plants and their relation to agricultural practices. Growth, absorption, food manufacture, reproduction, and respiration. The dependence of man and animals on green plants. The nature of fungi and bacteria, and their importance in causing disease and decay.
- A2. Seed Testing. The seeds of the common farm weeds, with special attention to those of noxious weeds. A set of seed cases is made and practice is given in testing seeds for purity and germination.
- A11. Plant Diseases. Important diseases of fruit, vegetable, and field crops in Minnesota, with emphasis on the nature of the cause and methods of control.
- A12. Weeds. Farm weeds, with special emphasis on their identification, control, and eradication.

POULTRY HUSBANDRY

- A11. General Poultry Management. The poultry industry, its magnitude, advantages and disadvantages, seasonable market classes and breeds best adapted to egg production and to different markets, nutrition, feeds, feeding, winter egg production, houses and appliances, yards, prevention of disease.
- A12. Poultry Selection and Marketing. Lectures and laboratory practice in judging for standard requirements and selecting for production qualities; grading live and dressed poultry, candling and grading eggs for market.
- A14. Turkey Production. Instruction in breeds, breeding, incubation, brooding and rearing, feeding and marketing of turkeys. Possible and probable profits, merits of different varieties, shelters for old and young, hatching, brooding, and marketing.

PUBLIC HEALTH

- A1. Personal Health. Methods of promotion of health and prevention of disease; fundamentals of healthful living; individual and community activities against the spread of disease.
- A2. First Aid. Emergency care of accidents and injuries. Lectures and demonstrations. (Given by American Red Cross.)
- A4. Rural Sanitation. Disposal of excreta, sewage, and other waste; location, construction, and operation of rural water supplies; sanitary production, handling, processing, and serving of food; control of animals and insects involved in the spread of disease; ventilation and air conditioning; farm and home safety.
- A6. Home Nursing. The place of the home nurse in the family and the community. Further discussion and demonstration of underlying principles and procedures used by the home nurse. Laboratory sessions for practice.

RHETORIC

- A1. Communications I. Diagnosis of reading, writing, speaking and listening proficiency. Motivation through formulating student profiles based on the four skills. Core assignments integrating the four skills and designed to gain some proficiency in all four.
- A2. Communications II. Core assignments integrating the four skills and designed to gain some proficiency in all four. Special assignments to small groups within the class needing special attention. Emphasis upon increasing reading rate and comprehension.
- A3. Communications III. Core assignments integrating the four skills and designed to gain some proficiency in all four. Special assignments to small groups within the class needing special attention. Emphasis upon clarity of speech and improved efficiency in listening.
- A4. Communications IV. Core assignments integrating the four skills and designed to gain some proficiency in all four. Special assignments to small groups within the class needing special attention. Emphasis upon correct and effective written composition.
- A5. Public Speaking. Principles and practice in the composition and delivery of public speeches.
- A6. Argumentation and Debate. Persuasive speaking and writing. Gathering, testing, and using evidence. Briefing. Public discussion and debate.
- A7. English Literature. A study of the most significant works of selected English writers.

- A8. American Literature. A study of the most significant works of selected American writers.
- A14. Advanced Public Speaking. Advanced work in speech, based on A5, Public Speaking.
- A15. Contemporary Literature. A study of the most significant works of selected authors of the twentieth century.
- A16. Expository Communication. A course with emphasis on written communication, designed to meet the particular needs of the individual student as revealed by a diagnostic test battery.

SCHOOL (GENERAL)

- A1. Farm Mathematics. Practical problems involving mathematical processes concerned with measurements of material, extension, capacity and areas are applied to the modern farm and home.
- A2. Advanced Farm Mathematics. Involves applied mathematics in relation to the modern farm business. Employs advanced mathematical formulas in the practical solution of mathematical problems related to agriculture.
- A4. Algebra I. Fundamental operations; properties of algebraic numbers, addition, subtraction, multiplication, division, factoring, simple equations, fractions.
- A5. Algebra II. Fractional equations, literal numbers, proportions, simultaneous equations, radicals, quadratics. Emphasis upon the development and use of formulae. Problems taken from fields allied to agriculture.
- A6. Geometry I. Parallel and perpendicular lines, triangles, loci, polygons, proportion, similar polygons. Theorems developed both inductively and deductively. In this term's work, emphasis is placed upon geometry as a reasoning process.
- A7. Geometry II. Inequalities, circles, numerical relations, areas, regular polygons. Special emphasis on those problems relating to farm life such as the calculation of areas, surveying, and problems taken from mechanics.
- A12. Acting I. Training in the fundamentals of speech. The physical mechanisms of voice production, voice control, interpretative reading, control of the body, and complete acting scenes.
- A13. Acting II. Advanced training in all the phases of acting. Reading the play, approach to the part, responsibilities of the actor, characterization, motivation, and polishing the part. Each member to participate in a one-act play given before an audience as part of the class work. Also helpful information and practice in costuming and make-up.
- A14. Play Production. The director's approach to producing the play in the rural community. Choosing the play, planning the action, choosing the cast, rehearsal procedure, developing characterization, coordinating the play, the final week, and production of the play. Actual laboratory work in all these technical phases done on the regular plays of the season.
- A15. Sight-Singing and Conducting. Basic course for students of instrumental or vocal music. Training in sight reading and technique of conducting, with emphasis on preparing students for leadership in the musical groups of their own communities.
- A21. Elements of Music. Improvement of general musicianship. Fundamental principles of musical notation, pitch, rhythm, musical terms, formation of major scales, musical forms, and acoustics. Preparation for the study of harmony.

- A22. Harmony I. Chord construction. Aural and visual recognition of chords. Dissonance and consonance. Four-part writing. Study of melody and its harmonization.
- A23. Chorus. Accompanied and unaccompanied choral music of graded difficulty. Trios, quartets, etc., will be developed from among students of ability as shown through voice tests. Several public appearances and radio performances of the chorus work will be given.
- A24. Violin. Elementary: Hoffman, *Kayser Etudes*, *Schradieck*, *Scales*, *Solos in Comparison*. Intermediate: scales in all positions, Sevcik, Mazas, Dont, compositions of medium difficulty. Advanced: Kreutzer, Fiorillo, Rode, Gavinie, sonatas of Handel, Gade, David, concertos of Viotti, De Beriot, Mendelssohn. Ten thirty-minute lessons. \$8 per term.
- A25.* Piano. Elementary and advanced technical training, scales, arpeggios, octaves, chords, selected technical studies. Bach: *Inventions*, *Well-Tempered Clavichord*. Sonatinas: Clementi, Kuhlman; sonatas: Haydn, Mozart, Beethoven. Solos for all grades; classics and best modern material. Ten thirty-minute lessons. \$8 per term.
- A26. Instrumental Music. Band and orchestral instruments, such as cornet, clarinet, saxophone, trombone, baritone, alto, horn, tuba, etc., using standard textbook containing latest methods. Ten thirty-minute lessons. \$8 per term.
- A27. Orchestra. Standard works in orchestral music. Special attention is given to interpretation, rhythm, phrasing, intonation, and sight reading.
- A28. Voice. Fundamentals of voice production; i.e., breath control, freedom of articulating muscles, resonance, pure vowel sounds, diction, projection of voice. Vocal studies, exercises and songs to meet individual requirements. Ten thirty-minute lessons. \$8 per term.
- A29. Harmony II. Formation and progression of triads, seventh and ninth chords. Harmonizing given bass. Harmonic analysis and creative writing.
- A31. Choral Class. Also called SAUM Singers. Students showing special aptitude and interest in choral music are given an opportunity for more advanced instruction and participation in a very active musical life while at school. It is intended to perform each year at least one opera or a comparably large vocal work with talent drawn largely from this group.
- A32. Appreciation of Music. Brief history; biographies of well-known composers; and a knowledge of standard musical literature for the orchestra, band, chorus, solo work, and any combination or group of instruments or voices.
- A33. Organ. Elementary and advanced technical training. Ability to read piano music fluently is essential in this course. Ten thirty-minute lessons. \$8 per term.
- A34. Band. Ensemble playing, sight reading, breathing, scales, intonation, phrasing, rhythm, and practical band experience is given. Best standard musical literature. Advanced methods in nonpressure tone production and attack. Three hours a week individual practice.
- A40. Leaders and Leadership. Study of types of leaders, origins, social stimuli, personality, character, and organization. An analysis of leaders, applied to rural activities and organizations.
- A41. Parliamentary Law. Principles of parliamentary law, how to organize a society, duties of officers, how to record proceedings, and how to conduct meetings. Students will be given practice under the direction of the instructor.

* Piano students may register for orchestra and receive training through piano quartet (two pianos), subject to the approval of the instructor.

- A42. **Field Work in Leadership.** This course is designed primarily for students contemplating work as volunteer local leaders of a 4-H club or for those planning to do county 4-H club leadership work. Special training will be given in subject matter, demonstrations, and recreation leadership. Opportunity for laboratory experience in leading local clubs will be offered.
- A45. **Rural Social Institutions.** An intensive study of the rural school, church, family, farm organization, community organizations, and rural-urban organizations will be made with a survey of the student's home community. Not offered 1948-49.
- A46. **Rural Sociology.** A practical course including a study of rural conditions, how to make a survey, the causes of present conditions and how they may be improved. Study of rural organizations, religions, and educational institutions.
- A47. **American History.** Causes and effects of great movements are emphasized. History of the westward migration, immigration, foreign relations, and special emphasis on our history since 1900.
- A48. **History of Civilization.** A survey of the social, political, and economic backgrounds of the ancient and medieval civilizations, contributions of their science, art, literature, laws, institutions, and thought to the present.
- A53. **American Democracy.** The objective is the preparation of an intelligent citizenship for participation in a government by the people. The operation and function of the executive, legislative, and judicial departments; trends in national and state interrelationships; civil rights and popular control; what makes for democracy and dictatorships; description of contemporary governments and political ideologies; trends toward socialization.
- A54. **Problems and Participation in Government.** Context concerns itself with background of our local government. The organizations, powers and functions of the school, the township, the village, the county, and the state governments. Weaknesses and criticisms of local governments, and recommendations for improvement. Field trips to visit local units of government in action.
- A55. **Social Training.** Fundamental principles governing the individual in social contacts; attention to the rights and the responsibilities of the individual in institutional life; the home as the social center; discussion of problems arising in current social activities.
- A56. **Social Problems for Boys.** An open forum for the discussion of social conventions of home, school, and public life.
- A92. **Psychology.** A study of human activity and behavior as influenced by the reactions which the individual makes to his environment. A study of adjustments to new situations and development of personality.
- A94. **How To Study.** Training in inventorying of study habits, in budgeting of time and planning a schedule, in effective reading, in technique of concentration, in taking notes, and in preparing for examinations.
- A95. **Orientation.** The first part of the term is devoted to the history, traditions, and organization of the School of Agriculture and the entire University of Minnesota. The balance of the work covers a survey of vocational opportunities on the basis of the school training.
- A96. **Field Work in Home Nursing.** From 80 to 100 hours of work in homes caring for the sick under supervision of graduate nurse. This course is arranged for each student through the school office.

BUSINESS COURSES

The object of these courses is to prepare students for office work on the farm, in the village, and in regular business offices.

The subject matter of these courses, combined with the courses in homemaking and agriculture, gives the students a training which qualifies them especially well to take positions as office assistants in farm bureaus, cooperative creameries, and local elevators and other farm organizations.

- A61. Spelling. A spelling text is used and drills on lists of commonly misspelled words are given.
- A62. Penmanship. A standard muscular movement system is taught. Students who are poor in penmanship should elect this course.
- A80. Typewriting I. The touch method of typewriting is taught. Following the memorization and fingering of the keyboard, drills for acceleration, concentration, and rhythm are given.
- A81. Typewriting II. A continuation of carefully planned drills for the development of accuracy and speed. Work in tabulating, letter writing, and practice on different makes of typewriters, with their care.
- A82. Typewriting III. Business correspondence from the typist's viewpoint. Business letters and documents which help in gaining correct first impressions are studied and copied. Construction work requiring judgment in arrangement, and the exercising of initiative in solving original problems. Drills for the development of speed and accuracy are stressed.
- A83. Stenography I. Beginning material of *The Gregg Shorthand Manual* and coordinating articles in Alice Hunter's *Graded Readings* are studied. Suitable elementary material is dictated to the class.
- A84. Stenography II. Class continues the study of *The Gregg Shorthand Manual* and Alice Hunter's *Graded Readings*. Drills and dictation given in class.
- A85. Stenography III. The study of *The Gregg Shorthand Manual* and Alice Hunter's *Graded Readings* continued. Supplementary material is studied. Dictation of suitable material in class for the development of skill in the taking and reading of shorthand notes.
- A86. Bookkeeping I. Principles of double entry illustrated by keeping a set of books for a firm, making out the forms necessary for the various transactions, and closing the books.
- A87. Bookkeeping II. Takes up the partnership form of business organization and continues accounting principles. An advanced set of books is kept.
- A88. Commercial Law. Elementary principles governing contracts, a discussion of insurance, wills, deeds, mortgages, stocks and bonds. Reference made to types of business organizations such as partnerships and corporations. Safe investments and the proper use of credit. Use of negotiable instruments.
- A89. Typewriting IV. Course concentrates on the development of accuracy and speed in typing. Letters dictated to machine. Instructions given on the cutting of mimeograph stencils.
- A90. Stenography IV. Completion of *The Gregg Shorthand Manual*. Study of much correlated supplementary material. Dictation and transcription work.
- A91. Stenography V. Study of *Speed Studies* and advanced shorthand material. Much dictation of material at increasing rates of speed to develop shorthand skill. Accuracy of transcribing from shorthand notes emphasized.

- A93. Office Practice. Actual office methods and practice as well as apprentice work in various offices on the St. Paul Campus, and use of office appliances, such as dictaphone, mimeograph machine, and comptometer.

SOILS

- A1. Soils. Minnesota soils, their formation, properties, and characteristics. Soil organisms and organic matter; the relation of water to soils and plants. Farm manures, green manures, and commercial fertilizers. Treatment of lime deficient, alkali, and peat soils. Erosion and erosion control practices. Lecture demonstrations and examination of soils with discussion of practical soil problems.

VETERINARY MEDICINE

- A1. Physiology. The purpose of the course is to give an intelligent conception of the various organs and systems of the body; how they function and how they are managed for continued health and efficiency.
- A4. Elements of Bacteriology. Lectures and demonstrations of the fundamental principles underlying the science of bacteriology, with special reference to organisms which cause disease. The use of vaccines, bacterines, antitoxins, immune sera.
- A7. Veterinary Studies. The animal body in health and disease; causes, prevention, and management of disease, including common parasitic diseases.



Views on St. Paul Campus

UNIVERSITY OF MINNESOTA

AGRICULTURAL CAMPUS

SAINT PAUL

