



SUMMER
SESSION
COURSES



XL-VIII-2

1945 PRELIMINARY ANNOUNCEMENT

THE *Bulletin* OF
THE UNIVERSITY
OF MINNESOTA

This is a preliminary announcement of a tentative list of courses to be offered in the 1945 Summer Session at the University of Minnesota. This announcement is subject to revision and change without notice. Adjustments will be made to conform with the educational needs of the war and postwar program. We hope that you will read this bulletin and pass it on to any of your friends who may be interested.

The complete Summer Session Bulletin will be issued in March, and copies of that bulletin or additional copies of the Preliminary Bulletin may be obtained by addressing the Director of the Summer Session, 700 Administration Building, University of Minnesota, Minneapolis 14.

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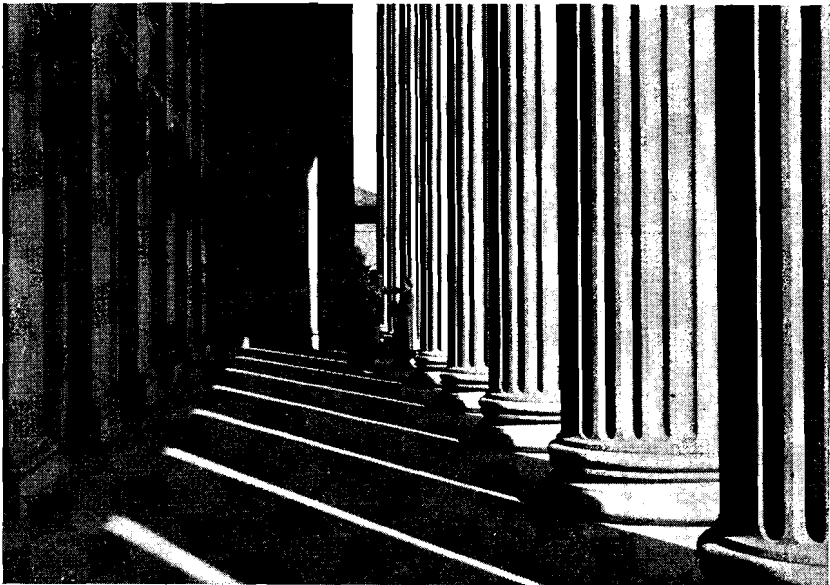
THE SUMMER SESSION FOR 1945

GENERAL INFORMATION

The University of Minnesota, located midway between the Twin Cities of Minneapolis and St. Paul, provides an ideal place to enjoy a profitable summer of study and preparation for the emergencies of the war.

On its Main Campus, situated on the north bank of the Mississippi River in Minneapolis, the University places at the disposal of the Summer Session student the unexcelled advantages of a great educational institution—its faculty, libraries, laboratories, observatory, and museums—and in addition the recreational resources of its several swimming pools, golf course, and tennis courts. These factors, plus the added cultural advantages of two large metropolitan centers, combine to offer attractions for Summer Session students that are unique with the University of Minnesota.

Courses in agriculture and home economics are given on the Agricultural Campus in St. Paul, three miles from the Main Campus in Minneapolis. The Agricultural Campus offers all the advantages



Colonnade, Northrop Memorial Auditorium

of the Main Campus, being connected with the latter by an inter-campus trolley line which gives regular service free to students enrolled for classes on both campuses. The Como-Harriet inter-urban line connects the campuses with the two cities, thus making available all their advantages. The College of Agriculture, Forestry, and Home Economics has its own library, laboratories, and recreational facilities.

DATES OF THE SUMMER SESSION

The Summer Session consists of two terms. The first term of six weeks will begin with registration Monday and Tuesday, June 18-19. Accelerated programs are continuous through both terms. Other



Buildings on the Mall

courses of study are complete in a single term. Classes will begin Wednesday, June 20, at 8:30 a.m. The first term will close Saturday, July 28.

Registration and payment of fees for the second term will close at 4:00 p.m. on Monday, July 30. Classes for this term will open Tuesday, July 31, and the Summer Session will be brought to a close on Saturday, September 1.

FACULTY

The instructional staff for the 1945 Summer Session numbers more than six hundred members. The University of Minnesota takes for granted the fact that the students planning to attend its classes expect to become acquainted with, and study under, the regular faculty and therefore many of its most outstanding scholars will be present to teach and to direct research.

LIBRARIES

Students in the Summer Session enjoy all of the library privileges of regular session students. The University of Minnesota Library is one of the finest college libraries in existence today. It includes over 1,300,000 volumes and many periodicals and pamphlets, and in scope takes in every subject in the university curriculum. Its large, airy reading rooms provide an excellent place to study, and in addition there is a separate floor with rooms for seminars and discussion groups for graduate students and faculty.

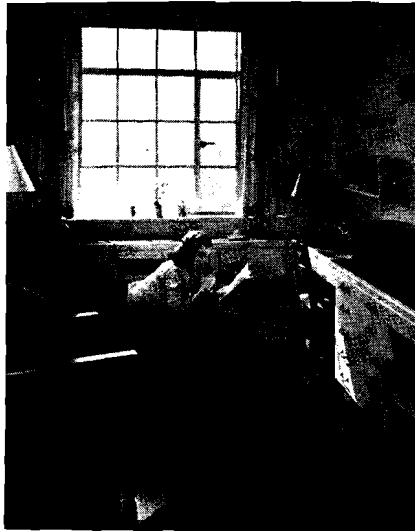
On the Agricultural Campus the library of the Department of Agriculture houses an outstanding collection of material on agriculture, home economics, and allied sciences, as well as many books of general interest. There are also several departmental libraries containing special collections of value to students.

The Minneapolis Public Library, the St. Paul Public Library, the Minnesota Historical Society, and the James Jerome Hill Memorial Library of St. Paul are also within convenient distance of either campus by streetcar or automobile.

The Library Handbook contains all necessary information regarding library hours, rules, and other matters essential to the profitable use of the library. Copies of this handbook may be had gratis upon application at the library.

LIVING QUARTERS

Ada Comstock Hall—Excellent living accommodations are provided in Ada Comstock Hall, a residence hall for women opened in September, 1940. The building, which is modern in every way, faces the Mississippi River and is adjacent to the Coffman Memorial Union. It accommodates 378 students.



Room in Comstock Hall



Porch at Sanford Hall

Reservations should be made as far in advance as possible. Application should be sent direct to Ada Comstock Hall, University of Minnesota. No application will be recorded until a completed lease is filed. This lease will hold the room until the day after the opening of the Summer Session. For additional information write the Director of Comstock Hall, University of Minnesota, Minneapolis 14.

Sanford Hall—Sanford Hall will again be open for women residents during the first term of the Summer Session. Whether or not it will be open for the second term will depend on the demand for rooms. For in-

formation write Mrs. Grace Nelson, Assistant Director, Sanford Hall, University of Minnesota, Minneapolis 14.

Department of Agriculture Dormitory—Women taking regular work during the first term of the Summer Session, either on the Main Campus or on the Agricultural Campus, may obtain rooms in Meredith Hall, Agricultural Campus. There is convenient streetcar service to the Main Campus. The dormitory contains a few single rooms; other rooms are intended to accommodate two persons. Necessary bedding is furnished.

The rates during the summer are as follows: single rooms, \$15 per term; other rooms, \$13.50 per term per occupant.

Applications for rooms, accompanied by a \$2 deposit, should be made to the office of the superintendent, School of Agriculture, University Farm, St. Paul 8, Minnesota.

Assignment of rooms will be made at the time of registration in Meredith Hall. Payment for the first term of the Summer Session must be made to the cashier at the beginning of the first week. The dormitory will be open Monday, June 18. Rooms will not be available during the second term.

During the first term of the Summer Session, residents of Meredith Hall may have access to cafeteria service at the Agricultural Campus cafeteria. This cafeteria will be open for three meals on five days of each week, Monday through Friday, and for dinner on Sunday.

For those women who prefer living off the campus there are numerous private residences and sorority houses adjacent to the University.

Pioneer Hall—The Navy has taken over Pioneer Hall to house Navy students here on the campus. It is very unlikely that the building will be open to Summer Session students.

Thatcher Hall—Thatcher Hall, providing living accommodations for thirty-six married students registered in the Graduate School, is located on the Agricultural Campus. There are both one-bedroom and non-bedroom quarters. All quarters include a dinette, kitchenette, in-the-wall bed, and a private bathroom with adjoining built-in wardrobe and closet.

Rooms are leased on a twelve-month basis, with the possibility of some of them being sublet for the Summer Session. Graduate students interested in residence at Thatcher Hall should communicate with the real estate manager, Room 12, Administration Building, University of Minnesota, Minneapolis 14, regarding application, prices, and other details.

PRIVATE RESIDENCES

The Housing Bureau, Room 118, Administration Building, Main Campus, is operated by the University for the purpose of assisting both men and women in the securing of suitable living accommodations. Students may obtain lists of approved houses upon request. The houses on these lists have been inspected by the Students' Health Service on the basis of sanitation, fire hazards, heating facilities, and other qualities that might affect the health and welfare of the student.

All students enrolling for the first time in the University are especially urged to avail themselves of the service offered by the Housing Bureau.

SUMMER RECREATION

The University of Minnesota is ideally situated for a program of healthful recreation. A definite program is planned each year to give the Summer Session student a maximum of recreational activity for a minimum of expense. The Twin Cities, with their parks, lakes, art and music centers, libraries, and museums, offer many fine attractions for the summer visitor.

Included in the recreation program are regularly arranged weekly social dances and instruction periods in social dancing, square dancing, contract bridge, and bowling. Musical features include music listening hours and a music lending library.

A number of excursions to points of historical, industrial, educational, or purely recreational interest in the vicinity of the Twin

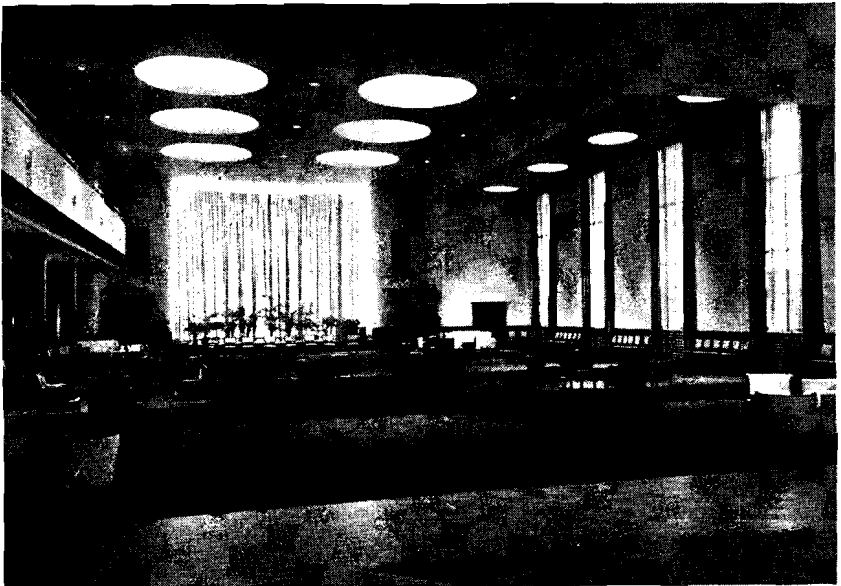
Cities also are made each summer. These tours are usually arranged for Mondays, Fridays, and Saturdays, with the cost only the necessary streetcar fare.

The physical education plant at the University of Minnesota is one of the finest in the United States. Its facilities for healthful exercise are many and varied. These may be summarized briefly as follows: Recreation Fields, an eighteen-hole golf course; three gymnasiums containing five swimming pools—Cooke Hall (the athletics building for men), the Norris Gymnasium for Women, and the Gymnasium on the Agricultural Campus; Northrop Field, which contains facilities for baseball, track, diamond ball; 25 tennis courts, and space for other sports, such as badminton, horseshoes, handball, squash, table tennis, and archery.

A program of tennis and golf tournaments as well as other competitive sports is arranged each summer.* In addition, the swimming pools with attendants and instructors in charge are available at scheduled times for men in Cooke Hall and for women in Norris Gymnasium. All of these facilities are available for both men and women and most of them with no extra charge except for towel service.

Tennis and golf tickets—Tennis tickets will be issued to regularly enrolled students of the Summer Session upon payment of a fee

* A daily sports hour is arranged at the Norris Gymnasium for Women for the enjoyment of women students; activities such as aerial darts, badminton, and table tennis will be available.



Ballroom, Coffman Memorial Union

of \$1 and presentation of the bursar's receipt for fees. Such tickets entitle the holder to 15 sessions of play. Without tickets, a charge of 25 cents per session of play is made for the use of the tennis courts. Golf tickets are issued in the same manner without charge, but a greens fee of 50 cents is charged for a single round, or ten rounds for \$4.50. Before 10:30 a.m., except Sunday, and after 5:00 p.m. the charge will be 35 cents per round. Application should be made at the golf course clubhouse.

SPECIAL FEATURES

One of the principal features of the Summer Session program is the series of weekly convocation addresses by speakers of more than usual prominence. Scientists, literary figures, artists, and observers of national and international affairs are among those who visit the campus to address the Summer Session audiences. In addition, an almost daily series of lectures by faculty members and invited guests adds to this feature of the program.

Performances of legitimate drama also have become an outstanding feature of the Summer Session. The University Theatre, a university dramatic student organization, functions throughout the summer and demonstrates the success attainable with student actors. For these offerings the very best of stage equipment and facilities is provided.

Another weekly feature which has proved increasingly popular is the Newsreel Theater, under direction of the Visual Education Department of the University. Motion pictures of current events, travel pictures, and educational films of various kinds form the subject matter of the theater.

STUDENTS' HEALTH SERVICE

The Students' Health Service conducts a health program during the Summer Session on the same basis as any other quarter of the year. A dispensary and hospital are maintained exclusively for students. The same staff of physicians, dentists, and nurses is on duty as during the rest of the year. The students' hospital provides hospitalization whenever necessary for students. Home calls are made in case of emergency.

COFFMAN MEMORIAL UNION

The Coffman Memorial Union building has been designed to provide for the social life of university students. Summer Session students will find it a pleasant respite from the rigors of classroom activities. All students are eligible to enjoy the informal, friendly spirit which dominates the Union. Quiet and comfortable lounges,



Outside Stairway, Coffman Memorial Union

colorful dining rooms, and interesting recreation rooms make the Union the natural "living room" for members of the university family. Here spacious, airy rooms overlooking the broad Mississippi provide a pleasant setting for informal social and recreational experiences.

Recreation facilities—Popular with men and women students are the sixteen bowling lanes and the modern billiard room for recreation; the large cafeteria and interesting fountain grille for dining; the men's, women's, and coeducational lounges for resting and studying; the spacious open terrace for lounging or dining; the University Post Office and the neighboring Union Bookstore, and barber and beauty shops for convenient utilitarian services.

The beautiful ballroom provides the background for the numerous informal dancing parties and dance instruction sessions that are a part of the summer recreational program. Upon occasion some of the dancing and social hour programs are conducted on the outdoor terrace.

Union program—The Union provides a diversified program of social, recreational, and cultural activities designed to appeal to summer students.

Dance instruction in folk and modern dancing; instruction classes and tournaments in bowling, billiards, and table tennis; social hours, parties, musical programs, and art exhibits are available to students without charge.

Dining facilities—For dining purposes the Union offers a variety of accommodations. The cafeteria, luncheonette, and fountain grille feature rapid service. Well-prepared food, moderate prices, and quick, efficient service typify all Union dining accommodations.

UNIVERSITY FARM UNION

The University Farm Union located in Old Dairy Hall will be open throughout the Summer Session for undergraduate and graduate students on the Agricultural Campus. The facilities include a coeducational lounge, women's lounge, fountain grille, men's lounge, game room, and a kitchenette for use in social group gatherings.



Lecture in Fine Arts Room, Coffman Memorial Union

ADMISSION AND REGISTRATION

ADMISSION

The courses of the Summer Session are open to all qualified high school graduates. *Students with previous college work who wish to attend only for the Summer Session and not as candidates for degrees may do so without filing application or credits provided they are in good standing.* Such students will be classified as special students for Summer Session only. Anyone who expects to become a candidate for a degree at the University of Minnesota must file an application for admission and a transcript of credits covering high school and previous college work with the Director of Admissions of the University of Minnesota. *Students who have had no previous college work must satisfy admission requirements to attend Summer Session.* Persons of maturity (over 24 years of age) whose preparation does not meet the entrance requirements may attend as adult special students on approval of the dean of the college or school concerned.

Students should consult the General Information Bulletin for detailed information concerning admission to the various colleges. The General Information Bulletin and college bulletins describing curricula offered may be obtained by inquiry to the Office of Admissions and Records, University of Minnesota, Minneapolis 14.

REGISTRATION

In order that the short terms may prove of maximum value, and that the work of the courses may not be interfered with by late entrants, students are urged to complete their registration, including payment of fees, on the days set aside for registration.

The regular registration days are:

For the first term	Monday, June 18, 8:30 a.m. to 4:00 p.m. and Tuesday, June 19, 8:30 a.m. to 4:00 p.m.
For the second term	Monday, July 30, 8:30 a.m. to 4:00 p.m.

Late registration fees are charged for the first term as follows for registration or payment of fees on:

Wednesday, June 20	\$2.00
Thursday, June 21	3.00
Friday, June 22	4.00
Monday, June 25	5.00

No registrations are allowed for the first term after Monday, June 25, without the special permission of the dean of the school or college concerned, and the payment of the late registration fee of \$5.

The late fees for the second term are as follows for registration or payment of fees on:

Tuesday, July 31	\$2.00
Wednesday, August 1	3.00
Thursday, August 2	4.00
Friday, August 3	5.00

No registrations will be accepted for the second term later than Friday, August 3, without the special permission of the dean of the school or college concerned, and the payment of the late registration fee of \$5.

No provision is made for allowing exemption from the late registration fees to those who are unable to reach the University during the regular registration days.

The University of Minnesota reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

Candidates for admission to all colleges except the College of Agriculture, Forestry, and Home Economics will register in the Coffman Memorial Union Ballroom. Candidates for admission to the College of Agriculture, Forestry, and Home Economics will register at 203d Administration Building, Agricultural Campus.

CHANGES IN REGISTRATION

After a student's registration has been accepted by the recorder any change must be approved by the Students' Work Committee or the dean of the college in which the student is registered. *Only in exceptional cases will any change be made after classes have begun.*

FEEs

The following fees are payable each term by each full-time student at the time of registration and must be paid before registration is complete:

Tuition fee (per term)	\$25.80
Incidental fee‡ (per term)	5.25
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Total fee (per term)	\$31.05
General deposit	\$ 2.00
Forestry fees:	
Dormitory and dining hall at Itasca Forest and Biological Station (first term)	\$ 5.00

The following fees are payable each term at the time of registration by each student taking four credits or less and must be paid before registration is complete:

Part-time tuition fee (4 credits or less) (per term)	\$15.80
Incidental fee‡ (per term)	5.25
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Total fee (per term)	\$21.05
General deposit	\$ 2.00

NOTE—Regular quarter fees as provided during the academic year will be charged in Medicine, Dentistry, Dental Hygiene, Law, and Nursing. In all other colleges the regular Summer Session fees as listed above will be charged.

In addition, certain courses carry a fee as indicated in the description of those courses in the regular bulletin.

Graduate students who have completed all of their graduate work with the exception of their theses will be allowed to register in the Summer Session for *thesis work only* upon the payment of \$5 tuition and \$2 deposit.

Charges for lockers, laboratory breakage, library fines, etc., will be deducted from the \$2 deposit and the balance will be refunded by mail after the close of the term.

AUDITORS

Fees for auditors are the same as for students registered for credit. Permission to attend classes as auditors may be granted by the dean of the college or school with the consent of the department concerned. The procedure for registration as auditor is the same as for registration for credit, except that "auditor" should be indicated on the registration sheet. It is expected that auditors will be registered in at least one course for credit, but this regulation may be waived in exceptional cases.

CREDIT

Credit is administered on the following basis: one quarter credit usually requires not less than 10 lecture or recitation periods (2 per week for a summer term) requiring two hours of preparation each

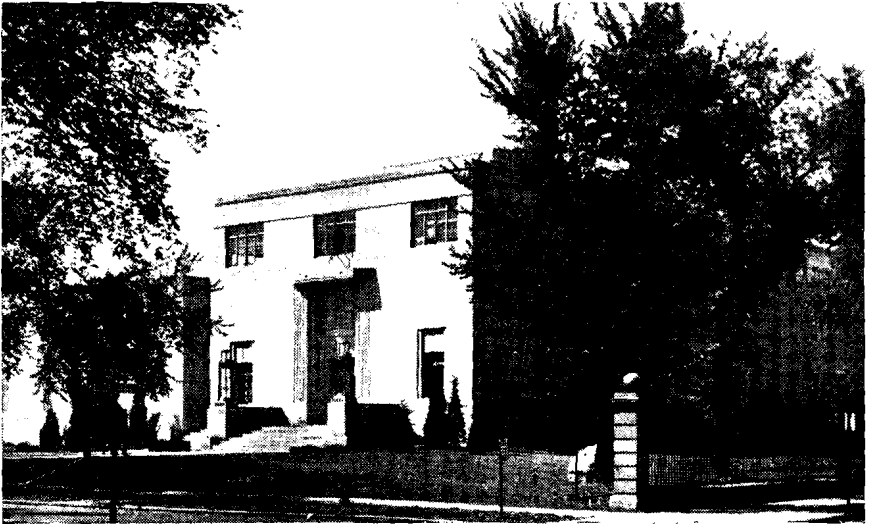
‡ An incidental fee of \$5.25 per term is charged each student for which the student receives the privileges of the Coffman Memorial Union, the Health Service, the Summer Session Daily including the Official Daily Bulletin, and the university post-office service.

or not less than 20 periods of laboratory work requiring one-half hour of preparation each; or not less than 30 hours of laboratory work with no preparation. Courses carrying two or more units of credit require corresponding multiples of these amounts.

AMOUNT OF WORK

A maximum of 9 credits or two 5-credit courses is considered a full program for either term. Registration for a greater number requires special permission from the Students' Work Committee or the dean of the school or college in which the student is registered.

Examinations are held at the last scheduled class hour for each course.



Minnesota Museum of Natural History

Courses of Study

More than 750 subjects of study will be offered during the two terms of the 1945 Summer Session. Students confronted by the need of gaining a better understanding of the problems of a world at war and of the coming peace and postwar reconstruction will find many helpful offerings in this bulletin, listed under numerous departments. Teachers in particular may find in these courses opportunities for a reorientation of their knowledge and ideas that will contribute to realistic teaching in their own classrooms.

GRADUATE SCHOOL

The Graduate School of the University of Minnesota presents unusual opportunities for research in many fields. The University's libraries, laboratories, and clinics, supplemented by the libraries, hospitals, and other institutions in the Twin Cities, offer facilities for the graduate worker seldom found under ordinary conditions.

The Graduate School combines in a single organization all the activities of the schools and colleges of the University in so far as they relate to advanced instruction offered for the higher degrees of master of arts, master of science, and doctor of philosophy.

The privileges of this school are in general open to those who have received Bachelor's degrees from accredited colleges and universities and are adequately prepared for graduate work in their chosen fields of study.



River Flats, University of Minnesota

Students must make application for admission to the Graduate School at least two weeks before the opening of the Summer Session which they expect to attend, in order to avoid delay and possible penalty for late registration. All applications for admission, except for graduates of the University of Minnesota, must be accompanied by an *official transcript* in duplicate of all undergraduate work, including degrees earned, and by a single official transcript of all graduate work completed. In certain departments, such as those conducting clinical or laboratory work, it will be necessary for students to check individually with the head of the department concerned as well as with the Graduate School office before their application for admission may be approved. In any case, admission to the Graduate School does not necessarily imply admission to a given major department, and students, therefore, before their arrival at the University, should secure assurance either from the Graduate School or directly from the department concerned that they are adequately prepared and will be accepted as majors in their chosen field.

A more detailed statement of the requirements and work in the Graduate School will be found in the regular Summer Session Bulletin and the Bulletin of the Graduate School, copies of which may be obtained by writing to the Director of Admissions and Records, University of Minnesota, Minneapolis 14, Minnesota.

A TRAINING PROGRAM IN VOCATIONAL DIAGNOSIS AND COUNSELING FOR REHABILITATION WORKERS

There is considerable evidence that the need for rehabilitation counselors is going to be great, due to war casualties, industrial misplacement of workers, and other causes. Industry will face the problem of absorbing and rehabilitating returned veterans. The Rehabilitation Division of the Veterans' Administration will need many counselors in their work. Every hospital which deals with patients who cannot return to their regular jobs should have a rehabilitation counselor. Every community of any size will have citizens who for one reason or another will need rehabilitating and a rehabilitation program will more than pay its way in the savings in relief benefits that will accrue from real rehabilitation work. It is obvious that the need is great and will be even greater as time goes on. It is also apparent that no one course of training is going to prepare adequately a counselor to meet the many types of counseling jobs that will be open. Therefore, the Rehabilitation Counseling Program at the University of Minnesota has been set up with "flexibility" as the keynote of the curriculum. The plan is to "tailor make" the course of study for each student who enters this program. By so doing, each student will be trained for the particular type of rehabilitation counseling work he plans to enter. If he is going to enter industry, one

program will be prepared; if it is a municipal project he is entering, a different program of courses will be worked out; and so on for the various types of counseling jobs. This being true, no specific course of study has been prepared. The particular course of study a student follows will be worked out by the student and his adviser, with the student's needs and future plans being the point of reference. Summer Session students interested in rehabilitation counseling should write for the bulletin, "Vocational Diagnosis and Counseling for Rehabilitation Workers," or to Mr. H. P. Longstaff, Co-ordinator, 112 Psychology Building, University of Minnesota, Minneapolis 14, Minnesota.

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

The College of Science, Literature, and the Arts offers a wide range of selection to the Summer Session student. Courses have been selected from the regular curriculum with especial attention to the needs and interests of the college and for preprofessional students, as well as for the needs of the war emergency.

The course of study in the College of Science, Literature, and the Arts leads to the degree of bachelor of arts or bachelor of science.

For general information regarding requirements for admission as regular or adult special students, for general rules and regulations, and for the requirements for degrees in the different curricula offered by the college, students should consult one of the administrative officers or the complete Bulletin of the College of Science, Literature, and the Arts, copies of which may be obtained by writing to the Director of Admissions and Records, University of Minnesota, Minneapolis 14, Minnesota.

THE CREATIVE ARTS

The University offers a rich and varied program of courses in many different fields of the creative arts. Depending on the particular interests of the student, practical or theoretical work may be taken in the several departments specializing in those problems.

The School of Architecture offers courses in architectural design, freehand drawing, painting, and modeling.

The Department of Art Education offers courses in design and studio practice, with particular emphasis on the development of individual abilities and teaching skills.

Introductory courses in art appreciation and also more specialized work in the history and criticism of art are offered by the Department of Fine Arts, with a view toward integrating the creative arts with the student's general cultural and historical background.

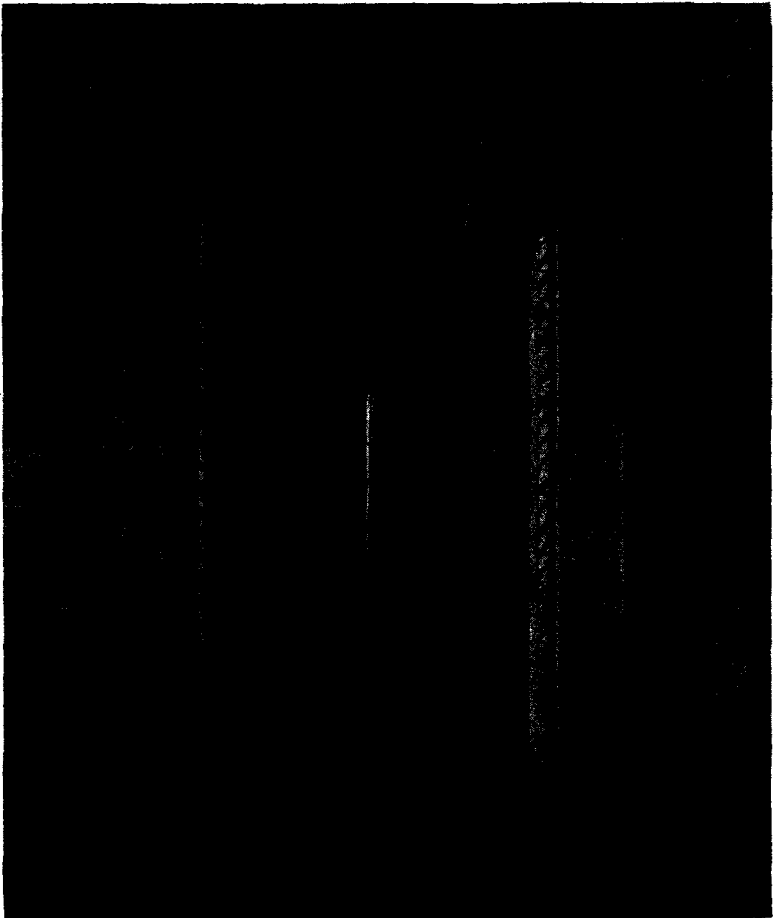
In the Division of Home Economics, courses in related art are planned to integrate art with home economics training, and to de-

velop discriminating taste in connection with the home and family life.

Practical skill in drawing and representation, particularly in technical and scientific work, may be developed in a number of courses offered by the Department of Drawing and Descriptive Geometry.

The University Gallery offers a number of important exhibits during the Summer Session, and its extensive reference and pictorial material will be available for individual and class use.

To meet the needs of the present war and postwar emergency programs a number of special curricula have been laid out in the College of Science, Literature, and the Arts for professional training in the arts hitherto not offered by the University. These include pre-



Doorway, Murphy Hall

liminary work in occupational therapy given in conjunction with the Medical School, a four-year course in commercial art, as well as photography and professional studio art. Further information on these curricula may be had by writing directly to the Director of the Summer Session or to the Department of Fine Arts, University of Minnesota, Minneapolis 14, Minnesota.

INSTITUTO DE ESTUDIOS HISPANO-AMERICANOS

Plan—During the first term of 1945, the Summer Session again will offer an intensive course in practical spoken Spanish, designed to meet the needs of three groups of students: (1) those who have completed a preliminary course in beginning Spanish; (2) those who have the equivalent of at least beginning and intermediate Spanish (i.e. Courses 1, 2, 3, 4) and, in particular, high school teachers who may wish to increase their facility in conversational Spanish; and (3) those who may wish to increase their knowledge of things Latin American. Classes in Latin-American history, geography, literature, culture, and music will be taught entirely in Spanish by native teachers.

Spanish House—All the activities of the *Instituto* will be centered in the *Centro Hispano Americano* or Spanish House, conveniently located. Spanish will be spoken exclusively under the guidance of native teachers, not only in the organized groups but also during meals and at all informal gatherings. In addition to the regular classes, there will be programs of various sorts in Spanish, such as lectures, movies, games, songs, dances, etc. All students registered in the *Instituto* will be required to live at the Spanish House. However, students living in the Twin Cities will not be required to rent rooms in the house, but they will be required to take their meals there and to remain at the house until the activities of the day are over.

INSTITUTE OF TECHNOLOGY

The Institute of Technology, established in 1935, embraces the College of Engineering and Architecture, the School of Chemistry, and the School of Mines and Metallurgy. For the Summer Session student interested in these fields the resources of its laboratories and the services of some of its ablest faculty members will be available.

Included in the curriculum of the College of Engineering and Architecture will be courses in architecture, freehand drawing, painting and modeling, civil engineering, drawing and descriptive geometry, geology, mathematics and mechanics, and mechanical engineering. In the School of Chemistry, inorganic chemistry, analytical chemistry, organic chemistry, physical chemistry, and chemical en-

gineering will be offered again this summer. Sufficient graduate courses in chemistry are now offered in the Summer Session so that students may acquire a Master's degree in this field by attending in the summer only. Students entering the Institute of Technology with a deficiency in solid geometry (Drawing 10) have an opportunity to remove this deficiency during the first term of the Summer Session preceding their entrance into the University in the fall.

SPECIAL NOTICE

An accelerated program of study has been adopted which by full utilization of the summer includes four academic quarters in the year and makes graduation possible in three calendar years.

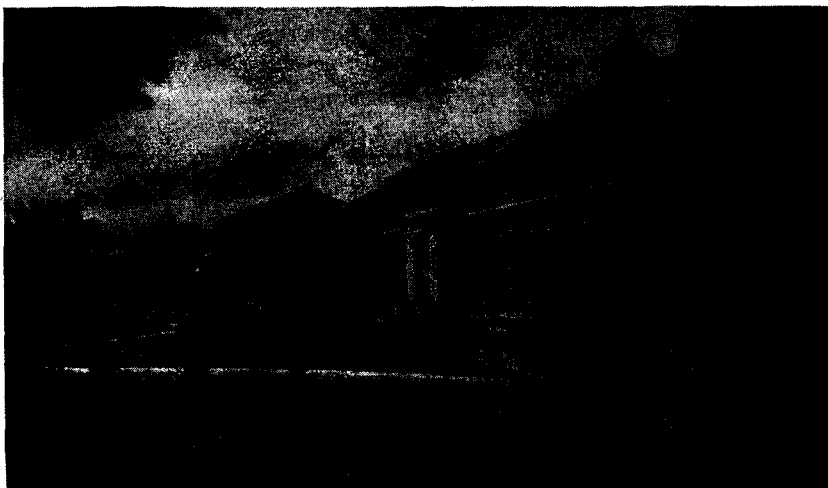
The accelerated program may not be continued beyond the Summer Session of 1945.

For the duration of the war it is of utmost importance that students should enter the Institute of Technology as early as possible and finish their courses in a minimum of time.

It is also more important than ever that students entering the Institute of Technology shall have completed higher algebra and solid geometry.

COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

The College of Agriculture, Forestry, and Home Economics offers a limited number of courses to college undergraduates interested in these fields. It offers a larger number of courses from most of the agricultural divisions for graduate students. For high school teach-



Buildings on the Agricultural Campus

ers of agriculture there are opportunities for advanced courses in many of the agricultural fields which are supplementary to the courses offered by the Department of Agricultural Education (see College of Education, page 50).

The courses offered by the Home Economics Division are designed primarily for advanced undergraduate students and qualified graduate students. The courses listed represent the fields of foods and nutrition, related art, family relationships, textiles and clothing, and home economics education.

Graduate study—Opportunity is offered in many divisions of the College of Agriculture, Forestry, and Home Economics for graduate study either for the first six-week term of the Summer Session or for the entire session of eleven weeks. In some divisions both courses and thesis work may be carried for the entire eleven weeks. In other divisions thesis or course work may be pursued only through the first term. Information concerning graduate work during the summer in any division may be obtained from the head of the division. Thesis and problem work is correlated in most divisions with the work in the Experiment Station, and the facilities offered during the summer are in most divisions especially attractive because of the field work possible only at that time.

BIOLOGICAL STATION OF THE UNIVERSITY OF MINNESOTA

If there are a sufficient number of advance registrations, the Biological Station at Itasca Park will offer a limited curriculum during the second term of the Summer Session, which begins on July 30.

Courses in botany, wild life, vertebrate zoology, pathology and possibly entomology will be offered. Prospective students should communicate with the Director of the Biological Station at Cloquet, Minnesota, at their earliest convenience, indicating the line of study in which they are interested. More detailed information will be furnished in a special circular dealing with the Biological Station, which will be issued in the spring quarter. Application for registration must be filed with the Director of the Summer Session at Minneapolis 14, Minnesota, not later than June 1, 1945.

MEDICAL SCHOOL

The University of Minnesota Medical School is known as one of the leading centers for medical instruction and training in the United States. Its affiliation with the Mayo Foundation and its location in the Twin Cities, one of the principal medical centers of the Northwest, provides the University of Minnesota Medical School with unusual opportunities for the Summer Session student.

For the duration of the war two terms of the Summer Session make up a regular quarter of instruction in the Medical School with

required attendance of all medical students. Special Summer Session students may be admitted to certain of these classes as well as to special electives and graduate courses which are offered by the various departments.

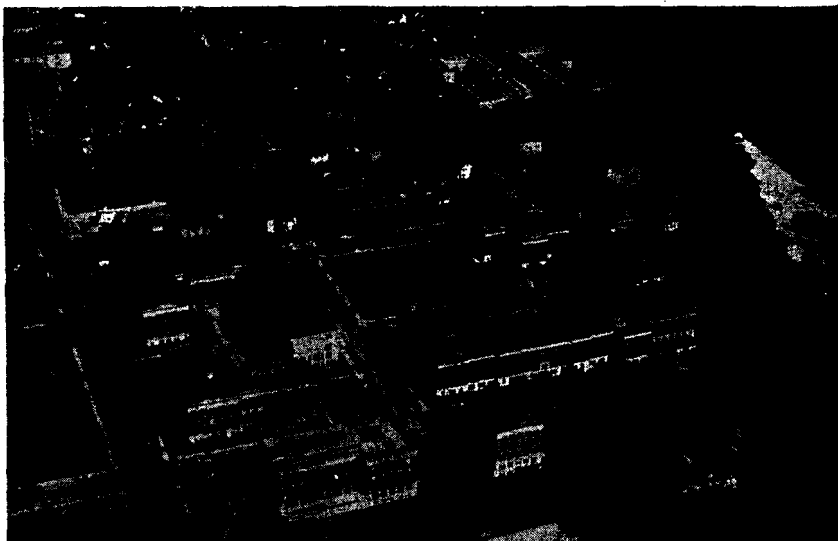
Training programs for the following groups of professional health workers are offered under the Medical School: physicians, nurses, medical and X-ray technologists, medical officers of health, public health nurses, and public health engineers. Courses in all of these fields are offered during the Summer Session. For more detailed information regarding courses, fees, etc., consult the regular Bulletin of the Summer Session.

SCHOOL OF NURSING

The School of Nursing offers undergraduate courses leading to the degrees of bachelor of science and graduate in nursing. During the Summer Session it will also offer courses in ward administration, personnel work, clinical instruction, and fundamentals of administration in schools of nursing. During two weeks of the first term a Workshop in Nursing Education will be offered. The particular aspects of nursing education to be studied in the workshop will be announced in the regular Bulletin of the Summer Session.

SCHOOL OF PUBLIC HEALTH

During the 1945 Summer Session the School of Public Health will offer a broad program of study for professional personnel at both the undergraduate and graduate levels extending through both terms



Air View of Medical Group, Minneapolis Campus

of the Summer Session. Courses will be available for public health nurses and for physicians or other professional personnel who are studying toward a special professional degree or certificate in public health work. Courses will be available for public health nurses engaged in, or preparing for, supervisory work, as well as for those who are seeking an introduction to the field. The basic courses for public health nurses will again be divided between the two summer terms. A special course will be offered the first term for nurses and teachers covering school and community health education problems and practices and the co-ordination of health service with the teaching of health.

A two-week Workshop in Supervision in Public Health Nursing will be offered during the first term.

MEDICAL TECHNOLOGY AND X-RAY TECHNOLOGY

The required four-year curricula in medical technology and X-ray technology lead to the degree of bachelor of science.

Several of the required courses in medical and X-ray technology are given during the Summer Session. (See special bulletin on Medical Technology.) Before registering in Summer Session, students should consult special advisers in the Medical Technology Office, M-410, University Hospitals.

PHYSICAL THERAPY

The twelve-month course for physical therapy technicians leads to a certificate in physical therapy. Several of the courses in this curriculum are offered in the Summer Session. For information relative to admission requirements, programs, etc., write to the Physical Therapy Office, W-300, University Hospitals, University of Minnesota, Minneapolis 14.

SCHOOL OF DENTISTRY

The School of Dentistry will continue on the accelerated plan by which students are required to attend during the summer, and registration on June 18 and 19 will be for the entire summer quarter. For complete, detailed information regarding the work offered and fees charged, see the regular Bulletin of the Summer Session.

COLLEGE OF PHARMACY

The College of Pharmacy of the University of Minnesota has decelerated its course of study from three years of four quarters each to four years of three quarters each. This program went into effect for all classes beginning the fall quarter, 1944-45.

Those students who are desirous of completing some or all of the academic subjects included in the first year of the pharmacy

curriculum, (q.v.), may do so by registering for such courses during the Summer Session.

Those who wish to engage in study at the graduate level with a major in Pharmaceutical Chemistry or Pharmacognosy during the summer should communicate with the Office of the Dean of the Graduate School, University of Minnesota, Minneapolis 14. Research laboratories will be open during the summer for research work.

The dean of the College of Pharmacy will be glad to confer with any prospective pharmacy student or with high school principals.

COLLEGE OF EDUCATION

Educational leaders now are working toward needed adjustments in the schools and colleges for the postwar period. In the 1945 Summer Session, one of the main purposes of the College of Education will be to give educational workers as much assistance as possible in meeting their urgent problems and in planning for the improvement of educational services. The preparation of teachers and school administrators must be advanced; changes in course content and curricula must provide for better general education and vocational training; better guidance programs must assist in the selection of needed workers and in the personal and social development of all students. The schools must become more responsible and effective agencies for leadership in American democracy.

Summer courses in guidance, curriculum planning, methods, administration, educational psychology, and philosophy of education will include discussions of current practical school problems. Offerings in agriculture, industrial education, physical education and health, music, and art will meet the needs of teachers in these areas, recognizing special adjustments which the postwar period will necessitate. A workshop in home economics education will emphasize curriculum problems.

The first term offerings also will include another session of the workshop in higher education and teacher-training problems, which has been provided at the University of Minnesota for the past several summers.

For those returning to teaching during the emergency, provision will be made at both elementary and secondary school levels for refresher courses and for observation of demonstration classes. Persons interested in renewing certificates are urged to check their particular requirements with their state department of education, and then write to the Office of the Dean, College of Education, University of Minnesota, Minneapolis 14, or come to 202 Burton Hall for a con-

ference concerning the best selection of summer refresher work. Courses for certificate renewals will be given in both summer terms, with wide selection available. Teachers who can complete a minor or a major in a shortage field, such as mathematics or science, should do so in order that they may help meet the urgent needs of the high schools for more teachers in these subjects.

Courses in education subjects, regularly needed for the Bachelor's degree and advanced degrees for special certifications, will be given in both terms of the Summer Session. Undergraduate and graduate advisers will be available. Men and women interested in administrative work are urged to attend this summer to study for the principal's or superintendent's certificate, so that they may fill an increasing demand for school administrators.

Undergraduate students, both elementary and secondary teachers in training, are urged to complete their degree requirements as soon as possible, so that they may take the places of those called from educational jobs to the armed services and to war industry. The dean's office, 202 Burton Hall, will be glad to answer questions about accelerated programs in the College of Education.

Present and prospective educational workers reading this preliminary announcement are urgently requested to send in to the College of Education any questions they may have about the 1945 Summer Session offerings or suggestions of ways in which we may better serve the war and postwar needs of the schools. Other plans for courses and workshops not yet definitely determined may be included in the final announcement to be issued later in the year.

PHYSICAL EDUCATION FOR WOMEN

1945 FITNESS EMPHASES

The role of physical education in the war and postwar school programs is an extremely important one. As much of the success of our physical education program depends upon the selection and training of the teachers who will take an active part in the development of these programs, the Department of Physical Education for Women has planned a series of courses primarily concerned with presenting the philosophy and curriculum of a well-rounded physical education program for the elementary and secondary school. By offering these courses, the department is especially trying to assist the untrained teacher who has entered the field since the war to obtain the needed training to continue in this field and assist the developing of peacetime programs. The summer curriculum is also planned to encourage the trained teacher who has re-entered the field since the war to enroll in courses of a refresher nature.



Swimming Pool, Norris Gymnasium for Women

Activity courses which have been planned to particularly discuss problems relating to content and procedures of a wartime and peacetime physical education program are:

5su	Methods of Coaching and Conducting Organized Games for the Junior and Senior High School
13su	Tumbling, Stunts, and Pyramids for Junior and Senior High Schools
37su	Individual and Dual Games
63su	Technique of Teaching Folk Dancing
64su	Technique of Teaching Gymnastics
73su	Technique of Teaching Rhythm

Theory courses which have been planned to meet problems relating to the philosophy, curriculum, and evaluation of the wartime and peacetime physical education program are:

52su	Principles and Curriculum of Physical Education
84su	Wartime Problems of the Small Schools
113Esu	Physical Education in the Elementary School
116Esu	Problems in Physical Fitness

In addition to securing help with existing problems in the field of physical education, credit may be earned on one of the following professional sequences:

1. A master of education degree. The entire curriculum of forty-five credits may be taken in Summer Sessions. A necessary prerequisite is the equivalent of an undergraduate major.
2. A major in physical education. Courses essential to the four-year major which leads to the degree of bachelor of science are offered in the first term of the Summer Session.

3. A minor in physical education. Those who have met the requirements for the nine-quarter-credit endorsement have thereby met 9 of the 26 credits required for a minor in this field.
4. A nine-quarter-credit state teaching endorsement. It is possible to meet this endorsement entirely in the first term.

COLLEGE PHYSICAL EDUCATION REQUIREMENT

Students working for a degree in a college where there is a physical education requirement may choose from the following activity courses:

7su	Tennis for Beginners
8su	Golf for Beginners
13su	Tumbling, Stunts, and Pyramids for Junior and Senior High Schools
33su	Intermediate and Advanced Swimming

The University of Minnesota has featured flexibility of graduate work in relation to individual professional interests and needs. Work leading to the degree of master of education is administered by the College of Education.

All particulars relating to these curricula may be secured by writing to the Department of Physical Education for Women, University of Minnesota, Minneapolis 14, Minnesota.

PHYSICAL EDUCATION FOR MEN

MASTER OF EDUCATION DEGREE

The University offers an opportunity for students to take graduate work in physical education and to earn a master of education degree in this field. A five-year curriculum designed to prepare students for administrative and teaching positions in the various phases of physical education, upon satisfactory completion of which the master of education degree is received, is now in operation.

Transfer students and those who have taken work in physical education at the University of Minnesota may obtain this degree by completing a minimum of forty-five credits of work, provided their undergraduate training in physical education is comparable to that offered at the University at the present time. A number of courses that can be applied toward this advanced degree will be offered during both terms of the Summer Session.

BACHELOR OF SCIENCE DEGREE

The Department of Physical Education for Men also offers a four-year curriculum which leads to a bachelor of science degree. This course prepares men to teach physical education in elementary and secondary schools and offers a good background for athletic coaching and other related activities. Courses applying toward this degree and toward fulfillment of the state requirements for teaching physical education will be offered in both terms of the Summer Session.

Because of present circumstances, no definite plans have been made for offering professional courses. Courses will be offered on both the undergraduate and graduate levels if there is sufficient demand for them. All people who contemplate attending summer school to take major or minor work in physical education are asked to write to the Department of Physical Education for Men, University of Minnesota, Minneapolis 14, Minnesota.

In the case of courses which are not formally taught, it will be possible for students to do independent study under advisers and to take comprehensive examinations for credit.

INSTITUTE OF CHILD WELFARE

Unusual need exists for nursery school and child development workers because of the heavy demands created by the employment of mothers in war industries. The shortage of kindergarten and primary teachers is also great now and is increasing. Hence, the summer courses offered by the Institute of Child Welfare will be designed both to prepare workers in these fields and to refresh the knowledge and training of those with previous experience.

In addition to the regular program of standard courses for undergraduate and graduate students, the Workshop in Childhood Educa-



Children in the Nursery School, Child Welfare Institute

tion and Child Development, which was so successful last year, will again be offered in the first term. The Nursery School and Kindergarten will be in operation during the first term in order to provide observation and directed teaching facilities.

WORKSHOP IN CHILDHOOD EDUCATION AND CHILD DEVELOPMENT

This workshop will carry nine credits and will be a full program for six weeks open to fifty applicants. Each student will attend either C.W. 150 (Ed.C.I. 130) Problems of Childhood Education (3 credits), a lecture course on modern developments in primary education, or C.W. 185, Children in the War and Postwar Period (3 credits) a lecture course on the special problems of the care and education of young children in the emergency. For the remaining six credits the students will be in a workshop divided into special interest groups, but also working as a whole. Opportunities for independent study, conferences, observations, and group work under supervision will be provided.

Library facilities and workrooms in Pattee Hall and observational facilities in the Nursery School and Kindergarten of the Institute of Child Welfare, and in local settlement houses, child care centers, and the Tuttle Demonstration School, will be available.

The workshop will be very practical, with every attempt made to present up-to-the-minute material of value both to the working teacher and to the teacher who has been out of the field for some time.

SCHOOL OF BUSINESS ADMINISTRATION

Admission—For admission to the School of Business Administration a student must have satisfied the requirements of one of the two-year prebusiness courses, either in the College of Science, Literature, and the Arts, the College of Agriculture, Forestry, and Home Economics, or the Institute of Technology. A student must have a minimum of 90 credits with one honor point per credit or a smaller number of credits determined as follows: For every five honor points in excess of one per credit, the number 90 is diminished by one.

Special students—High school graduates who have reached the age of twenty-four and can furnish evidence to the effect that they have had business experience in an executive capacity may be admitted as special students.

Students in other schools or colleges of the University—Regularly enrolled students in other schools or colleges of the University may be admitted to such courses in the School of Business Administration as are authorized by the faculties of the School of Business Administration and the school or college concerned.

LIBRARY INSTRUCTION

The Division of Library Instruction offers two programs for students preparing for librarianship as a career:

1. Courses qualifying students for positions as teacher-librarians in smaller schools.
2. Courses leading to the bachelor of science degree for students seeking full-time library positions in school, college, and public libraries.

Candidates for a degree in library instruction must have completed at least three years of college work, and preferably should have received their Bachelor's degree. Courses in library instruction are not open to students with less than two years of college work.

Students in Library Instruction are regularly enrolled in the College of Science, Literature, and the Arts, or the College of Education, and must meet the admission requirements for those colleges. Forty-five credits in library instruction are required for the bachelor of science degree. Under certain conditions, students not meeting admission requirements may be enrolled as special students, upon recommendation of the director of the Division of Library Instruction.



Main Gate, University of Minnesota

Program

This program is subject to change without notice.

EXPLANATION OF COURSE NUMBERS

Courses 1 to 49 carry credit in the Junior College.

Courses 50 to 99 carry credit in the Senior College.

Courses 100 to 199 carry Senior College credit and graduate credit for those registered in the Graduate School.

Courses 200 and above are open only to those registered in the Graduate School.

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

ANTHROPOLOGY

FIRST TERM

42su	The Growth of Culture	Mr. Cline
118su	Indian Civilisations of Latin America	Mr. Cline
122su	Problems in Anthropology	Mr. Cline

ASTRONOMY

FIRST TERM

11su	Descriptive Astronomy	Mr. Luyten
13su	Stellar and Practical Astronomy	Mr. Luyten

SECOND TERM

20su	Astronomy for Navigation	Mr. Luyten
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BOTANY

FIRST TERM

4su	General Botany	Mr. Abbe
197su	Problems	Arranged

SECOND TERM

5su	General Botany	Mr. Sharsmith
198su	Problems	Arranged

CLASSICS

FIRST TERM

1-3su	Review of Elementary Latin	Mr. Heller
42su	Greek Mythology	Mr. Heller
171su	Independent Reading Course	Mr. Heller
241su	Graduate Seminar	Mr. Ogle

ECONOMICS

For courses in Economics, see School of Business Administration offerings listed on page 56.

ENGLISH

FIRST TERM

Courses in Literature

23su	Introduction to Literature	Mr. Hessler
39su	Twentieth-Century Literature	Arranged
55su	Shakespeare	Arranged
56su	Shakespeare	Mr. Dunn
73su	American Literature	Mr. McDowell
75su	Chaucer	Arranged
100su	Old English	Arranged
105su	Eighteenth-Century Poetry	Mr. Hillhouse
110su	Romantic Poets	Mr. Beach
113su	American Short Story	Mr. McDowell
121su	Interpretation of Poetry	Mr. Warren
123su	Technique of the Novel	Mr. Beach
129su	Modern Drama	Mr. Hillhouse
136su	Advanced Shakespeare	Arranged

Courses in Composition

4su	Freshman Composition	Arranged
5su	Freshman Composition	Arranged
6su	Freshman Composition	Arranged
27su	Advanced Writing	Arranged
28su	Advanced Writing	Arranged
103su	Creative Writing	Mr. Warren

SECOND TERM

Courses in Literature

55su	Shakespeare	Arranged
74su	American Literature	Mr. Flanagan
109su	Romantic Poets	Miss Jackson
117su	American Essay	Mr. Flanagan
150su	Victorian Poets	Arranged
151su	Recent Poetry	Miss Jackson

Courses in Composition

4su	Freshman Composition	Arranged
5su	Freshman Composition	Arranged
6su	Freshman Composition	Mrs. Phelan and arranged
28su	Advanced Writing	Mrs. Phelan

ENGLISH FOR THE INSTITUTE OF TECHNOLOGY

SUMMER QUARTER

4su	Freshman Composition	Arranged
5su	Freshman Composition	Arranged
6su	Freshman Composition	Arranged

FINE ARTS

FIRST TERM

1su	Introduction to Modern Art	Mr. Schmeckebier
157su	Baroque Art: The Classic Tradition	Mr. Schmeckebier

SECOND TERM

3su	Introduction to Renaissance and Baroque Art	Mr. Schmeckebier
159su	Baroque Art in Holland	Mr. Schmeckebier

GEOGRAPHY

FIRST TERM

53su	Historical Geography of North America	Mr. Brown
71su	Geography of North America	Mr. Dicken
101su	Geography of Europe	Mr. Dicken
110su	Geography of South America	Mr. Brown

SECOND TERM

11su	Human Geography	Mr. Davis
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GEOLOGY AND MINERALOGY

FIRST TERM

1su	General Geology	Mr. Thiel
170su	Geologic Problems	Mr. Thiel

GERMAN

FIRST TERM

1su	Beginning A	Mr. Downs
3su	Intermediate German	Mr. Pfeiffer
118su	German Heroic Poetry	Mr. Reichardt
173su	The Modern Novel: Thomas Mann	Mr. Pfeiffer

SECOND TERM

2su	Beginning B	Mr. Meessen
3su	Intermediate German	Mr. Holske
259su	Direction of Graduate Work	Mr. Meessen

HISTORY

FIRST TERM

1su	Civilization in the Modern World (Part I)	Mr. Wolf
3su	Civilization in the Modern World (Part III)	Arranged
20su	American History (Part I)	Mr. Osgood
21su	American History (Part II)	Mr. Stephenson
54asu	The Renaissance	Mr. Krey
67su	Twentieth-Century Europe	Mr. Wolf
68su	The United States since Reconstruction (1877-1900)	Mr. Stephenson
91su	The West in American History	Mr. Osgood
106su	The Renaissance	Mr. Krey
109su	Twentieth-Century Europe	Mr. Wolf
122su	The West in American History	Mr. Osgood
135su	The United States since Reconstruction (1877-1900)	Mr. Stephenson

SECOND TERM

2su	Civilization in the Modern World (Part II)	Mr. Jordan
22su	American History (Part III)	Mrs. Tyler
95asu	Latin-American History	Mrs. Tyler
58asu	Russian History	Mr. Steefel
60su	Continental Europe	Mr. Steefel
64su	European Overseas Expansion (Modern Imperialism)	Mr. Willson
75su	England since 1815 (or England in the Nineteenth and Twentieth Centuries)	Mr. Willson
108su	Continental Europe	Mr. Steefel
109su	European Overseas Expansion	Mr. Willson
109asu	Russian History	Mr. Steefel
112su	England since 1815	Mr. Willson
126su	Latin-American History	Mrs. Tyler

HUMANITIES

FIRST TERM

4su	Humanities in the Modern World	Mr. Castell
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JOURNALISM

FIRST TERM

13su	Introduction to Reporting	Mr. Ford
55su	Advertising and Newspaper Typography	Mr. Barnhart
68su	Problems in Radio Writing	Mr. Charnley
73su	Magazine Writing and Editing	Mr. Ford
82su	Supervision of School Publications	Mr. Barnhart
112su	Current Newspaper Problems	Mr. Nafziger
113su	The Press and Foreign Affairs	Mr. Nafziger
210su	Research in Newspaper Problems	Mr. Nafziger and staff

SECOND TERM

14su	Newspaper Reporting	Mr. Casey
67su	Radio News Writing	Mr. Charnley
133su	Propaganda and Censorship in the Modern World	Mr. Casey
210su	Research in Newspaper Problems	Mr. Casey

MATHEMATICS

FIRST TERM

1su	Higher Algebra	Miss Reizman
6su	Trigonometry	Mr. Donsker
7su	College Algebra	Mr. Fleming
15su	Elementary Mathematical Analysis I	Miss Gibbens, Mr. Fleming
30su	Analytic Geometry	Mr. Olmsted, Miss Reizman
50su	Calculus I—Differential Calculus	Mr. Hart, Mr. Donsker
110su	Tutorial Course in Advanced Mathematics	Miss Gibbens
126su	Higher Plane Curves	Mr. Hart
139su	Limits and Series	Mr. Olmsted

SECOND TERM

6su	Trigonometry	Mr. Donsker
7su	College Algebra	Mr. Fleming
16su	Elementary Mathematical Analysis II	Mr. Brink, Mr. Fleming
51su	Calculus II—Integral Calculus	Miss Carlson, Mr. Donsker
110su	Tutorial Course in Advanced Mathematics	Miss Carlson
114su	The Mathematics of Small Vibrations	Mr. Brink

MUSIC

FIRST TERM

1su	Ear Training	Miss Kendall
5su	Harmony	Mr. Oberg
11su	Piano	Miss Kendall, Mr. Stephens
12su	Voice	Miss Hull, Mrs. Snyder
13su	Violin	Mr. Peterson
14-26su	Instruments of the Orchestra	Arranged
27su	Organ	Mr. Jennings
31su	Music Appreciation	Mr. Oberg
34su	History of Music	Mr. Ferguson
45su	University Chorus	Arranged
76su	Form and Analysis	Mr. Stephens

SECOND TERM

77-78- 79su	Composition—Orchestration	Mr. Ferguson
83-84- 85su	Advanced Composition	Mr. Ferguson
200-201- 202su	Basis of Musical Expression	Mr. Ferguson
205-206- 207su	Composition in Larger Forms	Mr. Ferguson
209-210- 211su	Advanced Topics in Musical Analysis	Mr. Oberg

SECOND TERM

11su	Piano	Mr. Lindsay
12su	Voice	Arranged
13su	Violin	Mr. Peterson
14-26su	Instruments of the Orchestra	Arranged
33su	Music Appreciation	Arranged

PHILOSOPHY

FIRST TERM

3su	Ethics	Mr. Castell
63su	Principles of Mature Thinking	Mr. Feigl
153su	Philosophy of Science	Mr. Feigl
191su	Seminar	Mr. Castell, Mr. Feigl

Note—For Mr. Castell's course in Humanities, see Humanities, 4su, page 31.

SECOND TERM

1su	Problems	Mr. Conger
2su	Logic	Miss Shaw
70su	Modern Philosophies of Social Reform	Miss Shaw
115su	Contemporary Philosophy	Mr. Conger
192su	Seminar	Mr. Conger, Miss Shaw

PHYSICS

FIRST TERM

1-2-3su	Introduction to Physical Science, Part I	Mr. Rassweiler
1a-2a- 3asu	Introduction to Physical Science, Part I (with labora- tory)	Mr. Rassweiler
4su	General Physics, Part I (Mechanics and Heat)	Mr. Valasek
6su	General Physics, Part I (Electricity and Modern Physics)	Mr. Valasek
7su	General Physics, Part I (Mechanics and Heat)	Mr. Valasek
8su	General Physics, Part I (Electricity and Modern Physics)	Mr. Valasek
105su	Theoretical Physics	Mr. Hill
134su	Experimental Optics	Mr. Valasek
136su	Spectrum Analysis	Mr. Valasek

SECOND TERM

1-2-3su	Introduction to Physical Science, Part II	Mr. Rassweiler
1a-2a- 3asu	Introduction to Physical Science, Part II (with laboratory)	Mr. Rassweiler
4su	General Physics, Part II (Mechanics and Heat)	Mr. Wall
6su	General Physics, Part II (Electricity and Modern Phys- ics)	Mr. Wall
7su	General Physics, Part II (Mechanics and Heat)	Mr. Wall
8su	General Physics, Part II (Electricity and Modern Phys- ics)	Mr. Wall
102su	Intermediate Physics (Thermodynamics)	Mr. Buchta
107su	Modern Physics	Mr. Buchta

POLITICAL SCIENCE

FIRST TERM

1su	American Government and Politics	Mr. Ludwig
25su	World Politics	Mr. Mills
108su	Legislative Organization and Procedure	Mr. Short
125su	Recent Social Legislation	Mr. Christensen
128su	Community Postwar Planning	Mr. Ludwig
134su	State Government and Administration in Minnesota	Mr. Short
141su	European Democracies—Postwar Reconstruction	Mr. McCloaky
155su	Government in Latin America	Mr. Christensen
170su	Problems of Postwar Domestic Reconstruction	Mr. Kirkpatrick, Mr. Monachesi, Mr. Lindblom
197su	Contemporary World Problems	Mr. Mills
201su	Seminar in American Government, Politics, and Administration	Mr. Ludwig, Mr. Short, Mr. Christensen
297su	Seminar in International Relations	Mr. Mills

SECOND TERM

2su	American Government and Politics	Mr. Kirkpatrick
101su	The Constitution and Social Change	Mr. Hawkins
153su	Far Eastern Government	Mr. Hawkins
161su	Problems of Democracy	Mr. Kirkpatrick
202su	Seminar in American Government, Politics, and Administration	Mr. Kirkpatrick, Mr. Hawkins

PSYCHOLOGY

FIRST TERM

1su	General Psychology	Mr. Heron
1-2su*	General Psychology	Mr. Stacey
4-5su	Introductory Laboratory Psychology	Mr. Smith
111su	Frontiers of Psychology	Mr. Heron
125-126su	Psychology of Individual Differences	Mr. Paterson
144-145su	Abnormal Psychology	Mr. Bird

SECOND TERM

2su	General Psychology	Mr. Stacey
1-2su*	General Psychology	Mr. Tinker
130su	Vocational Psychology	Mr. Brayfield
160su	Psychology in Personnel Work	Mr. Brayfield
171-172su	Introduction to Clinical Psychology	Mr. Meehl

ROMANCE LANGUAGES

FIRST TERM

French

1su	Beginning French	Mr. Clefton
3su	Intermediate French	Mr. Sirich
54su	Practical French Conversation	Mr. Fermaud
75su† or 190su†	French Civilization and Culture	Mr. Fermaud
119su	Eighteenth-Century French Literature: Voltaire	Mr. Sirich
121su	Sixteenth-Century French Literature	Mr. Fermaud
165su	French Romanticism: Poetry	Mr. Clefton

* Students desiring credit in Psychology 1su (3 credits) or in Psychology 2su (3 credits) may arrange with the instructor to enroll for the first or the second half of the course in either the first or the second term of the Summer Session.

† French 75su, Spanish 66su—Graduate students who wish to take these courses for credit will register for the higher of the two numbers listed and arrange with the instructor for additional work in the subject.

Portuguese

1su Beginning Portuguese Mr. Autret

Spanish

1su Beginning Spanish Arranged
 3su Intermediate Spanish Arranged
 4su Intermediate Spanish Arranged
 53su Spanish Composition and Conversation Mr. Cuneo
 66su* or
 116su* Prose of the Renaissance Mr. Grismer
 70su Latin-American Culture Mr. Cuneo
 75su Survey of Spanish-American Literature Mr. LeFort
 143su Recent Trends in Spanish-American Literature Mr. LeFort
 170su History of Spanish Language in the Americas Arranged
 244su Readings in Medieval Spanish Literature Mr. Grismer

Instituto De Estudios Hispano-Americanos

The *Instituto*, properly housed, will offer intensive training in spoken Spanish, Spanish-American culture, and Spanish-American literature. Spanish will be spoken exclusively under the guidance of native teachers, not only in the organized groups but also during meals and at all informal gatherings. In addition to the regular classes, there will be programs of various sorts in Spanish, such as lectures, movies, games, songs, etc. All students registered in the *Instituto* will be required to live at the Spanish House. However, students living in the Twin Cities will not be required to rent rooms in the house, but they will be required to take their meals there and to remain at the house until the activities of the day are over. Arrangements are being made to meet the needs of (1) elementary, (2) intermediate, and (3) advanced students. The program carries nine quarter credits. The *Instituto* will be staffed by Professor James Cuneo, director, and an adequate number of native assistants. A definite statement of fees will be published later in the complete Bulletin of the Summer Session. Applications for reservations at the *Instituto* should be mailed to the Director of the Summer Session, University of Minnesota, Minneapolis 14, on or before June 1, 1945. Registration will follow the usual Summer Session procedure as described elsewhere in this bulletin. Requests for further information should be addressed to the Director of the Summer Session, 700A Administration Building, University of Minnesota, Minneapolis 14.

SECOND TERM

French

1su Beginning French Mr. Wilson
 54su Practical French Conversation Arranged
 117su Seventeenth-Century French Literature Mr. Wilson

Spanish

1su Beginning Spanish Arranged
 2su Beginning Spanish Arranged
 4su Intermediate Spanish Mr. Pattison
 176su Spanish Poetry of the Twentieth Century Mr. Pattison

RUSSIAN

FIRST TERM

1su Beginning Russian Mr. Reichardt
 20su Advanced Russian Reading Mr. Reichardt

SECOND TERM

2su Beginning Russian Mr. Reichardt

* French 75su, Spanish 66su—Graduate students who wish to take these courses for credit will register for the higher of the two numbers listed and arrange with the instructor for additional work in the subject.

SOCIAL SCIENCE

FIRST TERM

170su	Problems of Postwar Domestic Reconstruction (See Political Science, p. 34)	Mr. Lindblom, Mr. Kirkpatrick, Mr. Monacheat
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SOCIOLOGY AND SOCIAL WORK

FIRST TERM

Sociology

1su	Introduction to Sociology	Mr. Sletto, Miss West
14su	Rural Sociology	Mr. Nelson
49su	Social Pathology	Mr. Sletto
100su	Social Psychology	Mr. Kirkpatrick
114su	Rural Social Institutions	Mr. Nelson
119su	The Family	Mr. Kirkpatrick
200su	Seminar: Topics in Criminology	Staff

Social Work

129su	Principles of Social Case Work	Mrs. Fenlason
180su	Field Work Training in Social Work	Mrs. Doyle, Miss Flanagan
240su	General Seminar in Social Work	Staff

SECOND TERM

Sociology

1su	Introduction to Sociology	Mr. Schneider
2su	Individual and Group Adjustment	Miss West
53su	Elements of Criminology	Mr. Vold
103su	Sociology of Conflict	Mr. Vold
120su	Social Life and Cultural Change	Mr. Schneider
200su	Seminar: Topics in Criminology	Staff

Social Work

130su	Principles of Social Case Work	Mrs. Fenlason
139su	Personality Development as It Affects Case Work Practice	Miss Green
181su	Field Work Training in Social Work	Miss Green, Miss Flanagan
240su	General Seminar in Social Work	Staff

SPEECH

FIRST TERM

1-2-3su	Speech Clinic	Mr. Bryngelson
	Fundamentals of Speech	Mr. Gilkinson and others
Ed.C.I.		
59su*	Speech in the Elementary Grades	Mrs. Chapman
61su	Personality Development through Speech	Mr. Bryngelson
65su	Radio Speech	Mr. Ziebarth
67su	Phonetics	Mr. Dusenbury
81su	Interpretative Reading	Mr. Rarrig
101su	Argumentation and Persuasion	Mr. Rarrig
105su	Theory of Reading and Acting	Mr. Rarrig
111su	Stage Direction	Mr. Whiting
121-122su	Advanced Speech Problems	Mr. Gilkinson
151su	Teaching of Speech (Also listed as Ed.C.I. 140su)	Mr. Gilkinson
162su	Speech Pathology	Mr. Bryngelson

* This course carries credit only in the College of Education.

166su	Clinical Methods and Practice in Speech Pathology	Mr. Bryngelson
171su	History of the Theater	Mr. Whiting
181-182- 183su	Readings in Speech	Staff

SECOND TERM

1su	Fundamentals of Speech	Arranged
2su	Fundamentals of Speech	Arranged
3su	Fundamentals of Speech	Arranged
31su	Beginning Acting	Mr. Whiting
112su	Stage Direction	Mr. Whiting
181-182- 183su	Readings in Speech	Staff

ZOOLOGY

FIRST TERM

1su	General Zoology	Arranged
21su	Histology	Mr. Ringoen
197su	Problems	Mr. Ringoen and arranged

SECOND TERM

2su	General Zoology	Arranged
198su	Problems	Arranged

INSTITUTE OF TECHNOLOGY

COLLEGE OF ENGINEERING AND ARCHITECTURE

AERONAUTICAL ENGINEERING

SUMMER QUARTER

1su	Aeronautics	Mr. Baggs
2su	Aircraft and Auto Engines	Mr. Ruszaj
100su	Aerodynamics	Mr. Cronk
115su	Airplane Stresses	Mr. Von Eschen
121su	Airplane Design	Mr. Von Eschen

SCHOOL OF ARCHITECTURE

SUMMER QUARTER

4-5-6su	Graphic Representation	Mr. Heath
AD-1su	Architectural Design, Grade I	Mr. Cerny, Mr. Robert Jones, Mr. Robertson
AD-2su	Architectural Design, Grade II	
AD-3su	Architectural Design, Grade III	
DP-1su	Drawing and Painting, Grade I	Mr. Burton
DP-2su	Drawing and Painting, Grade II	Mr. Burton
DP-3su	Drawing and Painting, Grade III	Mr. Burton
DP-4su	Drawing and Painting, Grade IV	Mr. Burton
DP-5su	Drawing and Painting, Grade V	Mr. Burton
M-1su	Modeling, Grade I	Mr. Burton
M-2su	Modeling, Grade II	Mr. Burton

CIVIL ENGINEERING

SUMMER QUARTER

11su	Surveying	Mr. Boon
13su	Surveying	Mr. Cutler, Mr. Boon
17su	Surveying	Mr. Zelner

21su	Railway Engineering	Mr. Boon
23su	Surveying	Mr. Cutler, Mr. Zelner
32-33su	Stresses in Structures	Mr. Johnston, Mr. Springer
130su	Statically Indeterminate Structures	Mr. Johnston, Mr. Springer
141su	Reinforced Concrete	Mr. Johnston, Mr. Springer
146su	Plain Concrete	Mr. Johnston, Mr. Springer

DRAWING AND DESCRIPTIVE GEOMETRY

SUMMER QUARTER

1su	Engineering Drawing	Mr. Myers, Mr. Williams, Mr. Quaid
2su	Engineering Drawing	Mr. Bullen
3su	Descriptive Geometry	Mr. Eggers
7su	Engineering Drawing (Chemistry and Chemical Engineering)	Mr. Palmer
10su	Solid Geometry	Mr. Potter
21su	Drafting (Civil Engineering)	Mr. French
22su	Structural Detailing	Mr. French
26su	Drafting (Electrical Engineering)	Mr. Potter
28su	Drafting (Aeronautical Engineering)	Mr. French
70su	Slide Rule	Arranged

FIRST TERM

41-42- 43su	Technical Drawing	Mr. Doseff
81-82- 83su	Advanced Drawing	Mr. Doseff
86-87su	Anatomical Drawing	Mr. Doseff

SECOND TERM

41-42- 43su	Technical Drawing	Mr. Doseff
81-82- 83su	Advanced Drawing	Mr. Doseff
86-87su	Anatomical Drawing	Mr. Doseff

ELECTRICAL ENGINEERING

SUMMER QUARTER

11su	Elements of Electrical Engineering	Mr. Cartwright
13-14su	Elements of Electrical Engineering	Mr. Cartwright
36su	Electric Power (Mechanical Engineering)	Mr. Cartwright
46su	Electric Power	Mr. Cartwright
64su	Elements of Communications	Mr. Todd
66su	Elements of Communications	Mr. Todd
111su	Junior Electrical Engineering	Mr. Caverley
112su	Junior Electrical Engineering Laboratory	Mr. Caverley
115su	Junior Electrical Engineering	Mr. Caverley
116su	Junior Electrical Engineering Laboratory	Mr. Todd
117su	Electronics	Mr. Caverley

MATHEMATICS AND MECHANICS

SUMMER QUARTER

9su	Higher Algebra	Mr. Saunders
11su	College Algebra	Mr. Saunders, Mr. McEwen, Mr. Doeringsfeld

12su	Trigonometry	Mr. McEwen
13su	Analytic Geometry	Mr. Priester
24su	Differential Calculus	Mr. Koehler, Mr. McEwen, Mr. Siler
25su	Integral Calculus	Mr. Siler, Mr. Koehler
26su	Technical Mechanics	Mr. Herrick
85su	Strength of Materials	Mr. Doeringsfeld
87su	Materials Testing Laboratory	Mr. Doeringsfeld
127su	Technical Mechanics	Mr. Wilcox
128su	Strength of Materials	Mr. Miller
129su	Hydraulics	Mr. Doeringsfeld
141su	Materials Testing Laboratory	Mr. Miller
143su	Hydraulics Laboratory	Mr. Doeringsfeld

MECHANICAL ENGINEERING

SUMMER QUARTER

5su	Pattern Practice	Mr. Richards
13su	Forging, Welding, and Heat Treating	Mr. Hughes
17su	Machine Shop Practice	Mr. Crowder
18su	Machine Shop Practice	Mr. Crowder
20su	Elements of Machine Design	Mr. Palmer
22su	Mechanisms	Mr. Palmer
23su	Dynamics of Machine Design	Mr. Ryan
24su	Elements of Machine Design	Mr. Ryan
32su	Elementary Mechanical Laboratory (A.E.)	Mr. Lee
33su	Elementary Mechanical Laboratory (M.E.)	Mr. Lee
34su	Mechanical Laboratory	Mr. Lee
35su	Elementary Steam and Power Laboratory	Mr. Shoop
71su	Machine Shop Practice	Mr. Crowder
72su	Machine Shop Practice	Mr. Crowder
80su	Industrial Materials	Mr. Jordan
131su	Thermodynamics	Mr. Lee
132su	Thermodynamics	Mr. Shoop
141su	Heat—Power Engineering	Mr. Shoop
150su	Internal Combustion Engines	Mr. Robertson

FIRST TERM

5su	Pattern Practice (See Industrial Education, page 54)	Mr. Richards
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INSTITUTE OF TECHNOLOGY

SCHOOL OF CHEMISTRY

ANALYTICAL CHEMISTRY

SUMMER QUARTER

1su	Quantitative Analysis (Gravimetric)	Mr. Geiger
96su	Senior Topics	Mr. Geiger
301su	Research in Quantitative Analysis	Mr. Geiger

FIRST TERM

7su	Quantitative Analysis for Premedics	Mr. Geiger
123su	Advanced Analytical Chemistry	Mr. Geiger
203su	Selected Topics in Analytical Chemistry	Mr. Geiger

SECOND TERM

7su	Quantitative Analysis for Premedics	Mr. Geiger
124su	Advanced Analytical Chemistry	Mr. Geiger
203su	Selected Topics in Analytical Chemistry	Mr. Geiger

INORGANIC CHEMISTRY

SUMMER QUARTER

4su	General Inorganic Chemistry	Mr. Heisig
6su	General Inorganic Chemistry	Mr. Maynard
9su	General Inorganic Chemistry	Mr. Maynard
12su	Semimicro Qualitative Analysis	Mr. Heisig
13su	Semimicro Qualitative Analysis	Mr. Barber
14su	General Inorganic Chemistry	Mr. Klug, Mr. Pervier
104su	Advanced Inorganic Chemistry	Mr. Reyerson
105su	Advanced Inorganic Chemistry	Mr. Maynard
109su	Synthetic Inorganic Chemistry	Mr. Heisig
301su	Research in Inorganic Chemistry	Mr. Sneed, Mr. Reyerson, Mr. Klug, Mr. Maynard, Mr. Barber, Mr. Heisig

FIRST TERM

1su	General Inorganic Chemistry	Mr. Klug
4su	General Inorganic Chemistry	Mr. Reyerson
11su	Semimicro Qualitative Analysis	Mr. Maynard

SECOND TERM

2su	General Inorganic Chemistry	Mr. Maynard
5su	General Inorganic Chemistry	Mr. Sneed

ORGANIC CHEMISTRY

SUMMER QUARTER

115su	Heterocyclic Compounds	Arranged
156su	Elementary Organic Lectures (third quarter)	Arranged
159su	Elementary Organic Laboratory (third quarter)	Arranged

FIRST TERM

1su	Elementary Organic Chemistry	Mr. Lauer and assistants
110su	Organic Qualitative Analysis	Mr. Koelsch and assistants
130su	Organic Quantitative Analysis	Mr. Lauer and assistants
141su	Reagents in Organic Chemistry	Mr. Koelsch
301su	Research in Organic Chemistry	Mr. Lauer, Mr. Koelsch

SECOND TERM

2su	Elementary Organic Chemistry	Mr. Arnold and assistants
139su	Advanced Organic Preparations	Mr. Arnold and assistants
302su	Research in Organic Chemistry	Mr. Arnold

PHYSICAL CHEMISTRY

FIRST TERM

103su	Physical Chemistry	Mr. MacDougall
106su	Physical Chemistry Laboratory	Mr. MacDougall
301su	Physical Chemistry Research	Mr. MacDougall

SECOND TERM

103su	Physical Chemistry	Mr. MacDougall
106su	Physical Chemistry Laboratory	Mr. MacDougall
301su	Physical Chemistry Research	Mr. MacDougall

CHEMICAL ENGINEERING

FIRST TERM

102su	Unit Operations	Mr. Jackson
117su	Design of Chemical Engineering Equipment	Mr. Montonna
132su	Organic Technology	Mr. Mann
151-152su	Chemical Manufacture	Mr. Stoppel, Mr. Pike

SECOND TERM

102su	Unit Operations	Mr. Jackson
117su	Design of Chemical Engineering Equipment	Mr. Montonna
132su	Organic Technology	Mr. Mann
151-152su	Chemical Manufacture	Mr. Stoppel, Mr. Pike

INSTITUTE OF TECHNOLOGY SCHOOL OF MINES AND METALLURGY

MINING AND METALLURGY

Field trips will be abandoned for the duration of the war.

152su	Metallography	Mr. Nagler
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COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

AGRICULTURAL BIOCHEMISTRY

FIRST TERM

4su	Introduction to Organic and Biochemistry	Mr. Greenwood
203su	Research Problems	Staff

SECOND TERM

203su	Research Problems	Staff
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AGRICULTURAL ECONOMICS

FIRST TERM

200su	General Seminar in Agricultural Economics	Mr. Jesness and staff
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AGRICULTURAL EDUCATION

For list of courses in Agricultural Education, see courses listed elsewhere in this bulletin under the College of Education.

AGRICULTURAL ENGINEERING

FIRST TERM

42su	Art Metal Work	Mr. Dent
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AGRONOMY AND PLANT GENETICS

FIRST AND SECOND TERMS

Agronomy

201su	Research in Farm Crops	Mr. Wilson, Mr. Arny
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Plant Genetics

241su	Research in Plant Genetics	Mr. Hayes, Mr. Immer, Mr. Burnham
244su	Laboratory Methods in Plant Breeding	Mr. Immer

ANIMAL AND POULTRY HUSBANDRY

FIRST AND SECOND TERMS

213su	Research in Animal Husbandry	Mr. Peters, Mr. Ferrin, Mr. Winters, Mr. Harvey
214su	Research in Poultry Husbandry	Mr. Sloan

DAIRY HUSBANDRY

FIRST TERM

208su	Research in Dairy Production	Mr. Fitch, Mr. Petersen, Mr. Gullickson
209su	Research in Dairy Manufacturing	Mr. Combs, Mr. Coulter

SECOND TERM

210su	Research in Dairy Production	Mr. Fitch, Mr. Petersen, Mr. Gullickson
211su	Research in Dairy Manufacturing	Mr. Combs, Mr. Coulter

ENTOMOLOGY AND ECONOMIC ZOOLOGY

FIRST TERM

13su*	Field Zoology	Mr. Mickel
55su	Entomological Techniques	Mr. Mickel

FIRST AND SECOND TERMS

197su	Introduction to Research	Staff
204su	Research in Entomology	Staff

FORESTRY

FIRST TERM

Open to students registered in Forestry in the University or who have had one year in a junior college or other college.

2su*	Field Dendrology	Arranged
5su*	Field Silviculture	Mr. Cheyney
6su*	Field Mensuration	Mr. Brown
11su*	Camp Management	Mr. Brown
13su*	Field Zoology (see also under Entomology and Economic Zoology)	Mr. Mickel

HOME ECONOMICS

FIRST TERM

27su	Related Art Problems	Miss V. Goldstein
50su	Textiles	Miss Phelps
86su	Home Management: Operation and Maintenance Laboratory	Miss Studley, Miss Jeary
116su	Family Clothing Problems	Miss Phelps
120su	Art History and Appreciation	Miss V. Goldstein
142su	Experimental Cookery	Mrs. Leavitt
146su	Special Food Problems	Mrs. Leavitt
170su	Current Problems in Nutrition	Miss Biester
179su	Readings in Nutrition	Miss Biester
180su	Home Planning and Furnishing	Miss H. Goldstein
184su	Home Management: Operation and Management, Lectures	Miss Jeary
185su	Family Relationships	Miss Studley
295su	Home Economics Problems	Miss H. Goldstein

* Will be offered at Itasca Park if registration warrants.

SECOND TERM

85su	Home Management: Operation and Management, Lectures	Miss Jeary
86su	Home Management: Operation and Maintenance Laboratory	Miss Jeary and arranged

HORTICULTURE

FIRST AND SECOND TERMS

190-191- 192su	Special Problems	Mr. Alderman and staff
247su	Report on Special Horticultural Topics	Mr. Alderman and staff

PLANT PATHOLOGY AND BOTANY

FIRST AND SECOND TERMS

206su	Research in Plant Pathology	Mr. Stakman and others
210su	Research in Mycology	Mr. Stakman, Miss Dosdall
257su	Research Problems in Applied Plant Physiology	Mr. Harvey, Mr. Landon

SOILS

FIRST AND SECOND TERMS

104su*	Soil Mapping	Mr. McMiller
202su*	Research Problems in Soils	Mr. Roat and staff

BIOLOGICAL STATION OF THE UNIVERSITY OF MINNESOTA

If there are a sufficient number of advance registrations, the Biological Station at Itasca Park will offer a limited curriculum during the second term of the Summer Session, which begins on July 30.

Courses in botany, wild life, vertebrate zoology, pathology and possibly entomology will be offered. Prospective students should communicate with the Director of the Biological Station at Cloquet, Minnesota, at their earliest convenience, indicating the line of study in which they are interested. More detailed information will be furnished in a special circular dealing with the Biological Station, which will be issued in the spring quarter. Application for registration must be filed with the Director of the Summer Session of Minneapolis 14, Minnesota, not later than June 1, 1945.

LAW SCHOOL

The Law School will offer a complete quarter (June 18 to September 1) of law work with courses for both beginning and advanced students. Registration will be for the quarter, not for the single term.

Tuition fees for the quarter are: resident, \$42; non-resident, \$71. Credit hour fee: resident, \$3.50; non-resident, \$6. There will be the usual incidental fee of \$9.65 for the Coffman Memorial Union, the Health Service, the *Minnesota Daily*, etc. Deposit fee for the summer quarter only, \$2.

FIRST YEAR COURSES

FIRST AND SECOND TERMS

Contracts		Mr. Read
Actions and Equity I		Mr. Pirsig

* Before registering students must have approval of the instructor in charge.

**ADVANCED COURSES
FIRST AND SECOND TERMS**

Banking and Negotiable Papers	Mr. Kinyon
Property II	Mr. Bade
Taxation	Mr. Rottschaefer
Insurance	Mr. Pirsig
Trade Regulations	Mr. McClintock
Labor Law	Mr. McClintock

MEDICAL SCHOOL

**ANATOMY
FIRST TERM**

165su	Hematology	Dr. Downey
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SUMMER QUARTER

3su*	Elementary Anatomy	Dr. Kirschbaum
100su	Gross Human Anatomy	Dr. Boyden, Dr. Wells, Dr. Morningstar, Dr. Reiff
111su	Human Neurology	Dr. Rasmussen, Dr. Kirschbaum, Dr. Miller
116su	Correlated Anatomy	Dr. Morningstar
134su	Anatomy of Newborn	Dr. Wells
150su	Special Topics in Neurology	Dr. Rasmussen
152su	Prosection	Dr. Boyden
156su	Advanced Anatomy	Dr. Boyden, Dr. Downey, Dr. Rasmussen, Dr. Wells, Dr. Kirschbaum, Dr. Miller
204su	Research in Anatomy	Dr. Boyden, Dr. Downey, Dr. Rasmussen, Dr. Wells, Dr. Kirschbaum

BACTERIOLOGY AND IMMUNOLOGY

FIRST TERM

53su	General Bacteriology	Dr. Skinner
101su	Bacteriology for Medical Students	Dr. Larson
114su	Yeasts, Molds, and Actinomycetes	Dr. Skinner
116su	Immunity	Dr. Larson
201su	Research in Bacteriology	Dr. Larson

SECOND TERM

102su	Bacteriology for Medical Students	Dr. Evans
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MEDICINE

SUMMER QUARTER

Required

18-19su	Principles of Medical and Surgical Nursing	Arranged
104su	Introduction to Internal Medicine	Dr. Watson and staff
109su	Clinic in Medicine (Part of Course 12)	Dr. Barron

* A special preparedness course which is given in co-operation with the United States Public Health Service, through the School of Nursing.

110su	Medical Clinic	Dr. Watson and staff
111su	Clinical Clerkship in Medicine	Dr. Watson and staff
111xsu	Clinical Clerkship in Medicine (MGH)	Dr. Fahr and staff
112su	Admissions Clerkship	Dr. Wetherby and staff
123su	Lectures in Dermatology	Dr. Michelson and staff
124su	Senior Clerkship in Dermatology	Dr. Michelson and staff
124xsu	Senior Clerkship in Dermatology (MGH)	Dr. Sweitzer and staff

Elective

128su	Abnormal Physical Signs in the Chest	Dr. Geer
129su	Advanced Physical Diagnosis	Dr. Peppard
132su	Diagnosis and Treatment of Diseases of the Lungs	Dr. Myers
135su	Essentials of Diagnosis and Treatment of Heart Disease	Dr. Shapiro
136su	The Respiratory Organs in Health and Disease	Dr. Myers
139su	Clinical Electrocardiography	Dr. Kerkhof
157su	Ward Clinics in Dermatology	Dr. Lynch and staff
158su	Clinic in Dermatology	Dr. Klein
159su	Assistantship, Dermatology and Syphilis (MGH)	Dr. Sweitzer and staff
160su	Assistantship and Conference in Dermatology (UH)	Dr. Michelson and staff
161su	Assistantship in Dermatology (UHD)	Dr. Michelson and staff
162su	Assistantship in Dermatology (MGH)	Dr. Sweitzer
163su	Treatment of Syphilis	Dr. Michelson
164su	Seminar in Pathology	Dr. Winer
165su	Seminar in Dermatology	Dr. Michelson and others
166su	Allergy and Dermatology	Dr. Rusten

NEUROPSYCHIATRY

FIRST AND SECOND TERMS

Required

101su	Clinical Neuropsychiatry Lectures	Dr. McKinley and staff
103su	Junior Clinical Clerkship	Dr. McKinley and staff

FIRST TERM

Elective

Nonmedical Students

70su and	Introductory Psychiatry	Dr. Hinkley
170su	Social Work	Dr. Hinkley
171su and	Descriptive Neuropsychiatry	Dr. Cottrell
171su	Social Work	Dr. Cottrell
173su	Mental Hygiene Aspects of Public Health Nursing (for graduate nurses only)	Miss Shalit

Medical Students

143su	Problems in Neuropathology (limited to 2 students) Credits and hours arranged	Dr. Baker
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SECOND TERM

Elective

Medical Students

143su Problems in Neuropathology (limited to 2 students)
Credits and hours arranged Dr. Baker

OBSTETRICS AND GYNECOLOGY

FIRST AND SECOND TERMS

120su Obstetrics and Gynecology Dr. McKelvey,
Dr. Rogers,
Dr. Lund

135su Clinical Clerkship in Obstetrics and Gynecology (Uni-
versity Hospital) Dr. McKelvey,
Dr. Lund

135xsu Clinical Clerkship in Obstetrics and Gynecology (Min-
neapolis General Hospital) Dr. Lang
and others

OPHTHALMOLOGY AND OTOLARYNGOLOGY

FIRST AND SECOND TERMS

Required

103su Clinic in Diseases of the Eye Dr. Hansen,
Dr. Stanford,
Dr. Hoffman,
Dr. Horns,
Dr. Bushard

104su Clinic in Diseases of the Ear Dr. Boies,
Dr. Hochfilzer,
Dr. Tangen,
Dr. McElmeel

105su Clinic in Diseases of the Nose and Throat Dr. Boies,
Dr. Phelps,
Dr. Connor,
Dr. Goltz,
Dr. Hochfilzer

Elective

106su Operative Clinic in Eye Dr. Tangen,
Dr. McElmeel,
Dr. Goltz,
Dr. Hansen,
Dr. Hymes,
Dr. Hoffman,
Dr. Horns,
Dr. Bushard

107su Ophthalmoscopy Dr. Schwartz,
Dr. Stanford,
Dr. Hoffman

116su Operative Clinic in Ear, Nose, and Throat Dr. Boies,
Dr. Hochfilzer,
Dr. Tangen,
Dr. McElmeel,
Dr. Goltz

PATHOLOGY

FIRST AND SECOND TERMS

4su General Pathology—Dental Dr. Clawson
104su Autopsies Staff
109su Clinical-Pathological Conference Staff
111su Conference on Autopsies Dr. Bell and staff
201su Research Staff

PEDIATRICS
FIRST AND SECOND TERM

Required

122su	Diseases of Infancy and Childhood (lectures)	Dr. McQuarrie, Dr. Platou, Dr. Stoesser, Dr. Adams, Dr. Booth, Dr. Jensen
124su	Junior Clinical Clerkship in Pediatrics	Dr. McQuarrie, Dr. Stoesser, Dr. Huenekens, Dr. Booth, Dr. Jensen, Dr. Beach, Dr. Ziegler
135su	Senior Clinical Clerkship in Pediatrics	Dr. McQuarrie, Dr. Adams, Dr. Stoesser, Dr. Seham, Dr. Jensen

Elective

156su	Advanced Study of Noncontagious Diseases	Dr. McQuarrie, Dr. Ziegler
158su	Advanced Study of Contagious Diseases	Dr. Stoesser, Dr. Platou
162su	Common Behavior Disturbances in Childhood	Dr. Jensen, Dr. Wolf
208su	Pediatric Research	Dr. McQuarrie, Dr. Adams, Dr. Jensen, Dr. Stoesser, Dr. Ziegler

PHARMACOLOGY

SUMMER QUARTER

8su	Elementary Pharmacology	Dr. Wright, Dr. Litchfield, Mrs. Cranston, and assistant
53su	Dental Pharmacology	Dr. Litchfield
55su	Prescription Writing for Dental Students	Dr. Wright
103-104- 108su	General Pharmacology Prescription Writing	Dr. Bieter, Dr. Wright
108su	Pharmacological Problems	Dr. Litchfield
110su	Toxicology	Dr. Wright
111su	Advanced Toxicology	Dr. Wright
203su	Research in Pharmacology	Dr. Bieter, Dr. Wright
204su	Advanced Pharmacology	Dr. Bieter, Dr. Wright
205su	General Discussion in Pharmacology	Dr. Bieter, Dr. Wright

PHYSIOLOGY

FIRST TERM

2su	Elements of Physiology (for students of nursing)	Mrs. Coe and assistants
4su	Human Physiology (for pharmacy and home economics students and others)	Dr. King and assistants
100su	Physiological Chemistry (for medical students; first quarter only of two-quarter course)	Staff

SECOND TERM

101su Physiological Chemistry (for medical students; second quarter only of two-quarter course) Staff

SUMMER QUARTER

1su Physiological Chemistry (for students of nursing) Dr. Barnum
and assistants
56su Physiological Chemistry (for dental students) Dr. Armstrong
and assistants
59su Human Physiology (for dental students; the second quarter only of a two-quarter course) Staff
103su Physiology of circulation, respiration, etc. (Primarily for medical students; the first quarter of a two-quarter course) Staff
203su Research in Physiology Dr. Visscher
205su Research in Physiological Chemistry Staff

SCHOOL OF PUBLIC HEALTH

FIRST TERM

50su Public and Personal Health Dr. Potthoff
53su Elements of Preventive Medicine Dr. Cowan
61su Mental Hygiene Miss Shalit
62su Principles of Public Health Nursing Miss Freeman
66su Field Work—Rural Nursing Miss Freeman
67su Field Work—Family Health Agency Mrs. Sandve
90su Measurement in Medicine Mr. Treloar
91su First Aid Dr. Potthoff
101su Public Health Administration and Field Work Dr. Boynton
and associates
102su Environmental Sanitation I Arranged
110su Biometric Principles Mr. Treloar
111su Biostatistics Laboratory Mr. Treloar
123su Topics in Public Health Dr. Boynton
129su Principles and Problems of Teaching Social Hygiene (same as Ed.C.I.129) Dr. Pearce,
Miss Biester
140su Topics in Biostatistics Mr. Treloar
171su Problems in Public Health Nursing Miss Freeman
and associates
172su Workshop in Supervision in Public Health Nursing Miss Freeman
and associates

SECOND TERM

59su Health of the School Child Miss Grout,
Miss Bestul,
Dr. Todd
60su Tuberculosis and Its Control Dr. Myers
63su Principles of Public Health Nursing Miss Bestul
65su Field Work—School Nursing Mrs. Sandve
66su Field Work—Rural Nursing Mrs. Sandve
67su Field Work—Family Nursing Mrs. Sandve
70su Special Methods and Supervised Teaching in Health Education for Public Health Nurses (same as Ed.T.50) Miss Bestul
76su Nutrition in Public Health Nursing Miss Donelson
90su Measurement in Medicine Mr. Treloar
91su First Aid Dr. Potthoff
115su Food Sanitation Captain Adams
125su The Community Health Education Program Miss Grout

129su	Principles and Problems of Teaching Social Hygiene (same as Ed.C.I.129)	Dr. Pearce, Miss Biester
135su	Conservation of Hearing	Dr. Boies and associates
150su	Vital Statistics	Mr. Treloar

SURGERY

FIRST AND SECOND TERMS

Required

129su	Surgical Clinics for Juniors	Surgical staff
135su	Clinical Clerkship	Staff
135casu	Clinical Pathology of Tumors	Surgical staff
135bsu	Reading Course	Surgical staff
135csu	Surgical-Pathological Conference	Surgical staff
135casu	Medical-Surgical-Pathological Conference	Surgical staff
135dsu	Roentgenological-Surgical Conference	Radiology and surgical staff
135esu	Surgical Ward Conference	Surgical staff
135gsu	Outpatient Surgical Clinic, General Surgery, and Proctology	Dr. Wangen- steen, Dr. Dennis, Dr. Hanson, Dr. Varco, Dr. J. K. Anderson
135gasu	Applied Surgical Anatomy	Surgical staff
135hsu	Fractures and Traumatic Surgery	MGH surgical staff
137su	Outpatient Surgical Clinic, General Surgery, Special Surgery Clinics and Proctology	Surgical staff
163su	Neurosurgery Clerkship (for seniors)	Dr. Peyton and staff
170su	Urology Clerkship (for seniors)	Dr. Creevy and staff
190su	Orthopedic Clerkship (for seniors)	Dr. Cole and staff

Elective

139su	Operative Surgery	Surgical staff
152su	Problems in Clinical Investigations	Dr. Wangen- steen, Dr. Creevy, Dr. Peyton, Dr. Dennis, Dr. Varco
159su	Clinic in Traumatic Surgery	Dr. Zierold
167su	Problems in Experimental Surgery	Dr. Wangen- steen, Dr. Creevy, Dr. Peyton, Dr. Dennis, Dr. Varco
168su	The Physiologic Pathology of Certain Aspects of Sur- gical Disease	Dr. Dennis, Dr. Varco
169su	Diagnostic Bedside Surgical Clinic	Dr. Zierold

SCHOOL OF NURSING**

FIRST TERM

Nu12su	Introduction to Nursing	Miss Boyle
Ed.T.51Asu	Special Methods of Teaching in Schools of Nursing	Miss Harrington
Nu.Ed.60su	Ward Administration	Mrs. Randall
Nu.Ed.62su	Personnel Program in Schools of Nursing	Miss Gordon
Nu.Ed.72su§	Principles of Learning and Methods of Teaching in Schools of Nursing	Miss Harrington
Nu.Ed.73su	Principles of Economics in Nursing School Administration	Miss Gorgas
Nu.Ed.75su	Fundamentals of Administration in Schools of Nursing	Arranged
Nu.Ed.81su	Workshop in Nursing Education (2 weeks)	Arranged

SECOND TERM

Nu12su	Introduction to Nursing	Miss Boyle
Ed.T.51Asu	Special Methods of Teaching in Schools of Nursing	Miss Harrington

SCHOOL OF DENTISTRY

Students in dentistry will be required to attend the summer quarter of 1945. A full quarter's work will be offered. Fees will be charged on the same basis as during the academic year.

COLLEGE OF EDUCATION

AGRICULTURAL EDUCATION

FIRST TERM

Agr.Ed.201su	Workshop in Agricultural Education	Mr. Field, Mr. Ekstrom, and others
Agr.Ed.232su	Research in Agricultural Education	Mr. Field

ART EDUCATION

FIRST TERM

Art Ed.4-6-8su	Drawing from Still Life and Pose	Miss Lutz
Art Ed.17su	Art for Elementary Teachers	Mr. Gayne
Art Ed.24-26-28su	Drawing and Painting from Still Life and Pose	Miss Lutz
Art Ed.31su	Orientation in Handcraft Processes	Mr. Rood
Art Ed.61-62-63su	Painting	Miss Lutz
Art Ed.70su	Introduction to Wood Sculpture	Mr. Rood
Art Ed.84su	Teaching of Art in the Elementary Grades	Mr. Gayne
Art Ed.124-125-126su	Advanced Painting	Miss Lutz
Art Ed.150su	Understanding Contemporary Design	Miss Lien
Art Ed.156su	Intercultural Education Through Art	Miss Lien
Art Ed.295su	Special Problems in Art Education	Miss Lien

* The School of Nursing is co-operating with the United States Public Health Service by admitting a special class restricted to college graduates at the beginning of the first term of the Summer Session. The science course taught these students will be open to graduate nurses.

† For courses in Public Health Nursing, see page 48.

§ A limited amount of observation can be arranged.

CURRICULUM AND INSTRUCTION

FIRST TERM

General Courses

Ed.C.I.104su	Adult Education	Mr. Dickerman
Ed.C.I.105su	Visual Aids in Teaching	Mr. Wendt
Ed.C.I.107su	Radio in Education	Mr. Tyler
Ed.C.I.114su	The School Health Program	Miss Starr
Ed.C.I.129su	Principles and Problems of Teaching Social Hygiene	Miss Biester, Dr. Pearce
Ed.C.I.145su	Remedial Reading	Arranged
Ed.C.I.271su	Problems in Curriculum Construction	Mr. Bossing, Mr. Cook
Ed.C.I.273su	Problems in Reading	Arranged

Elementary Education

Ed.C.I.102su	Teaching the Social Studies in Elementary School	Arranged
Ed.C.I.103su	The Teaching of Science in the Elementary School	Mr. Mork
Ed.C.I.119su	Elementary School Curriculum	Mr. Mork
Ed.C.I.130su	Problems in Childhood Education	Mrs. Fuller
Ed.C.I.131su	Workshop in Childhood Education and Child Development	Mrs. Fuller, Miss Headley
Ed.C.I.143su	Teaching of Reading in the Elementary School	Arranged
Ed.C.I.149su	The Teaching and Supervision of Arithmetic in the Elementary School	Mr. Brueckner
Ed.C.I.150su	Supervision and Improvement of Instruction ...	Mr. Brueckner
Ed.C.I.186su	Laboratory in Elementary Instructional Practices	Mr. Staudenmaier
Ed.C.I.187su	Workshop in Rural Education	Arranged
Ed.C.I.261su	Special Problems in School Supervision	Mr. Brueckner

Secondary Education

Ed.C.I.113su	High School Curriculum	Mr. Bossing
Ed.C.I.122su	Literature for Adolescents	Miss Smith
Ed.C.I.140su	The Teaching of Speech (also listed as Speech 151su)	Mr. Gilkinson
Ed.C.I.144su	Teaching of Reading in the Upper Grades and Junior and Senior High Schools	Miss Handlan
Ed.C.I.168su	Current Developments in the Social Studies ...	Arranged
Ed.C.I.170Bsu	Curriculum and Course of Study Construction	Mr. Bossing
Ed.C.I.171su	Curriculum Laboratory Practice	Mr. Bossing
Ed.C.I.181su	Advanced Course in the Teaching and Supervision of Secondary School Mathematics	Mrs. Turner
Ed.C.I.201su	Problems in Teaching the Social Studies	Arranged
Ed.C.I.266su	Supervision of High School Instruction	Mr. Boardman
Ed.C.I.287su	Advanced Course in the Teaching of Science	Mr. Johnson
Ed.C.I.294su	Advanced Course in Methods of Teaching English	Miss Smith
Ed.C.I.296su	Special Problems in Teaching English	Miss Smith

Higher Education

Ed.C.I.228su	Problems of Higher Education and Teacher Training—Workshop	Mr. Cooper, Miss Eckert, Mr. Peik, and others
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SECOND TERM

General Courses

Ed.C.I.107su	Radio in Education	Mr. Tyler
Ed.C.I.129su	Principles and Problems of Teaching Social Hygiene	Miss Biester, Dr. Pearce
Ed.C.I.271su	Problems in Curriculum Construction	Mr. Bossing, Mr. Cook

Elementary Education

Ed.C.I.102su	Contents and Activities of the Social Studies in the Elementary Grades	Mr. Wesley
Ed.C.I.103su	The Teaching of Science in the Elementary School	Mr. Mork
Ed.C.I.119su	Elementary School Curriculum	Mr. Cook
Ed.C.I.143su	Teaching of Reading in the Elementary School	Miss Edman
Ed.C.I.150su	Supervision and Improvement of Instruction	Miss Edman

Secondary Education

Ed.C.I.168su	Current Developments in the Social Studies	Mr. Wesley
Ed.C.I.169su	Extra-curricular Activities	Mr. Bossing
Ed.C.I.171su	Curriculum Laboratory Practice	Mr. Bossing
Ed.C.I.201su	Problems in Teaching the Social Studies	Mr. Wesley
Ed.C.I.266su	Supervision of High School Instruction	Arranged

EDUCATIONAL ADMINISTRATION

FIRST TERM

General Courses

Ed.Ad.124su	Public School Administration	Mr. Neale
Ed.Ad.127su	Teacher and Employee Administration	Mr. Thompson
Ed.Ad.210su	Financial Aspects of Public School Business Administration	Mr. von Borgersrode
Ed.Ad.226su	School Plant Planning and Management	Mr. Neale
Ed.Ad.228su	Special Problems in Educational Administration	Mr. Neale
Ed.Ad.230su	Public Relations for Schools	Mr. Thompson

Elementary Education

Ed.Ad.115su	Organization of the Elementary School	Mr. von Borgersrode
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Secondary Education

Ed.Ad.133su	Guidance in the Secondary Schools	Miss Wright
Ed.Ad.263su	The Organization of the Secondary School	Mr. Boardman
Ed.Ad.264su	The Administration of the Instructional Activities of the Secondary School	Arranged
Ed.Ad.265su	The Administration of the Noninstructional Activities of the Secondary School	Arranged
Ed.Ad.270su	Special Problems in Secondary Education	Mr. Boardman, Mr. Bossing

SECOND TERM

General Courses

Ed.Ad.124su	Public School Administration	Mr. Neale
Ed.Ad.125su	Pupil Personnel Administration	Mr. Thompson
Ed.Ad.210su	Financial Aspects of Public School Business Administration	Mr. von Borgersrode

Ed.Ad.226su	School Plant Planning and Management	Mr. Neale
Ed.Ad.228su	Special Problems in Educational Administration	Mr. Neale
Ed.Ad.230su	Public Relations for Schools	Mr. Thompson

Elementary Education

Ed.Ad.115su	Organization of the Elementary School	Mr. von Borgersrode
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Secondary Education

Ed.Ad.133su	Guidance in the Secondary School	Mr. Smith
Ed.Ad.264su	High School Administration	Arranged
Ed.Ad.270su	Special Problems in Secondary Education	Mr. Bossing

EDUCATIONAL PSYCHOLOGY

FIRST TERM

General Courses

Ed.Psy.120su	Basic Principles of Measurement	Mr. Cook
Ed.Psy.140su	Instruments and Techniques of Measurement	Mr. Cook
Ed.Psy.158su	Psychology of Adolescence	Miss Wright
Ed.Psy.216su	Statistical Methods in Education	Mr. Johnson
Ed.Psy.233su	Problems in Guidance and Personnel Work	Mr. Cook
Ed.Psy.253su	Research Problems	Mr. Cook, Mr. Johnson
Ed.Psy.281su	Practice in Personnel Work (Guidance Clinic)	Mr. Gordon Anderson
Ed.Psy.291su	Psychology of Individual Differences (see Psychology 125-126su)	Mr. Paterson
Ed.Psy.293su	Psychology of Learning	Mr. G. Lester Anderson

Secondary Education

Ed.Psy.133su	Guidance in Secondary Schools	Miss Wright
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SECOND TERM

General Courses

Ed.Psy.60su	Introduction to Statistical Methods	Mr. Johnson
Ed.Psy.120su	Basic Principles of Measurement	Mr. Cook
Ed.Psy.183su	Education of Gifted Children	Mr. Van Wagenen
Ed.Psy.217su	Statistical Methods in Education	Mr. Johnson
Ed.Psy.225su	Diagnosis and Counseling in a Student Personnel Program	Miss Edwards
Ed.Psy.233su	Problems in Guidance and Personnel Work	Mr. Cook, Miss Edwards
Ed.Psy.253su	Research Problems	Mr. Cook, Mr. Johnson, Mr. Van Wagenen
Ed.Psy.293su	Psychology of Learning	Mr. G. Lester Anderson

Secondary Education

Ed.Psy.133su	Guidance in Secondary Schools	Mr. Smith
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GENERAL EDUCATION

FIRST TERM

Ed.51Asu	Introduction to Secondary School Teaching	Mr. Gjerde
Ed.51Bsu	Introduction to Secondary School Teaching	Arranged
Ed.51Csu	Introduction to Secondary School Teaching	Mr. G. Lester Anderson
Ed.61Asu	Introduction to Elementary School Teaching	Mr. Gjerde

SECOND TERM

Ed.51Asu	Introduction to Secondary School Teaching	Mr. Van Wageningen
Ed.51Bsu	Introduction to Secondary School Teaching	Arranged
Ed.51Csu	Introduction to Secondary School Teaching	Mr. G. Lester Anderson
Ed.61Asu	Introduction to Elementary School Teaching	Mr. Van Wageningen

HISTORY AND PHILOSOPHY OF EDUCATION

FIRST TERM

H.Ed.101su	Historical Foundations of Modern Education	Miss Alexander
H.Ed.155su	History of Public Education in the United States	Miss Alexander

SECOND TERM

H.Ed.176su	Conflicting Issues in Modern Education	Mr. Brameld
H.Ed.179su	Critical Thinking for Teachers	Mr. Brameld

HOME ECONOMICS EDUCATION

FIRST TERM

H.E.Ed.94su	Supervised Teaching in Home Economics	Miss Rose
H.E.Ed.191su	Advanced Course in the Teaching of Home Economics	Miss Rose
H.E.Ed.293su	Problems in Home Economics Education--Workshop	Miss Brown

INDUSTRIAL EDUCATION

FIRST TERM

M.E.5su	Pattern Practice (see Mechanical Engineering, page 39)	Mr. Richards
Ind.105su	Administration of Industrial Education	Mr. Smith
Ind.107su	Co-ordination	Mr. Hill
Ind.109su	Conference Leading for Industry	Mr. Hill
Ind.200su	Research Problems	Mr. Smith
Ind.250su	Literature of Industrial Education	Mr. Smith
Dunwoody	Shop and Drawing	Arranged

SECOND TERM

Ind.110su	Guidance in the Schools	Mr. Smith
Ind.200su	Research Problems	Mr. Smith
Ind.251su	Literature of Industrial Education	Mr. Smith
Dunwoody	Shop and Drawing	Arranged

METHODS AND DIRECTED TEACHING

FIRST TERM

General Courses

Ed.T.52su	Directed Teaching	Mr. G. Lester Anderson
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Elementary Education

Ed.T.55su	Principles of Early Childhood Education	Miss Peterson
Ed.T.56su	Permanent Play Materials	Arranged
Ed.T.59su	Story Telling	Miss Headley

Ed.T.78Asu	Methods and Observation—Nursery School	Arranged
Ed.T.76Csu	Methods and Observation—Kindergarten	Miss Headley
Ed.T.77ABCsu	Directed Teaching in Kindergarten or Nursery School and Primary Grades	Mrs. Fuller

Secondary Education

Ed.T.66Amsu	The Teaching of Composition in the Senior High School	Mr. Carlsen
Ed.T.66Bsu	The Teaching of Literature in the Senior High School	Mr. Carlsen
Ed.T.67AmBmsu	The Teaching of Secondary School Mathe- matics	Mrs. Turner
Ed.T.68AmBmsu	Methods of Teaching Secondary School Sci- ence	Mr. Johnson
Ed.T.69AmBmsu	Methods of Teaching the Social Studies	Mrs. Merideth

SECOND TERM

Ed.T.83su	Methods and Materials of School Health Edu- cation	Miss Starr
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MUSIC EDUCATION

FIRST TERM

Mu.Ed.4-5-6su	Applied Instrumental Technique	Mr. Martino
Mu.Ed.50Asu	Primary Methods	Mrs. Nohavec
Mu.Ed.50Bsu	Intermediate Methods	Mrs. Nohavec
Mu.Ed.55su	Survey and Evaluation of Vocal Materials and Methods	Arranged
Mu.Ed.59su	Choral Literature and Conducting	Mrs. Nohavec
Mu.Ed.68su	Conducting of Instrumental Music and Survey of Materials	Mr. Martino
Mu.Ed.153su	Advanced High School Methods	Arranged
Mu.Ed.220Esu	Survey and Evaluation of Research in Music Education	Mrs. Nohavec
Mu.Ed.224Esu	Seminar and Individual Research Problems in Music Education	Mrs. Nohavec
Mu.Ed.225Esu	Advanced Applied Music	Arranged

PHYSICAL EDUCATION FOR MEN

A course in Physical Fitness will be offered for men in all colleges. It will stress body-building activities but will also include swimming, gymnastics, combatives, track, and team sports.

Because of present conditions, no definite plans have been made for offering professional courses. Courses will be offered on both the undergraduate and graduate levels if there is sufficient demand for them. All people who contemplate attending summer school to take major or minor work in Physical Education are asked to write to the department indicating the courses for which they wish to register.

In the case of courses which are not formally taught, it will be possible for students to do independent study under advisers and to take comprehensive examinations for credit.

Complete programs at undergraduate and graduate levels will be offered when conditions warrant.

PHYSICAL EDUCATION FOR WOMEN*

FIRST TERM

5su	Methods of Coaching and Conducting Organized Games for the Junior and Senior High School (2 credits—\$2)	Miss Snell
7su	Tennis for Beginners	Miss Jaeger
8su	Golf for Beginners	Miss Jaeger
13su	Tumbling, Stunts, and Pyramids for Junior and Senior High Schools	Miss Snell
32su	Elementary Swimming	Arranged
33su	Intermediate and Advanced Swimming	Miss Jaeger
37su	Individual and Dual Games	Arranged
53su	Organization and Administration of Physical Education	Miss Baker
63su	Technique of Teaching Folk Dancing	Arranged
64su	Technique of Teaching Gymnastics	Arranged
73su	Technique of Teaching Rhythm	Arranged
84su	Wartime Problems of the Small Schools	Miss Snell
90su	Student Teaching	Arranged
113Esu	Physical Education in the Elementary School	Miss Baker
116Esu	Problems in Physical Fitness	Miss Starr

SECOND TERM

32su	Elementary Swimming	Miss Starr
37su	Individual and Dual Games	Arranged
52su	Principles and Curriculum of Physical Education	Miss Baker
64su	Technique of Gymnastic Teaching	Arranged
112Esu	Supervision of Physical Education	Miss Baker

SCHOOL OF BUSINESS ADMINISTRATION

FIRST TERM

Econ.3su	Elements of Money and Banking	Mr. Graves
Econ.5su	Elements of Statistics	Mr. Graves
Econ.6su	Principles of Economics	Mr. Heilman
B.A.54su	Elementary Accounting: Combined Course	Mr. Reighard
B.A.101su or Econ.103su	Advanced General Economics	Mr. Garver
B.A.135su	Auditing and Public Accounting	Mr. Reighard
B.A.139su	Advanced General Accounting	Mr. Heilman
B.A.146su	Investments	Mr. Stehman
B.A.155su	Corporation Finance	Mr. Stehman
Econ.175su	Government Regulation of Business	Mr. Garver
Econ.176su	International Commercial Policies	Mr. Blakey
Econ.178su	Economics of Consumption	Mr. Vaile
Econ.185su or B.A.77su	Economics of Marketing	Mr. Vaile
Econ.189su or B.A.58su	Principles of Taxation	Mr. Blakey

* For Ed.C.I.114su—School Health Program and Ed.T.83su—Methods and Materials of School Health Education, see College of Education.

SECOND TERM

Econ.7su	Principles of Economics	Mr. Nightingale
B.A.55su	Elementary Accounting: Combined Course	Mr. Ostlund
B.A.71su	Transportation: Services and Charges I	Mr. Nightingale
B.A.102su or Econ.104su	Advanced General Economics	Mr. Mudgett
B.A.112su	Business Statistics	Mr. Mudgett
B.A.130su	Cost Accounting Survey	Mr. Ostlund
B.A.142su or Econ.141su	Advanced Money and Banking	Mr. Myers
Econ.149su	Business Cycles	Mr. Myers
Econ.161su	Labor Problems and Trade Unionism	Mr. Yoder
B.A.167su	Personnel Administration	Mr. Yoder

INSTITUTE OF CHILD WELFARE

FIRST TERM

C.W.40su	Child Training	Arranged
C.W.130su	Motor, Linguistic, and Intellectual Development	Arranged
C.W.140su	Behavior Problems in Younger Children	Mrs. Cummings
C.W.150su	Problems of Childhood Education	Mrs. Fuller
C.W.170su	Parent Education	Mrs. Cummings
C.W.185su	Children in Wartime	Mr. Harris
C.W.186su	Workshop in Childhood Education and Child Development	Mr. Harris, Mrs. Fuller
C.W.270su	Readings in Child Development	Mr. Anderson

SECOND TERM

C.W.80su	Child Psychology	Arranged
C.W.131su	Personality, Emotional, and Social Develop- ment of the Child	Arranged
C.W.141su	Behavior Problems in Older Children	Arranged
C.W.270su	Readings in Child Development	Arranged

LIBRARY INSTRUCTION

FIRST TERM

Lib.Meth.51su	Bibliography	Arranged
Lib.Meth.52su	Cataloging	Miss Doyle
Lib.Meth.53su	Advanced Cataloging	Miss Doyle
Lib.Meth.57su	Secondary School Libraries	Miss Hayner
Lib.Meth.60su	Library Binding	Mr. McDiarmid
Lib.Meth.63su	Advanced Reference	Mr. Strout
Lib.Meth.64su	Selection of Books for Adolescents	Miss Hayner
Lib.Meth.69su	Current Library Problems	Mr. Strout
Lib.Meth.71su	Library Work with Children	Miss Brunct
Lib.Meth.74su	Selection of Books for Adults	Arranged
Lib.Meth.128su	Subject Bibliography	Arranged

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RECEIVED
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The Bulletin of the UNIVERSITY of MINNESOTA

The Summer Session
Announcement of Courses
1945

First Term June 18 to July 28
Second Term July 30 to September 1

(**WAR ECONOMY—SAVE PAPER.** Please bring this bulletin
with you when you come to register and keep it for reference.)

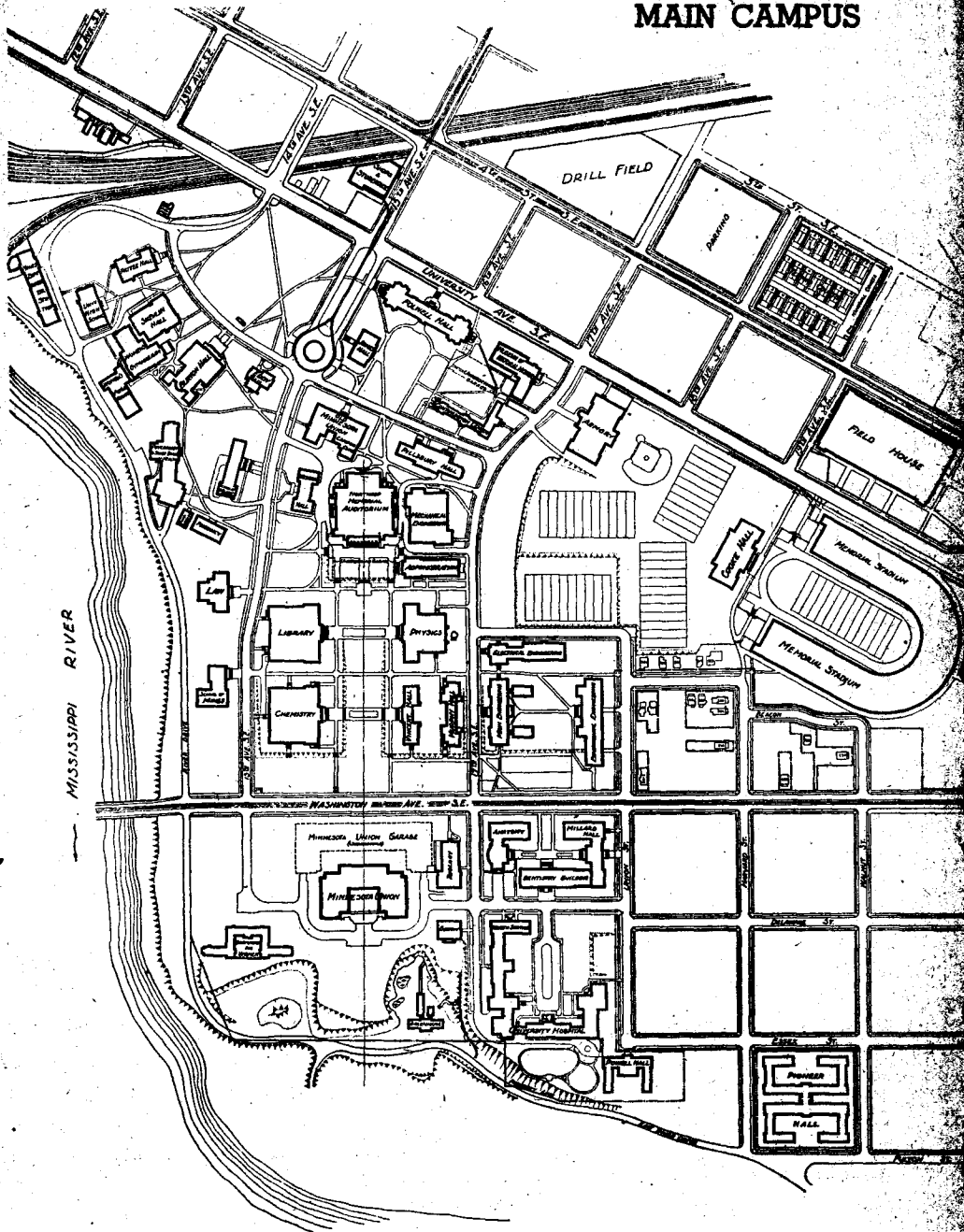


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February 26, 1945

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UNIVERSITY OF MINNESOTA MAIN CAMPUS



MISSISSIPPI RIVER

DRILL FIELD

PARKING

FIELD HOUSE

CONCRETE HALL

HUSKY STADIUM

HUSKY GYMNASIUM

LIBRARY

PHYSICS

CHEMISTRY

MINNESOTA UNION GEAR

MINNESOTA UNION

ENGINEERING

BUSINESS

LAW

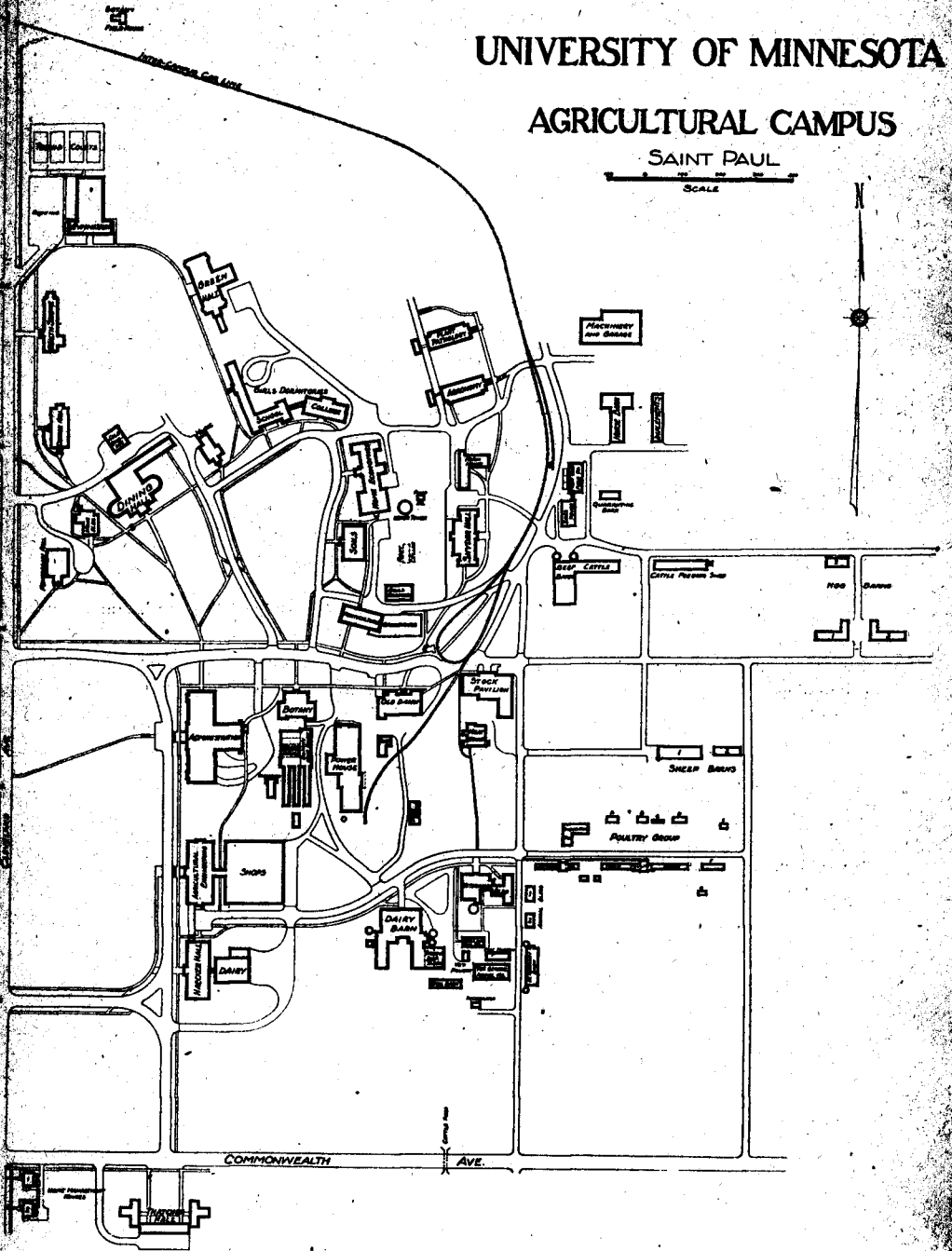
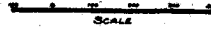
POWER HOUSE

HALL

UNIVERSITY OF MINNESOTA

AGRICULTURAL CAMPUS

SAINT PAUL



CALENDAR

SUMMER SESSION, 1945 (Except Medical School)

June	18-19	Monday-Tuesday	Registration, first term
June	20	Wednesday	First term classes begin
July	4	Wednesday	Holiday (Independence Day)
July	26	Thursday	Commencement convocation
July	28	Saturday	First term closes
July	30	Monday	Registration and payment of fees for second term close at 4:00 p.m.
July	31	Tuesday	Second term classes begin
September	1	Saturday	Second term closes

MEDICAL SCHOOL

June	29-30	Friday-Saturday	Registration
July	2	Monday	Classes begin
July	4	Wednesday	Holiday (Independence Day)
September	14	Friday	Term closes

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SUMMER SESSION

The University of Minnesota has planned the 1945 Summer Session to meet the needs of returning veterans, undergraduate students accelerating their training, public school workers, and graduate students working toward advanced degrees. Two summer terms have been scheduled, and a full quarter of university work may be completed in the combined sessions through a selection from the many courses offered this year. Under the University of Minnesota policy of providing maximum service to the state and its adjoining areas, comprehensive offerings have been arranged for both graduate and undergraduate students in the academic and the professional fields.

The College of Education program will meet the needs of teachers who wish to take work this summer for renewal of teaching certificates. The teacher shortage in this area still is severe, and people who plan to return to teaching to fill the present need are urged to arrange with College of Education advisers for a combination of academic and professional courses to meet the certificate requirements. Such courses are available for both elementary and secondary school teachers.

Many teachers will be interested in the workshops scheduled for this summer. In the first term of the Summer Session, the Institute of Child Welfare is offering a Workshop in Childhood Education and Child Development. Two additional workshops will be given in the first term on the Agricultural Campus, one for home economics supervisors and teachers, and one for agricultural teachers. In the second term, the Workshop in Inter-cultural Education has been planned for the study of minority problems as they relate to the work of the schools. Further information about these workshops is given below under "Special Courses."

Elementary teachers, supervisors, and administrators will find an exceptionally broad program in their fields. Core courses required for the elementary major will be given in both terms of the Summer Session. Problems of supervision will be emphasized, in addition to problems of elementary school teaching in arithmetic, the social studies, reading, and science. Laboratory practice and observation will be available through the use of the Institute of Child Welfare and the Tuttle Demonstration Elementary School.

Teachers and school administrators who wish to work in the Summer Session on problems of particular importance to their own schools may register in problems courses in the main areas of education. All staff members will schedule office hours for individual conferences, and the curriculum laboratory will be open. Increased attention is being given in Minnesota to the training of school administrators, with emphasis on their current problems and on their needs for state certification. Graduate advisers will be available for consultation concerning basic and advanced courses for principals and superintendents, and special provision has been made for advisory work in connection with graduate study.

Training courses for school personnel workers will be given in both terms. The University of Minnesota program in this field includes training in the use of tests and other diagnostic materials, the psychology of personality, the procedures of counseling, and clinical practice. Basic guidance courses will be offered for administrators and teachers, as well as for prospective personnel workers.

An outstanding visiting instructor in music education will be added to the regular staff for the first term. Offerings in the first term are available also in art education, adult education, radio in education, visual aids, agricultural education, home economics, and history of education. Courses in industrial education are offered in both terms of the Summer Session.

SPECIAL COURSES

WORKSHOP IN HIGHER EDUCATION

During the first term of the Summer Session, the Workshop in Higher Education has been planned for staff members from colleges, universities, and teacher training institutions, who wish to study problems in higher education and teacher training. Group discussions and individual conferences will be provided. Only a limited number of students may be accepted in this workshop, and anyone interested should write at once to Professor Ruth Eckert, 301 Eddy Hall, University of Minnesota, Minneapolis 14. (See Ed.C.I.228su.)

WORKSHOP IN HOME ECONOMICS EDUCATION

A four-week Workshop in Home Economics Education has been scheduled for the first term (June 18 to July 13) for a limited group of teachers and supervisors who wish to study ways of improving the home economics program in secondary schools. Students may register for this workshop under H.E.Ed.293su for six credits. Provision will be made for those who wish to do further work on their projects to spend an additional two weeks following the four-week workshop, with additional credit. Requests for further information about this workshop should be sent to Miss Clara Brown, 202 Home Economics, University of Minnesota, Agricultural Campus, St. Paul 8, Minnesota. The consent of the instructor is necessary for registration.

WORKSHOP FOR AGRICULTURE TEACHERS

During the first term of the Summer Session a Workshop in Agricultural Education will make available for teachers the resources of the College of Agriculture, the Experiment Station, and other groups contributing to the professional needs of agriculture teachers. A maximum of nine credits is possible for teachers who can remain for six weeks. For teachers who can not remain for the full term, arrangement can be made to register for the first half of the term (three weeks), for which four credits are permitted. Requests for further information about this workshop should be sent to Dr. A. M. Field, 205 Horticulture, University of Minnesota Agricultural Campus, St. Paul 8, Minnesota.

WORKSHOP IN CHILDHOOD EDUCATION AND CHILD DEVELOPMENT

During the first term of the Summer Session the Institute of Child Welfare, with the co-operation of the College of Education, offers a Workshop in Childhood Education and Child Development which will be of special interest to teachers in the primary grades, kindergarten, and the nursery school. Students will attend C.W.150su (Ed.C.I.130su) Problems of Childhood Education, and the lectures in another approved course. For the remaining work there will be observations in schools and child care centers, independent study, group work, and conferences. Opportunity will be given to follow special interests. This workshop will be of value to people wishing to secure more training to renew certificates or to prepare for work in child care centers. Credits obtained may be used toward an elementary education major. Students may register for this workshop under either Ed.C.I.131su or C.W.186su for 9 quarter credits. Registration is limited to 50. Anyone interested should write to Dr. John E. Anderson, Director, Institute of Child Welfare, 101 Pattee Hall, University of Minnesota, Minneapolis 14, Minnesota.

WORKSHOP IN INTERCULTURAL EDUCATION

Important problems in the field of racial, national, religious, and other intercultural relations as they apply to the work of the schools will be studied in the Workshop in Intercultural Education, scheduled for the second term of the Summer Session. The

Bureau for Intercultural Education and the National Conference of Christians and Jews have co-operated with the University of Minnesota in planning for this workshop, making possible an unusually strong staff. Resource people both from the University and from outside will be used as consultants, and direct community study of minority problems will be included. Special information about this workshop may be obtained through the dean's office, College of Education, 202 Burton Hall, University of Minnesota, Minneapolis 14, Minnesota. (See Ed.C.I.110su.)

WORKSHOP IN PUBLIC HEALTH NURSING SUPERVISION

The School of Public Health has planned a Workshop in Public Health Nursing Supervision for the first two weeks of the Summer Session (June 18-30). The course will carry three credits. The prerequisite is experience in public health nursing and permission of the instructor. After a brief orientation the class will be organized into small discussion groups under the direction of discussion leaders. These small groups will study their particular supervisory problems, and report periodically to the entire group. Special library and guidance facilities will be available. Anyone interested should make reservation for the course at least a month in advance of registration by writing to Miss Ruth Freeman, director of the Course in Public Health Nursing, 121 Millard Hall, University of Minnesota, Minneapolis 14, Minnesota. (See P.H.172su.)

A TRAINING PROGRAM IN VOCATIONAL DIAGNOSIS AND COUNSELING FOR REHABILITATION WORKERS

There is considerable evidence that the need for rehabilitation counselors is going to be great, due to war casualties, industrial misplacement of workers, and other causes. Industry will face the problem of absorbing and rehabilitating returned veterans. The Rehabilitation Division of the Veterans Administration will need many counselors in their work. Every hospital which deals with patients who cannot return to their regular jobs should have a rehabilitation counselor. Every community of any size will have citizens who for one reason or another will need rehabilitating and a rehabilitation program will more than pay its way in the savings in relief benefit that will accrue from real rehabilitation work. It is obvious that the need is great and will be even greater as time goes on. It is also apparent that no one course of training is going to prepare adequately a counselor to meet the many types of counseling jobs that will be open. Therefore, the Rehabilitation Counseling Program at the University of Minnesota has been set up with "flexibility" as the keynote of the curriculum. The plan is to "tailor make" the course of study for each student who enters this program. By so doing, each student will be trained for the particular type of rehabilitation counseling work he plans to enter. If he is going to enter industry, one program will be prepared; if it is a municipal project he is entering, a different program of courses will be worked out; and so on for the various types of counseling jobs. This being true, no specific course of study has been prepared. The particular course of study a student follows will be worked out by the student and his adviser, with the student's needs and future plans being the point of reference. Summer Session students interested in rehabilitation counseling should write for the bulletin, "Vocational Diagnosis and Counseling for Rehabilitation Workers," or to Mr. H. P. Longstaff, Co-ordinator, 112 Psychology Building, University of Minnesota, Minneapolis 14, Minnesota.

OPPORTUNITIES FOR THE STUDY OF WAR PROBLEMS AND POSTWAR RECONSTRUCTION

Students confronted by the need of gaining a better understanding of the problems of a world at war and of the coming peace and postwar reconstruction will find many helpful offerings in this bulletin, listed under numerous departments. Teachers in par-

ticular may find in these courses opportunities for a reorientation of their knowledge and ideas that will contribute to realistic teaching in their own classrooms.

In the first term of the Summer Session, attention is directed to such courses as:

Anthrop.118su, Indian Civilization in Latin America

Anthrop.119su, The Contact of Cultures

Geog.53su, Historical Geography of North America

Geog.71su, Geography of North America

Geog.101su, Geography of Europe

Geog.110su, Geography of South America

Hist.67su, Twentieth-Century Europe

Hum.4su, Humanities in the Modern World

Jour.113su, The Press and Foreign Affairs

Jour.210su, Research in Newspaper Problems

Pol.Sci.25su, World Politics

Pol.Sci.125su, Recent Social Legislation

Pol.Sci.128su, Community Postwar Planning

Pol.Sci.141su, European Democracies—Postwar Reconstruction

Pol.Sci.155su, Government in Latin America

Pol.Sci.170su, Problems of Postwar Domestic Reconstruction

Pol.Sci.198su, Contemporary World Problems

Pol.Sci.298su, Seminar in International Relations

Psy.144-145su, Abnormal Psychology

Rom.Lang.70su, Latin-American Culture

Soc.114su, Rural Social Institutions

Soc.Wk.170su, Introductory Psychiatry

Speech101su, Argumentation and Persuasion

H.E.116su, Family Clothing Problems

H.E.170su, Current Problems in Nutrition

H.E.185su, Family Relationships

Agr.Ed.201su, Workshop in Agricultural Education

Econ.175su, Government Regulation of Business

Econ.179su, Economic Problems of the Far East

Econ.189su or B.A.58su, Principles of Taxation

Courses in the second term of the Summer Session that may be considered in relation to this general field include:

Geog.11su, Human Geography

Hist.58su, Russian History

Hist.60su, Continental Europe

Hist.64su, European Overseas Expansion (Modern Imperialism)

Hist.126su, Latin-American History

Pol.Sci.100su, The Constitution and Social Change

Pol.Sci.153su, Far Eastern Government

Pol.Sci.161su, Problems of Democracy

Psy.160su, Psychology in Personnel Work

Soc.120su, Social Life and Cultural Change

B.A.167su, Personnel Administration

A search through the bulletin will reveal other courses in both terms that are directly or indirectly related to the large problems of the war and postwar reconstruction. The Library has a special room set aside for the use of students interested in the problems of war and peace, with a rich collection of materials gathered from national and international sources.

BIOLOGICAL STATION OF THE UNIVERSITY OF MINNESOTA

If there are a sufficient number of advance registrations, the Biological Station at Itasca Park will offer a limited curriculum during the second term of the Summer Session, which begins on July 30.

Courses in botany, wildlife, vertebrate zoology, pathology, and possibly entomology will be offered. Prospective students should communicate with the Director of the Biological Station at Cloquet, Minnesota, at their earliest convenience, indicating the lines of study in which they are interested. More detailed information will be furnished in a special circular dealing with the Biological Station, which will be issued in the spring quarter. Application for registration must be filed with the Director of the Summer Session at Minneapolis 14, Minnesota, not later than June 1, 1945.

INSTITUTE OF SPANISH STUDIES

An Institute of Hispanic American Studies will be held during the first term of the Summer Session. Both students and teachers of the Spanish Institute are housed in the same building. There are small classes in conversation and composition, lectures in Spanish on Latin-American culture and literature, all taught by native Latin Americans. Spanish movies and dancing to Spanish records form part of the entertainment program. The courses carry 9 quarter credits. The cost is approximately \$140, including board and room. Those interested should write to the Director of the Summer Session, University of Minnesota, Minneapolis 14, for a special folder describing the program.

RED CROSS SURGICAL DRESSING UNIT

A Red Cross Surgical Dressing Unit will be operated during the Summer Session in Coffman Memorial Union. This unit is open to all volunteers who want to devote some of their time to Red Cross work. Volunteers will roll bandages and make surgical dressings needed by the Red Cross for Army and Navy use as well as civilian emergencies.

This unit will operate under volunteer leadership, and participation is on a purely volunteer basis with no credit. The unit is located in Rooms 325-326-327, Coffman Memorial Union.

INSTITUTE OF CHILD WELFARE

The Institute of Child Welfare, an organization for the scientific study of children, for the training of workers in child development, and for disseminating information through a program of parent education, offers a program of graduate and undergraduate courses in both terms.

During the first term the institute operates a nursery school and kindergarten. For information on fees for these schools and description of the courses offered by the institute, see page 107. Special attention is called to the Workshop in Childhood Education and Child Development offered during the first term which is described on page 8.

ART COURSES

In view of the present demand for direct vocational training in art, the University is offering an increased number of practical art courses that are open to beginning freshmen and to more advanced students in the Summer Session. These may be combined with basic courses in technique, artistic design, and art historical background. They afford an adequate introduction to the general theory and practice of art and its use in meeting emergency needs in rehabilitation and recreation. Courses listed below under Practical Studio Art, History and Theory of Art, and Photography give credit in the College of Science, Literature, and the Arts and are recommended for the art major.

Practical Studio Art

FIRST TERM

Art.Ed.1,2, or 3su. (Group A) Fundamental Experiences in Design. Miss Lutz.

Art.Ed.4-6-8,24-26-28,61-62-63su. (Group C) Drawing and Painting. Miss Lutz.

Art.Ed.32su. (Group B) Orientation in Handcraft Processes. Mr. Rood.

Art.Ed.70,71, or 72su. (Group B) Wood Sculpture. Mr. Rood.

FIRST AND SECOND TERMS

Arch.DP-I‡-II‡-III‡-IV‡-Vsu. Drawing and Painting, Grades I, II, III, IV, V. Mr. Burton.

Arch.M-I-IIsu.‡ Modeling, Grades I, II. Mr. Burton.

Dr.&Des.Geom.41-42-43su. Technical Drawing. Mr. Doseff.

Dr.&Des.Geom.81-82-83su. Advanced Drawing. Mr. Doseff.

Dr.&Des.Geom.86-87su. Anatomical Drawing. Mr. Doseff.

History and Theory of Art

FIRST TERM

FineArts1su. Introduction to Modern Art. Mr. Schmeckebier.

FineArts157su. Baroque Art of the Classic Tradition. Mr. Schmeckebier.

SECOND TERM

FineArts3su. Introduction to Renaissance and Baroque Art. Mr. Schmeckebier.

FineArts159su. Baroque Art in Holland. Mr. Schmeckebier.

‡ A fee of \$1 is charged for this course.

SUMMER SESSION

Photography

Journ.10su.†† Photography. Mr. Hill.

Art Education

Students in the College of Education may take the above courses toward an art education major or minor or for elective credit.

ArtEd.17su. Art for Elementary Teachers. Mr. Gayne.

ArtEd.84su.‡ Teaching of Art in the Elementary Grades. Mr. Gayne.

(See also Art Education offerings listed above under Practical Studio Art.)

Home Economics

H.E.27su. Related Arts. Miss V. Goldstein.

H.E.120su. Art History and Appreciation. Miss V. Goldstein.

DATES OF THE SUMMER SESSION

The Summer Session at the University of Minnesota consists of two terms. The first term of six weeks will begin with registration Monday and Tuesday, June 18-19. Classes will begin Wednesday, June 20, at 8:30 a.m. The first term will close Saturday, July 28. Registration and payment of fees for the second term will close at 4:00 p.m., Monday, July 30. Classes for this term will begin Tuesday, July 31, at 8:30 a.m., and the Summer Session will be brought to a close on Saturday, September 1.

GENERAL INFORMATION

The University of Minnesota, located midway between the Twin Cities of Minneapolis and St. Paul, provides an ideal place to enjoy a profitable summer of study and healthful relaxation.

On its Main Campus, situated on the north bank of the Mississippi River in Minneapolis, the University places at the disposal of the Summer Session student the facilities of a great educational institution—its faculty, libraries, laboratories, observatory, and museums—and in addition the recreational resources of its several swimming pools, golf course, and tennis courts. The added cultural advantages of two large metropolitan centers offer attractions for the Summer Session student that are unique with the University of Minnesota.

Courses in agriculture and home economics are given on the Agricultural Campus in St. Paul, three miles from the Main Campus in Minneapolis. The Agricultural Campus offers all of the advantages of the Main Campus, being connected with the latter by an intercampus trolley line which gives regular service free to students enrolled for classes on both campuses. The Como-Harriet interurban car line also connects the campuses with the two cities, thus making available all their advantages. The College of Agriculture, Forestry, and Home Economics has its own library, laboratories, and recreational facilities.

The Summer Session of the University of Minnesota provides courses (1) for those graduate and undergraduate students, both in the arts and in the professional schools, who wish to reduce their period of residence at the University by accumulating credits during the summer; (2) for superintendents, principals, supervisors, teachers, and other students of professional interests who desire further training in their fields; (3) for persons who seek an opportunity to study for intellectual pleasure; (4) for graduates of accredited high schools who do not meet the special subject-matter requirements to enter some of the colleges and professional schools; (5) for high school graduates and high-ability students, both men and women, within a year of high school graduation who wish to become acquainted with the methods of instruction and accelerate their college training preliminary to wartime service.

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

†† A fee of \$5 per term is charged for this course.

A full quarter's work is offered in the two terms, making possible a four-quarter year for students who desire it.

Particular attention is called to the advantages of study in the second term when classes are smaller and more intimate, and the weather is usually cooler. The College of Science, Literature, and the Arts, the Institute of Technology, the School of Public Health, College of Education, and the School of Business Administration offer particularly good programs in the second term.

Students registering in the second term who are teachers and are obliged to return to their schools before the close of the term may, with the consent of instructors, arrange to complete the work *in absentia*. The granting of such permission is not obligatory on any instructor, and students desiring this privilege should ascertain well in advance the courses in which the permission will be granted. They may then make a program accordingly.

The procedure is that of removing a grade of incomplete by examination. To avoid later misunderstanding, the student should secure the permission of the instructor at the beginning of the term, and then arrange with the recorder for the proper examination.

INTERCAMPUS CAR

For students who are registered for class work on both the Main Campus and the Agricultural Campus, free transportation on the intercampus car is provided. Tickets will be issued to students registered in the College of Agriculture, Forestry, and Home Economics at the office of admissions and records at University Farm; to those registered in other colleges, at the university post office in the basement of Coffman Memorial Union, Main Campus.

Students who are registered for classes on the Main Campus and who live in Meredith Hall on the Agricultural Campus will also be given free transportation. Tickets will be issued by the office of admissions and records, University Farm.

GENERAL OFFICES

The office of the director of the Summer Session is in Room 406 on the fourth floor of the Administration Building on the Main Campus. The offices of admissions and records and the bursar are on the first floor of the Administration Building. For the convenience of students registering in agriculture and home economics, branch offices are established on the second floor of the Administration Building, Agricultural Campus. Details of procedures to be followed in registering will be given out at these places. The several schools and colleges function in the control of students during the summer just as during any other quarter of the year. Students in one college are free to elect courses in another college, however, on approval of the dean of the college in which the student is registered.

BUREAU OF RECOMMENDATIONS

The Bureau of Recommendations of the College of Education is operative during the Summer Session. Students who have earned 30 quarter credits at the University of Minnesota are eligible for the active services of the bureau. These services consist in recommending candidates and forwarding their confidential credentials to school officials in many parts of the country who have vacancies on their teaching or administrative staffs. Superintendents who are looking for teachers will be given full and reliable information on competent candidates, experienced or inexperienced, if they write to or call at the office of the Bureau of Recommendations, Room 208, Burton Hall, University of Minnesota, Minneapolis 14.

SUMMER SESSION

UNIVERSITY LIBRARY

The University Library is open to all students of the Summer Session. The entire University Library system includes about 1,300,000 volumes and many periodicals and pamphlets covering all subjects in the university curriculum. The largest part of the library is housed in the Library Building on the Main Campus. This is one of the largest and best university library buildings in the country. It includes spacious reading rooms and a special floor with seminar, library collections, and discussion rooms for advanced students.

The library of the Department of Agriculture, with an excellent collection on agriculture and home economics, is located in the Administration Building on the Agricultural Campus. Branch libraries are maintained in a few of the schools and colleges, and there are smaller special collections conveniently grouped in the main library and departmental quarters. Current information is included, as occasion arises, in the Official Daily Bulletin.

In addition to the University Library and its branches, the Minneapolis Public Library, the St. Paul Public Library, the Minnesota Historical Society, and the James Jerome Hill Memorial Library of St. Paul grant liberal privileges to Summer Session students.

The Library Handbook, copies of which may be had gratis upon application at the library, contains information regarding library hours, rules, and other matters essential to the profitable use of the library.

CORRESPONDENCE STUDY COURSES

The Correspondence Study Department of the General Extension Division affords an opportunity to students who come to the University only for the Summer Session to continue their studies during the remainder of the year, and thus accumulate additional credit toward their degrees as well as to secure the training which regular study gives. On the other hand, students who are now pursuing correspondence study courses have a chance in the Summer Session to complete some of their residence work at a time when many of them are free to do so. Full information concerning correspondence study courses may be had at any time by addressing the Correspondence Study Department, General Extension Division, 419 Administration Building, University of Minnesota, Minneapolis 14.

COFFMAN MEMORIAL UNION

Summer Session students may enjoy the facilities of the beautiful Coffman Memorial Union building. This is the University's coeducational social center.

In it are attractive lounges, ballrooms, and dining rooms, as well as a bookstore, a billiard room, a game room, and a bowling alley. Here students will find restful relaxation, tasty but inexpensive meals, or some active recreation. The Union supplements these services with a program of dances, receptions, music hours, and concerts.

All students are members and are urged to make the most of the Union facilities and programs.

UNIVERSITY FARM UNION

This social center, located in Old Dairy Hall on the Agricultural Campus, will be open throughout the Summer Session for undergraduate and graduate students on the Agricultural Campus. The facilities include various lounges, food service, and a home-like recreational atmosphere.

UNIVERSITY POST OFFICE

The university post office, for distribution of mail addressed to the University, is located in the basement of the Coffman Memorial Union on the Main Campus. The Agricultural Campus post office is in the Administration Building on that campus. At the time of registration each student is assigned a post-office box in which he will receive all mail, announcements, and university communications. The mail box should be visited at least

once a day. *When leaving at the close of a term, students should give the postmaster a forwarding address.*

OFFICIAL DAILY BULLETIN

Throughout the year an Official Daily Bulletin is published in the *Minnesota Daily*. In addition to announcements to students and faculty, it contains other information, programs of the various recreational activities, and matters of general interest. The *Minnesota Daily* is delivered to offices and laboratories, and to the post-office box of every student each morning on which it is published. *Each student is held responsible for a knowledge of such information appearing in the official notices as may affect him.*

STUDENTS' HEALTH SERVICE

The Students' Health Service conducts a dispensary and infirmary during the Summer Session on the same basis as any other quarter of the year, the same staff of physicians, dentists, and nurses being on duty. Through the Students' Health Service, the University makes available to students medical care, physical examinations, health consultations, and hospitalization. General service is provided free of charge, but for services which are specialized and individual in character, such as dentistry, X ray, board and laundry in the student hospital, out-patient calls, minor surgery, etc., special fees are charged.

LIVING EXPENSES

The living expenses for students at the University are never very high, and this is true especially of the Summer Session. Good accommodations for room may be had from \$12 to \$20 per month. In addition to the cafeterias conducted on the campus by the University, several good restaurants are to be found in the immediate vicinity of the University. Further information concerning room and board may be obtained by addressing the Director of Student Housing, 118 Administration Building, University of Minnesota, Minneapolis 14. It is generally more satisfactory to engage accommodations after arrival than to make reservations in advance, except in the case of reservations at Comstock Hall and Sanford Hall.

DORMITORIES FOR MEN

Pioneer Hall

The Army and Navy have taken over Pioneer Hall to house military students here on the campus. It is very unlikely that the building will be open to Summer Session students.

DORMITORIES FOR WOMEN

Ada Comstock Hall

Excellent living accommodations are provided in Ada Comstock Hall, a residence hall for women, opened in September, 1940. The building, which is modern in every way, faces the Mississippi River and is adjacent to the Coffman Memorial Union. It accommodates 375 students.

Reservations should be made as far in advance as possible. Application should be sent direct to Ada Comstock Hall, University of Minnesota. No application will be recorded until a completed lease is received. Notification of cancellation should be given by June 1. For additional information write to the Director of Comstock Hall, University of Minnesota, Minneapolis 14.

Sanford Hall

Sanford Hall is once again a girls' dormitory and offers comfortable living quarters. Single and double rooms are adequately furnished except for dresser scarf and towels. Every room has hot and cold water. A laundry, equipped with washing machines and a mangle, is provided for the use of the residents.

Although during the academic year Sanford is a freshman dormitory, during the Summer Session upperclassmen and graduate students also will be housed there.

Reservations should be made as far in advance as possible. Applications should be sent directly to Sanford Hall. No application will be recorded until a completed lease is received. If plans are changed please notify the director by June 1. For further information write the Director of Sanford Hall, University of Minnesota, Minneapolis 14, Minnesota.

Meredith Hall, University Farm

Women taking regular work during the first term of the Summer Session, either on the Main or on the Agricultural Campus, may obtain rooms in Meredith Hall, Agricultural Campus. There is convenient streetcar service to the Main Campus. The dormitory contains a few single rooms; other rooms are intended to accommodate two persons. Necessary bedding is furnished.

The rates for the first term of the Summer Session are as follows: single rooms, \$15; other rooms, \$13.50 per occupant. Applications for rooms, accompanied by a \$2 deposit, should be made to the office of the Superintendent, School of Agriculture, University Farm, St. Paul 8, Minnesota.

Assignment of rooms will be made at the time of registration in Meredith Hall. Payment for the first term of the Summer Session must be made to the cashier at the beginning of the first week. The dormitory will be open Monday, June 18. Rooms will not be available during the second term.

During the first term of the Summer Session, residents of Meredith Hall may have access to cafeteria service at the Agricultural Campus cafeteria. This cafeteria will be open for three meals on five days of each week, Monday through Friday, and for dinner on Sunday.

LIVING ACCOMMODATIONS FOR MARRIED GRADUATE STUDENTS

Thatcher Hall, providing living accommodations for thirty-six married students registered in the Graduate School, is located on the Agricultural Campus. There are both one-bedroom and non-bedroom quarters. All quarters include a dinette, kitchenette, in-the-wall bed, and a private bathroom with adjoining built-in wardrobe and closet.

Rooms are leased on a twelve-month basis, with the possibility of some of them being sublet for the Summer Session. Graduate students interested in residence at Thatcher Hall should communicate with the real estate manager, Room 12, Administration Building, University of Minnesota, Minneapolis 14, regarding application, prices, and other details.

PRIVATE RESIDENCES

For those who prefer living off the campus there are numerous private residences and sorority houses adjacent to the University.

The Housing Bureau, Room 118, Administration Building, Main Campus, is operated by the University for the purpose of assisting both men and women in the securing of suitable living accommodations. Students may obtain lists of approved houses upon request. The houses on these lists have been inspected by the Students' Health Service on the basis of sanitation, fire hazards, and other qualities that might affect the health and welfare of the student.

For the convenience of students desiring housing facilities in the area near the Agricultural Campus, lists of approved houses and other information pertaining to housing may be secured by calling at Room 204, Administration Building, Agricultural Campus.

All students enrolling for the first time in the University are especially urged to avail themselves of the service offered by the Housing Bureau.

ADMISSION AND REGISTRATION

ADMISSION

The courses of the Summer Session are open to all qualified high school graduates. Non-high school graduates and others who do not meet normal requirements for entrance may be considered for admission by examination. Students with previous college work who wish to attend only for the Summer Session and not as candidates for degrees may do so without filing application or credits provided they are in good standing. Such students will be classified as special students for Summer Session only. Anyone who expects to become a candidate for a degree at the University of Minnesota must file an application for admission and a transcript of credits covering high school and previous college work with the director of admissions of the University of Minnesota. Students who have had no previous college work must satisfy admission requirements to attend Summer Session. Persons of maturity (over twenty-four years of age) whose preparation does not meet the entrance requirements may attend as adult special students on approval of the dean of the college or school concerned.

Students should consult the General Information Bulletin for detailed information concerning admission to the various colleges. The General Information Bulletin and college bulletins describing curricula offered may be obtained by inquiry to the Office of Admissions and Records, University of Minnesota, Minneapolis 14.

VETERANS

Veterans of World War II may receive training under Public Law 16, Vocational Rehabilitation Act and Public Law 346, Servicemen's Readjustment Act (G.I. Bill). Veterans approved for training under either act will have tuition fees, books, supplies, and allowance for maintenance paid by the government. Application for aid under either act may be made to the Veterans Administration, 54th Street and 48th Avenue South, Minneapolis 6, Minnesota.

Veterans must satisfy usual admission requirements and register in the same manner as other students.

Fee statement and Veterans Authorization for Training should be presented to the trainee account clerk, Window 23, Office of Admissions and Records, for approval for collection from the Veterans Administration. Veterans in the College of Agriculture, Forestry, and Home Economics should report to 203d, Administration Building, University Farm. Approved fee statement should then be handed to the bursar who will give the veteran a receipt.

Books and supplies may be obtained by presenting receipt at the Veterans Bureau, 201-203 Eddy Hall.

REGISTRATION

In order that the short terms may prove of maximum value, and that the work of the courses may not be interfered with by late entrants, students are urged to complete their registration, including payment of fees, on the days set aside for registration.

SUMMER SESSION

The regular registration days are:

For the first term Monday, June 18, 8:30 a.m. to 4:00 p.m.
 Tuesday, June 19, 8:30 a.m. to 4:00 p.m.
 For the second term Monday, July 30, 8:30 a.m. to 4:00 p.m.

Late registration fees are charged for the first term as follows for registration or payment of fees on:

Wednesday, June 20	\$2.00
Thursday, June 21	3.00
Friday, June 22	4.00
Monday, June 25	5.00

No registrations are allowed for the first term after Monday, June 25, without the special permission of the dean of the school or college concerned, and the payment of the late registration fee of \$5.

The late fees for the second term are as follows for registration or payment of fees on:

Tuesday, July 31	\$2.00
Wednesday, August 1	3.00
Thursday, August 2	4.00
Friday, August 3	5.00

No registrations will be accepted for the second term later than Friday, August 3, without the special permission of the dean of the school or college concerned, and the payment of the late registration fee of \$5.

No provision is made for allowing exemption from the late registration fee to those who are unable to reach the University during the regular registration days.

The University of Minnesota reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

Registration for all colleges except the College of Agriculture, Forestry, and Home Economics will be held in the Coffman Memorial Union ballroom. College of Agriculture, Forestry, and Home Economics students will register at 203d Administration Building, Agricultural Campus.

FEES

The following fees are payable each term by each full-time student at the time of registration and must be paid before registration is complete:

Tuition fee (per term)	\$25.80
Incidental fee† (per term)	5.25
<hr/>	
Total fee (per term)	\$31.05
General deposit	2.00
Forestry fees:	
Dormitory and dining hall at Lake Itasca Forestry and Biological Station (first term)	5.00

† An incidental fee of \$5.25 per term is charged each student for which the student receives the privileges of the Coffman Memorial Union, the Health Service, the *Minnesota Daily* including the Official Daily Bulletin, and the university post-office service.

GENERAL INFORMATION

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The following fees are payable each term at the time of registration by each student taking four credits or less and must be paid before registration is complete:

Part-time tuition fee (4 credits or less) (per term)	\$15.80
Incidental fee† (per term)	5.25
Total fee (per term)	
General deposit	\$21.05
General deposit	2.00

NOTE—Regular quarter fees as provided during the academic year will be charged in Medicine, Dentistry, Dental Hygiene, Law, and Nursing. In all other colleges the regular Summer Session fees as listed above will be charged.

In addition, certain courses carry a fee as indicated in the description of those courses.

Graduate students who have completed all their graduate work with the exception of their theses will be allowed to register in the Summer Session for *thesis work only* upon the payment of \$5 tuition and \$2 deposit fee.

Charges for lockers, laboratory breakage, library fines, etc., will be deducted from the \$2 deposit and the balance will be refunded by mail after the close of the term.

There is no additional fee in the Summer Session for students who live outside Minnesota.

For fees for students desiring legal time credit in the Medical School, see page 65.

For fees for students registered for clinical courses in the School of Dentistry, see page 84.

For fees for students registered for music courses, see page 37.

For fees for students registered for nursing courses, see page 66.

Refund of Fees

Students who cancel their Summer Session registration without class attendance shall be allowed a full (100 per cent) refund of fees. Students who cancel after having attended classes shall be allowed a refund of fees on the following basis:

Length of Term	80 Per Cent Refund for Attendance	No Refund for Attendance of More Than
6 weeks	1 day to 1 week	1 week
5 weeks	1 day to 5 days	5 days
4 weeks	1 day to 4 days	4 days
3 weeks	1 day to 3 days	3 days
2 weeks	1 day to 2 days	2 days
1 week	1 day	1 day

AUDITORS

Fees for auditors are the same as for students registered for credit. Permission to attend classes as auditors may be granted by the dean of the college or school with the consent of the department concerned. The procedure for registration as auditor is the same as for registration for credit, except that "auditor" should be indicated on the registration sheet. It is expected that auditors will be registered in at least one course for credit, but this regulation may be waived in exceptional cases.

CREDIT

Credit is allowed on the following basis: One quarter credit requires not less than 10 lecture or recitation periods (2 per week for a summer term) requiring two hours of preparation each or not less than 20 periods of laboratory work requiring one-half hour of preparation each; or not less than 30 hours of laboratory work with no preparation. Courses carrying two or more units of credit require corresponding multiples of these amounts.

† An incidental fee of \$5.25 per term is charged each student for which the student receives the privileges of the Coffman Memorial Union, the Health Service, the *Minnesota Daily* including the Official Daily Bulletin, and the university post-office service.

AMOUNT OF WORK

A maximum of 9 credits or two 5-credit courses is considered a full program for either term. Registration for a greater number requires special permission from the Students' Work Committee or the dean of the school or college in which the student is registered.

EXAMINATIONS

Examinations are held at the last scheduled class hour for each course.

GRADING SYSTEM

There are four passing grades, A, B, C, and D, representing varying degrees of achievement.

The grade F (failure) indicates work of distinctly unsatisfactory quality and may be converted into a higher grade only by a repetition of the work in the course or, in exceptional cases, by examination by permission of the faculty concerned.

The grade I (incomplete) indicates that a student, for reasons satisfactory to the instructor in charge, has been unable to complete the work of the course. This grade is given only when the work already done has been of acceptable quality. Any student receiving this grade will be given an opportunity to complete the course within the first thirty days of his next quarter in residence, or in case of a student who is not in attendance during other quarters of the year, special arrangements may be made by the recorder if application is filed before the end of the summer term. A fee of \$5 is charged for each special examination.

REGULATIONS GOVERNING GRANTING OF DEGREES

The Board of Regents will confer the degree appropriate to the course pursued under the following conditions:

1. **Curriculum requirements.**—Certification by the recorder of the completion of all requirements of the course of study as outlined in the college announcement, or its equivalent as determined by the faculty of the college offering the course.

2. **Recommendation of the faculty.**

3. **Residence requirement.**—The student must earn at least one year's credit in residence in this University. If the term of residence is only one year, that year must be the senior year; and in any case he must spend two quarters of the senior year in residence. In addition, special residence requirements must be met in several of the schools and colleges. See individual school and college announcements.

4. **Payment or satisfactory arrangement of all financial obligations due the University.**

5. **Attendance at commencement.**—All candidates for degrees are required to be present at commencement exercises provided the candidate's work is completed at the end of a quarter when such exercises are held. Commencement exercises for first term Summer Session candidates will be held Thursday, July 26, 1945. Students completing their work for a degree in the second term of the Summer Session will receive the degree without attending formal commencement exercises, or they may receive the degree at the fall quarter commencement exercises in December.

A student who fails to attend shall not receive his diploma until the expiration of one year, unless in the meantime he attends commencement exercises or unless excused from such attendance by the dean of the college and the president of the University.

6. **Graduation fee.**—Graduate School, \$10; other schools and colleges, \$7.50.

SUMMER RECREATION

The University of Minnesota is ideally situated for a program of healthful recreation. A definite program is planned each year to give the Summer Session students a maximum of recreational activity for a minimum expense. The Twin Cities, with their parks, lakes, art and music centers, libraries, and museums, offer many fine attractions for the summer visitor.

As a gateway to the countless resorts on Minnesota's famed 10,000 lakes, the Twin Cities also provide an advantage for the summer visitor seldom found anywhere else. Many students will find it convenient and pleasant to spend week ends at some of these resorts and centers for recreation.

Informal social evenings.—Included in the recreation program are regularly arranged weekly social dances and instruction periods in social dancing, square dancing, contract bridge, and bowling. Musical features include music listening hours and a music lending library.

Excursions.—A number of excursions to points of historical, industrial, educational, or purely recreational interest in the vicinity of the Twin Cities also are made each summer. These tours are usually arranged for Monday, Friday, and Saturday afternoons, with the cost only the necessary streetcar fare.

Physical activities.—The physical education plant at the University of Minnesota is one of the finest in the United States. Its facilities for healthful exercise are many and varied. These may be summarized briefly as follows: Recreation Field, an eighteen-hole golf course; three gymnasiums containing five swimming pools—Cooke Hall for men, Norris Gymnasium for Women, and the Farm Gymnasium; Northrop Field which contains facilities for baseball, track, diamond ball; 21 tennis courts, and space for minor sports.

A program of tennis, golf, horseshoe, and badminton tournaments; a baseball and diamond ball schedule; as well as other competitive sports are arranged each summer. All of these facilities are available for both men and women and most of them with no extra charge except for towel service.

Tennis and golf tickets.—The use of the tennis courts is restricted to those holding tickets. Such tickets will be issued to regularly enrolled students of the Summer Session and members of the staff upon payment of a fee of \$1 for 15 hours of play. Without tickets, a charge of 25 cents per session of play is made for the use of the tennis courts. Golf tickets are issued in the same manner without charge, but a greens fee of 50 cents is charged for a single round, or ten rounds for \$4.50. Before 10:30 a.m., except Saturday, Sunday, or holidays, and after 5:00 p.m. the charge will be 35 cents per round. Application should be made at the golf course clubhouse.

SPECIAL FEATURES

Lectures and convocations.—One of the principal features of the Summer Session programs is the series of weekly convocation addresses by speakers of more than usual prominence. Scientists, literary figures, artists, and observers of national and international affairs are among those who visit the campus to address these Summer Session audiences. In addition, an almost daily series of lectures by faculty members and invited guests adds to this feature of the program.

Dramatics.—Performances of legitimate drama also have become an outstanding feature of the Summer Session. The University Theatre, a university dramatic student organization, functions throughout the summer and demonstrates the success attainable with student actors. For these offerings the very best of stage equipment and facilities is provided.

Newsreels.—Another feature which has proved increasingly popular is the Newsreel Theater under the direction of the Visual Education Department of the University. Motion pictures of current events, travel pictures, and educational films of various kinds form the subject matter of the theater.

SUMMER EMPLOYMENT

Students are advised not to engage in extra work during the summer; a full program of study during the warm weather should, with reasonable recreation, be a sufficiently heavy load. But for the benefit of those who feel compelled to aid themselves financially while in attendance, the service of the University Employment Bureau is always available. Many students are aided by this bureau which is located in Room 17, Administration Building.

EXPLANATIONS

The following pages contain announcements of the courses offered in the several colleges and schools of the University. Departmental statements also indicate certain requirements as to entrance and credits. For more detailed statements of these matters, reference should be made to the Bulletin of General Information and the regular annual bulletin of the college concerned.

The University of Minnesota reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of such course or courses.

Following each course is a statement, in parentheses, of credits, classes of students eligible, prerequisites, days of the week, class hours, and location of the class. Thus: (3 cred.; jr., sr., grad.; prereq. 12, 13; MTWThF II; 117F) means that course carries three credits, is open to juniors, seniors, and graduate students, has for prerequisites Courses 12 and 13, meets on Monday, Tuesday, Wednesday, Thursday, and Friday, at the second hour, in Room 117, Folwell Hall. Abbreviations for class hours and buildings are interpreted by the following tables:

CLASS HOUR SCHEDULE

	Main Campus	Agricultural Campus
I Hour	8:30- 9:20	8:15- 9:05
II Hour	9:30-10:20	9:15-10:05
III Hour	10:30-11:20	10:15-11:05
IV Hour	11:30-12:20	11:15-12:05
V Hour	12:30- 1:20	12:15- 1:05
VI Hour	1:30- 2:20	1:30- 2:20
VII Hour	2:30- 3:20	2:30- 3:20
VIII Hour	3:30- 4:20	3:30- 4:20
IX Hour	4:30- 5:20	4:30- 5:20

Convocation, IV hour, Thursday

(See Official Daily Bulletin for announcements)

KEY TO ABBREVIATIONS USED FOR BUILDINGS

Main Campus Buildings

A, Armory	MeS, Medical Sciences Bldg.
Adm, Administration Bldg.	MEx, Mines Experiment Station
AH, Appleby Hall	MGH, Minneapolis General Hospital
Bo, Botany Bldg.	MH, Millard Hall
BoG, Botany Greenhouse	MNH, Museum of Natural History
Bu, Burton Hall	Mu, Music Bldg.
C, Chemistry Bldg.	MurH, William J. Murphy Hall
CCS, Center for Continuation Study	NGW, Norris Gymnasium for Women
CH, Cooke Hall	NMA, Northrop Memorial Auditorium
CI, Cancer Institute	O, Observatory
CMU, Coffman Memorial Union	OSL, Oak Street Laboratories
CoH, Ada Comstock Hall	P, Pillsbury Hall
CWI, Child Welfare Institute	Ph, Physics Bldg.
E, Main Engineering Bldg.	PhmG, Pharmacy Greenhouse
EdH, Eddy Hall	PIH, Pioneer Hall
EE, Electrical Engineering Bldg.	PoH, Louise M. Powell Hall for Nurses
EH, Eustis Hospital	Psy, Psychology Bldg.
EMH, Elliot Memorial Hospital	Pt, Pattee Hall
Ex, Experimental Engineering Bldg.	S, Stadium
F, Folwell Hall	SaH, Sanford Hall
FdH, Field House	SBH, State Board of Health Bldg.
G, Greenhouse	ShH, Shevlin Hall
HL, Hydraulics Laboratory (Hennepin Island)	TM, Todd Memorial Hospital
HS, Health Service	UD, University Dispensary
IA, Institute of Anatomy	UHS, University High School
J, Jones Hall	VH, Vincent Hall
L, Law Bldg.	WeH, Westbrook Hall
Lib, Library Bldg.	WuH, Wulling Hall
ME, Mechanical Engineering Bldg.	Z, Zoology Bldg.

University Farm Buildings

Ad, Administration Bldg.	LsPav, Livestock Pavilion
Ag, Agronomy Bldg.	MB, Music Bldg.
AgBot, Agricultural Botany	OD, Old Dairy Hall
En, Engineering Bldg.	PP, Plant Pathology and Botany
GH, Green Hall	SnH, Snyder Hall
HE, Home Economics Bldg.	So, Soils Bldg.
HH, Haecker Hall	St, Stock Pavilion
Hr, Horticulture	Ve, Veterinary
HS, Health Service	

REQUESTS FOR INFORMATION

Correspondence with reference to the Summer Session and requests for circulars and additional information may be addressed to the Director of the Summer Session or to the Director of Admissions and Records, University of Minnesota, Minneapolis 14, Minnesota.

GRADUATE SCHOOL

The Graduate School gathers into a single organization and unites for the purpose of administration all the activities of the University in all its schools and colleges in so far as they relate to advanced instruction offered for the second or higher degrees, namely, master of arts, master of science, master of business administration, master of laws, civil engineer, chemical engineer, other degrees in engineering, and doctor of philosophy.

The privileges of the Graduate School are in general open to all who have received Bachelor's degrees from recognized colleges and universities, whose undergraduate scholastic records are satisfactory, and who are acceptable for work in their chosen major fields. An applicant of satisfactory scholastic record whose Bachelor's degree was granted by an institution on the list of colleges and universities approved by the Association of American Universities will be admitted, with the approval of the major department concerned, for graduate work involving a major in that department. *Students who do not hold a degree from the University of Minnesota must present a transcript in duplicate of their undergraduate work.*

The scholastic records of applicants from institutions other than those on the approved list of the Association of American Universities will be reviewed and the applicant may be admitted, with or without conditions. Such conditions as may be found necessary will be determined in each case by the dean and the department of the student's proposed major. If more than six additional prerequisite credits must be earned, the applicant may be asked to register as an adult special student in the appropriate undergraduate college.

An applicant who does not designate a major may be admitted to take work for which he is qualified, but if at a subsequent time he chooses a major he must meet the requirements of that department for acceptance to do major work.

An applicant whose scholastic record and qualifications are unsatisfactory will be refused admission to the Graduate School, but may be advised to register for a probationary period as an adult special student in the appropriate undergraduate college. Such an adult special student must complete successfully one quarter's work in courses acceptable for credit by the Graduate School before being permitted to transfer his registration to the Graduate School. Upon the successful completion of this probationary quarter the student may petition to transfer all work of graduate quality taken while registered as an adult special student to the records of the Graduate School. Residence credit in the Graduate School will be granted with such transferred credits.

College graduates who simply desire to take additional work of undergraduate character without a view to ultimate preparation for an advanced degree should not apply for admission to the Graduate School but should register as special students in the college giving the work.

Students must make application for admission at least two weeks before the opening of the Summer Session which they expect to attend in order to avoid delay and possible penalty for late registration. All applications for admission, except for graduates of the University of Minnesota, must be accompanied by an *official transcript* in duplicate of all undergraduate work, including degrees earned, and by a single official transcript of all graduate work completed, and should be sent to the dean of the Graduate School at least two weeks before matriculation.

CANDIDACY FOR A DEGREE

Admission to the Graduate School does not admit a student to candidacy for a degree. Admission to such candidacy is contingent upon the ability of the student and the quality of his work in the Graduate School of the University of Minnesota. Admission to can-

didacy indicates a judgment by members of the graduate faculty that the student shows sufficient promise to be permitted to proceed towards a degree. Under no circumstances will a student be admitted to candidacy until he has been in residence for at least one quarter or Summer Session and until he has removed any deficiencies which may have conditioned his admission to the Graduate School.

Following the completion of from 9 to 15 graduate credits, at least 3 of which must be in the major, the student who expects to obtain a Master's degree should apply for admission to candidacy for that degree on a blank provided for the purpose. This application may be submitted after the first Summer Session in residence and must be completed and approved before the Summer Session (or quarter) in which the student expects to receive the degree.

The completed application must be accompanied by a complete program of work to be offered for the degree, including the proposed thesis title in the case of Plan A. The *application for candidacy* will be reviewed by an appropriate committee normally from the major department, division, or college. This committee will recommend to the dean, through the appropriate graduate group committee, the acceptance or rejection of the application for candidacy. The dean or the reviewing committee may require any evidence which is thought pertinent to the consideration of the application. The *program*, including in the case of Plan A the thesis title, will be reviewed by the appropriate group committee.

MASTER'S DEGREE, PLAN A

The *course work* for the Master's degree according to Plan A may be completed in four separate summer terms of six weeks each. In this case, the candidate will be expected to register for thesis and to carry *in absentia* thesis work to complete the equivalent of three quarters. All requirements for the Master's degree under Plan A must be completed within six years after the first registration, except in social work where the time limit is eight years.

The Master's degree under Plan A may be earned by qualified students who complete a minimum of 27 quarter credits, 18 in the major and 9 in the minor, who meet special requirements such as that of a reading knowledge of a foreign language, and who present a satisfactory thesis and pass the required final written and oral examinations.

Theses of Summer Session students must be completed and a minimum of four copies registered in the Graduate School office at least four weeks before the end of the session in which they take the degree (first term: Thursday, June 28, 1945; second term: Saturday, August 4, 1945).

MASTER'S DEGREE, PLAN B

The requirements under this plan in matters of admission, residence, transfer of credits from other institutions, and language requirements follow Plan A. Plan B differs in substituting for the thesis a heavier course requirement which, if met in Summer Sessions, means more than the minimum four sessions of course work possible under Plan A. All requirements for the Master's degree under Plan B must be completed within seven years after the first registration, except in social work where the time limit is nine years.

Under Plan B candidates for the Master's degree must complete, with an average of B, 45 quarter credits in courses listed in the Graduate School Bulletin. At least 21, and not more than 27, credit hours should be in a single field of concentration. At least 9 quarter credits either in the field of concentration or in related fields must be in advanced courses, seminars, or independent work under faculty supervision and requiring the preparation of written reports representing the quality but not the range of a Master's thesis. Courses which offer an opportunity to meet this 9-hour requirement are marked in this bulletin with an asterisk (*).

A full statement of the requirements for advanced degrees may be found in the Graduate School bulletins and the supplement to the Graduate School Bulletin. Opportunity for a training program in vocational diagnosis and counseling for rehabilitation workers is also offered. (See special bulletin and page 9 of this bulletin.)

Students must register in the Graduate School if they desire their work to be counted for an advanced degree.

All requests for information concerning graduate work, including admission to the Graduate School, should be addressed to the dean of the Graduate School.

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

GENERAL INFORMATION

The administrative officers of this college and their offices are listed below:

T. R. McConnell, Dean of the College.....	219 Adm. Bldg.
J. M. Thomas, Assistant Dean for the Senior College.....	217 Folwell Hall
W. H. Bussey, Assistant Dean for the Junior College.....	106 Folwell Hall
R. R. Shumway, Assistant Dean for Students' Work.....	219 Adm. Bldg.

For general information, for the requirements for admission as regular or as unclassified students, for general rules and regulations, and for the requirements for degrees in the different curricula offered by the college, students should consult one of the administrative officers or the complete bulletin of the College of Science, Literature, and the Arts.

Courses announced in the bulletin as open to "juniors and seniors" or to "juniors, seniors, and graduates" are called "Senior College Courses." They are open to sophomores under certain conditions. See the complete bulletin of the college, or consult one of the administrative officers.

Some of the numbers given in the statement of prerequisites for courses in this bulletin refer to courses listed in the bulletin of the college.

Some of the courses scheduled in this Summer Session Bulletin by the School of Business Administration, the Medical School, the Institute of Technology, and the College of Agriculture, Forestry, and Home Economics are open to students of the College of Science, Literature, and the Arts under the same conditions that prevail during the regular college year. For information, consult one of the administrative officers of the College of Science, Literature, and the Arts.

An *asterisk* (*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 25.)

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

ANTHROPOLOGY

FIRST TERM

- 42su. The Growth of Cultures. Man's first appearance in Old and New Worlds; earliest stages in the development of civilization; discovery and invention, the formation of cultural patterns, and the spread and adaptation of culture to various environments in Asia, Africa, the South Seas, and among the American Indians; changes in arts, beliefs, and institutions of primitive communities as observed in recent times. (3 cred.; soph., jr., sr.; no prereq.; MTWThF I; 6WeH.) Mr. Cline.
- 118su.* Indian Civilizations of Mexico and Peru. This course covers the growth of the Maya, Aztec, and Inca cultures in pre-Spanish times. A brief survey of the primitive tribes of Middle and South America will also be included. (3 cred.; soph., jr., sr., grad.; no prereq.; MTWThF II; 6WeH.) Mr. Cline.
- 122su.* Problems in Anthropology. Individually directed readings. (Cred. ar.; jr., sr., grad.; prereq. permission of instructor; hrs. and days ar.; 104WeH.) Mr. Cline.

ASTRONOMY

FIRST TERM

- 11su. Descriptive Astronomy. (5 cred.; all; no prereq.; MTWF III-IV and one evening a week for observation; 150Ph.) Mr. Luyten.
- 13su. Stellar and Practical Astronomy. Deals primarily with the observational aspect of astronomy, with the constellations and individual stars. Two lectures a week and as much observing as weather permits. (3 cred.; all; no prereq.; WF 7:30 to 9:00 p.m., approximately the latter half of the time being used in observation; 133Ph.) Mr. Luyten.
- 140su. Least Squares. (3 cred.; prereq. 51 or 11, and at least Math. 51; ar.) Mr. Luyten.

SECOND TERM

- 20su.† Celestial Navigation. Fundamentals and astronomical background of navigation. Practice in the actual determination of position on the sea and in the air, using the methods now in use in Army and Navy. (5 cred.; all; no prereq.; MTWF VI-VII and one evening a week for observations; 358Ph. If there is sufficient demand, this course may also be taught at another hour.) Mr. Luyten.

BOTANY

FIRST TERM

- 4su.† General Botany. A survey lecture and laboratory course on plants and their human interest; characteristics of living matter; fundamental facts of growth, structure, and reproduction of plants; principles underlying inheritance, variation, organic evolution, and relations to environment. (5 cred.; all; no prereq.; lect. MTWThF II, 06Bo; lab. MTWThF VI-VII; 1Bo.) Mr. Abbe.
- 197su.† Problems. Advanced work in some specialized field of botany. (1-5 cred.; jr., sr.; prereq. consent of instructor; ar.; ar.) Mr. Abbe.
- 229su. Research Problems. (1-5 cred.; grad.; prereq. consent of instructor; ar.; ar.) Mr. Abbe.

SECOND TERM

- 5su.† General Botany. (See 4su for description.) (5 cred.; prereq. 4su or equiv.; lect. MTWThF I; 06Bo; lab. MTWThF II-III; 1Bo.) Mr. Sharsmith.
- 198su.† Problems. Advanced work in some specialized field of botany. (1-5 cred.; jr., sr.; prereq. consent of instructor; ar.; ar.) Mr. Sharsmith.
- 206su. Research Problems. (1-5 cred.; grad.; prereq. consent of instructor; ar.; ar.) Mr. Sharsmith.

CLASSICS

FIRST TERM

Courses for Which No Knowledge of Greek or Latin Is Required

- 42-43su. Greek Mythology. Lectures, textbook work, and illustrative readings, supplemented by occasional stereopticon views. The origin and interpretation of the myth; its relation to literature, art, and religion. (3 cred.; soph., jr., sr.; no prereq.; MTWF IV and one hr. ar.; 112F.) Mr. Heller.

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

LATIN

- A-B-Csu. Review in Elementary Latin. Rapid review of the essentials of Latin, intended primarily for those who, because of the emergency, may be called upon to teach Latin and for those who wish to refresh knowledge previously acquired. (3 cred.; soph., jr., sr.; no prereq.; MTWThF I; 112F.) Mr. Heller.
- 171su.* Independent Reading Course. (3 cred.; jr., sr., grad.; prereq. any two courses between 50 and 100 or six years of Latin; MTWThF II; 110F.) Mr. Heller.
- 211su.* Graduate Seminar. Opportunity will be offered students to pursue independent research and to undertake or to continue work on theses. (3 cred.; ar.) Mr. Ogle.

ENGLISH

FIRST TERM

LITERATURE

- 23su. Introduction to English Literature. This course carries university credit for the third quarter of Eng. 21-22-23. (6 cred.; all; prereq. Eng. A-B-C, or Comp. 4-5-6, or exemption from requirement; MTWThF II and 1 hr. ar.; MTWF IV, Th V, and 1 hr. ar.; 322F.) Mr. Hessler.
- 39su. Twentieth-Century Literature. This course carries university credit for the third quarter of Eng. 37-38-39. The novel since Thomas Hardy. This course is intended as a general introduction to the intelligent reading of literature for students in all colleges, and not particularly for those meaning to specialize in English. (3 cred.; fr. qualified to take Eng. A-B-C, soph., jr., sr.; MTWThF III and 1 hr. ar.; 322F.) Mr. Mizener.
- 55su. Shakespeare. Reading for class discussion of *A Midsummer Night's Dream*, *The Merchant of Venice*, *Much Ado About Nothing*, *Twelfth Night*, and *The Tempest*. Assignment of other comedies for independent reading optional with the instructor. (3 cred.; jr., sr.; prereq.†; MTWThF I and 1 hr. ar.; 204F.) Mr. Hillhouse.
- 56su. Shakespeare. A continuation of 55su. Reading for class discussion of *Henry IV, 1 and 2*, *Julius Caesar*, *Hamlet*, *Macbeth*. Assignment of other historical plays for independent reading optional with the instructor. (3 cred.; jr., sr.; prereq.†; MTWF IV, Th V, and 1 hr. ar.; 206F.) Ar.
- 73su. American Literature. This course carries university credit for the first quarter of Eng. 73-74. (3 cred.; jr., sr.; prereq.†; MTWThF II and 1 hr. ar.; 303F.) Mr. McDowell.
- 75su. Chaucer. Reading of tales from the Canterbury collection, with introduction dealing with the grammar and literary forms of fourteenth-century English. (3 cred.; jr., sr.; prereq.†; MTWThF III and 1 hr. ar.; 110F.) Mr. Dunn.
- 100su. Old English. The relation to modern English is particularly emphasized. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF I and 1 hr. ar.; 205F.) Mr. Allen.
- 110su. Romantic Poets of the Nineteenth Century. (Byron, Shelley, Keats.) This course carries university credit for the second quarter of Eng. 109-110. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWF IV, Th V, and 1 hr. ar.; 305F.) Mr. Beach.
- 113su. American Short Story. A history of the short story in the United States from Washington Irving to the present day. (3 cred.; jr., sr., grad.; prereq. 73-74; MTWThF I and 1 hr. ar.; 303F.) Mr. McDowell.
- 120su. The Interpretation of Poetry. A study of the relation between technique and expression in poetry. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF II and 1 hr. ar.; 204F.) Mr. Mizener.

† English A-B-C, or Composition 4-5-6 and 6 additional credits, or 10 credits in English 21-22-23.

- 123su. Technique of the Novel. This course carries university credit for the first quarter of Eng. 123-124-125. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50 and permission of instructor; MTWThF III and 1 hr. ar.; 204F.) Mr. Beach.
- 129su. Modern Drama. Contemporary drama from 1870 to the present. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWF IV, Th V, and 1 hr. ar.; 205F.) Mr. Hillhouse.
- 174su. American English. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF II and 1 hr. ar.; 206F.) Mr. Allen.

COMPOSITION

- 4su. Freshman Composition. Practical training in the art of writing; the principles of structure, and analysis of specimens of good prose. This course carries university credit for the first quarter of Comp. 4-5-6. (3 cred.; all; prereq. placement test; Sec. 1, MTWThF I and 1 hr. ar., 306F, ar.; Sec. 2, MTWThF II and 1 hr. ar., 305F, ar.; Sec. 3, MTWThF III and 1 hr. ar., 311½F, ar.)
- 5su. Freshman Composition. A continuation of Composition 4. This course carries university credit for the second quarter of Comp. 4-5-6. (3 cred.; all; prereq. Comp. 4; Sec. 1, MTWThF III and 1 hr. ar., 206F, ar.; Sec. 2, MTWThF II and 1 hr. ar., 306F, ar.)
- 6su. Freshman Composition. A continuation of Composition 5. This course carries university credit for the third quarter of Comp. 4-5-6. (3 cred.; all; prereq. Comp. 4-5; MTWThF II and 1 hr. ar.; 205F.) Ar.
- 27su. Advanced Writing. The writing of essays with emphasis on structure and organization. Instruction largely in individual conference. (3 cred.; soph., jr., sr.; prereq. Eng. A-B-C or Comp. 4-5-6 or exemption from requirement; MTWThF I and 1 hr. ar.; 302F.) Ar.
- 28su. Advanced Writing. Informal writing, involving description and narration. Instruction largely in individual conference. (3 cred.; soph., jr., sr.; prereq. Eng. A-B-C or Comp. 4-5-6 or exemption from requirement; MTWThF II and 1 hr. ar.; 304F.) Ar.

SECOND TERM

LITERATURE

- 55su. Shakespeare. Reading for class discussion of *A Midsummer Night's Dream*, *The Merchant of Venice*, *Much Ado About Nothing*, *Twelfth Night*, and *The Tempest*. Assignment of other comedies for independent reading optional with the instructor. (3 cred.; jr., sr.; prereq.†; MTWF IV, Th V, and 1 hr. ar.; 305F.) Mr. Sypher.
- 74su. American Literature. This course carries university credit for the second quarter of Eng. 73-74. (3 cred.; jr., sr.; prereq.†; MTWThF III and 1 hr. ar.; 306F.) Mr. Flanagan.
- 109su. Romantic Poets of the Nineteenth Century. (Wordsworth, Scott, Coleridge.) This course carries university credit for the first quarter of Eng. 109-110. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF III and 1 hr. ar.; 303F.) Miss Jackson.
- 117su. The American Essay. (3 cred.; jr., sr., grad.; prereq. 73-74; MTWThF I and 1 hr. ar.; 303F.) Mr. Flanagan.
- 151su. Recent Poetry. Poetry in England and America since the death of Queen Victoria. The main tradition and tendencies now prevailing. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWF IV, Th V, and 1 hr. ar.; 303F.) Miss Jackson.
- 181su. The Baroque and the Picturesque in English Poetry. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF II and 1 hr. ar.; 206F.) Mr. Sypher.

† English A-B-C, or Composition 4-5-6 and 6 additional credits, or 10 credits in English 21-22-23.

COMPOSITION

- 4su. Freshman Composition. (See 4su, first term.) (3 cred.; all; prereq. placement test; MTWThF I and 1 hr. ar.; 206F.) Ar.
- 5su. Freshman Composition. (See 5su, first term.) (3 cred.; all; prereq. Comp. 4; Sec. 1, MTWThF I and 1 hr. ar., 306F, ar.; Sec. 2, MTWThF II and 1 hr. ar., 311½F, ar.)
- 6su. Freshman Composition. (See 6su, first term.) (3 cred.; all; prereq. Comp. 4-5; Sec. 1, MTWThF III and 1 hr. ar., 304F, Mrs. Phelan; Sec. 2, MTWThF II and 1 hr. ar., 304F, ar.)
- 28su. Advanced Writing. (See 28su, first term.) (3 cred.; jr., sr.; prereq. Eng. A-B-C or Comp. 4-5-6 or exemption from requirement; MTWF IV, Th V, and 1 hr. ar.; 304 F.) Mrs. Phelan.

FINE ARTS

FIRST TERM

- 1su. Introduction to Modern Art. Introductory course in the history and appreciation of art, based on contemporary painting, sculpture, and architecture. Lectures illustrated with lantern slides. In the study of the various styles, emphasis will be placed upon art facilities available in the Twin Cities, such as important architectural monuments, art collections in the Minneapolis Institute of Arts, Walker Art Center, and the St. Paul Gallery. Material offered in this course corresponds to that of Fine Arts 1f given during the academic year. (3 cred.; no prereq.; MTWThF II and 1 hr. ar.; 2J.) Mr. Schmeckebier.
- 17su. Baroque Art of the Classic Tradition. A course for advanced students of art, history, or literature dealing with the development of style from the late Renaissance to the end of the seventeenth century particularly in Italy, France, and Flanders. The major part of the study will deal with the work of Caravaggio, the Carracci, Bernini, Poussin, Claude Lorrain, and Peter Paul Rubens. The lectures are illustrated with slides throughout. (3 cred.; prereq. 1, 2, 3, or equiv., or consent of instructor; MTWF IV and 2 hrs. ar.; 2J.) Mr. Schmeckebier.

SECOND TERM

- 3su. Introduction to Renaissance and Baroque Art. Continuation of 1su, dealing with painting, architecture, and sculpture of the sixteenth and seventeenth centuries in Europe. Special emphasis on the great artistic personalities of each period: Leonardo da Vinci, Raphael, Michelangelo, Titian, El Greco, Rubens, and Rembrandt. Illustrated throughout with lantern slides, and intended for beginning students as well as those who have had 1su. Material corresponds to that offered in Fine Arts 3s during the academic year. (3 cred.; no prereq.; MTWThF II and 1 hr. ar.; 2J.) Mr. Schmeckebier.
- 159su. Baroque Art in Holland. A course for advanced students of art, history, or literature dealing particularly with the art of Rembrandt, Frans Hals, and their followers. Emphasis is placed on the stylistic development of the artists and their significance as cultural expressions of seventeenth-century Holland. The lectures will be illustrated with lantern slides throughout the course. (3 cred.; prereq. 1, 2, 3, or equiv., or consent of instructor; MTWF IV and 2 hrs. ar.; 2J.) Mr. Schmeckebier.

GEOGRAPHY

FIRST TERM

- 53su. Historical Geography of North America. A study of the geography of past decades of American history. (3 cred.; jr., sr.; prereq. 11 or 15 cred. in history; MTWThF I; 103Bu.) Mr. Brown.

- 71su. Geography of North America. A consideration of environmental conditions and their limiting effect on economic activities in the major geographic regions of the United States and Canada. (3 cred.; jr., sr.; prereq. 11; MTWThF III; 103Bu.) Mr. Dicken.
- 101su.* Geography of Europe. A detailed consideration of the present economic activities and future possibilities of the principal geographic regions of Europe. (3 cred.; jr., sr., grad.; prereq. 8 cred.; MTWF IV and 1 hr. ar.; 103Bu.) Mr. Dicken.
- 110su.* Geography of South America. The environmental basis for population distribution and economic activities in selected type areas. (3 cred.; jr., sr., grad.; prereq. 8 cred.; MTWThF II; 103Bu.) Mr. Brown.

SECOND TERM

- 11su. Human Geography. A study of the factors of the physical environment and their effect on human activities. (5 cred.; all; no prereq.; MTWThF I-II; 103Bu.) Mr. Davis.

GEOLOGY

FIRST TERM

- 1su. General Geology (Geologic Processes and Their Results). A study of the varied aspects of our natural environment with special reference to the influence of geologic processes and structures on landscape development. The interpretation of natural scenery produced by glaciers, streams, ground water, geysers, oceans, volcanoes, etc. Lectures supplemented by laboratory work with minerals and rocks. Also several field excursions. (5 cred.; all; no prereq.; MTWThF I-II; 210P.) Mr. Thiel.
- 170su. Geologic Problems. (3 cred.; jr., sr., grad.; prereq. permission of major adviser; ar.) Mr. Thiel.

NOTE.—For further information, see instructors.

In addition to the courses definitely offered, advanced and graduate students may register for Geology 241 or 243 and do their work under the supervision of the instructors in residence.

GERMAN

FIRST TERM

- 1su. Beginning A. (5 cred.; all; no prereq.; MTWThF I-II; 209½F.) Mr. Downs.
- 3su. Intermediate German. Equivalent to either German 3 or 4. (5 cred.; prereq. for German 3 is 2 or two years of high school German; prereq. for German 4 is 3; MTWThF I-II; 207F.) Mr. Pfeiffer.
- 118su.* Germanic Heroic Poetry. (3 cred.; sr., grad.; prereq. 68 and 9 cred. above 59; TF III-IV-V; 209½F.) Mr. Reichardt.
- 173su. The Modern Novel: Thomas Mann. (3 cred.; sr., grad.; prereq. 122 and 11 cred. above 59; MW III-IV-V; 207F.) Mr. Pfeiffer.

SECOND TERM

- 2su. Beginning B. (5 cred.; all; prereq. 1 or one year of high school German; MTWThF I-II; 209½F.) Mr. Meessen.
- 3su. Intermediate German. (See 3su, first term.) Mr. Holske.
- 259su.* Direction of Graduate Work. (Cred. ar.; grad.; hrs. ar.) Mr. Meessen.

HISTORY

FIRST TERM

- 1su. Civilization of the Modern World. Part I of freshman survey. (3 cred.; all; no prereq.; MTWThF II; 111Bu.) Mr. Wolf.

- 3su. Civilization of the Modern World. Part III of freshman survey. (3 cred.; all; no prereq.; MTWThF I; 112Bu.) Ar.
- 20su. American History to 1844. Part I of sophomore survey. (3 cred.; soph., jr., sr.; no prereq.; MTWThF III; 111Bu.) Mr. Osgood.
- 21su. American History, 1844-1877. Part II of sophomore survey. (3 cred.; soph., jr., sr.; no prereq.; MTWF IV and 1 hr. ar.; 209Bu.) Mr. Stephenson.
- 54asu. Renaissance: Age of Machiavelli and Leonardo da Vinci. (3 cred.; jr., sr.; no prereq.; MTWThF II; 112Bu.) Mr. Krey.
- 67su. Twentieth Century Europe after 1919. (3 cred.; jr., sr.; no prereq.; MTWThF III; 209Bu.) Mr. Wolf.
- 69su. United States, 1877-1900. (3 cred.; jr., sr.; no prereq.; MTWThF II; 209Bu.) Mr. Stephenson.
- 91su. The West in American History. Part II. (3 cred.; jr., sr.; no prereq.; MTWF IV and 1 hr. ar.; 112Bu.) Mr. Osgood.
- 106su. Renaissance. (3 cred.; grad.; see 54asu.) Mr. Krey.
- 109su. European History—Twentieth-Century Europe. (3 cred.; grad.; see 67su.) Mr. Wolf.
- 123su. The West in American History. (3 cred.; grad.; see 91su.) Mr. Osgood.
- 135su. United States, 1877-1900. (3 cred.; grad.; see 69su.) Mr. Stephenson.

SECOND TERM

- 2su. Civilization of the Modern World. Part II of freshman survey. (3 cred.; all; no prereq.; MTWThF I; 112Bu.) Mr. Jordan.
- 22su. American History. Part III of sophomore survey. (3 cred.; soph., jr., sr.; no prereq.; MTWThF II; 111Bu.) Mr. Jordan.
- 58asu. Russian History. Late Empire and Soviet Russia. (3 cred.; jr., sr.; no prereq.; MTWThF III; 209Bu.) Mr. Steefel.
- 60su. Continental Europe. Napoleon III; Kingdom of Italy; Second German Reich. (3 cred.; jr., sr.; no prereq.; MTWThF VII; 111Bu.) Mr. Steefel.
- 64su. European Overseas Expansion. Imperialism since 1850. (3 cred.; jr., sr.; no prereq.; MTWThF II; 209Bu.) Mr. Willson.
- 75su. Modern England. Survey of English History, 1815-1945. (3 cred.; jr., sr.; no prereq.; MTWThF III; 221Bu.) Mr. Willson.
- 92su. The American West. Rocky Mountain region. Impact of westward movement on the Great Plains, on institutions. (3 cred.; jr., sr.; no prereq.; MTWThF III; 112Bu.) Mr. Webb.
- 93su. American Diplomatic History. Part I. (3 cred.; jr., sr.; no prereq.; MTWThF II; 112Bu.) Mrs. Tyler.
- 95asu. Survey of Latin-American History. (3 cred.; jr., sr.; no prereq.; MTWThF III; 211Bu.) Mrs. Tyler.
- 96su. Social America, Nineteenth Century. Intellectual, cultural, political, industrial. (3 cred.; jr., sr.; no prereq.; MTWF IV and 1 hr. ar.; 112Bu.) Mr. Jordan.
- 108su. Continental Europe. (3 cred.; grad.; see 60su.) Mr. Steefel.
- 109su. European Overseas Expansion. (3 cred.; see 64su.) Mr. Willson.
- 109asu. Russian History. (3 cred.; grad.; see 58asu.) Mr. Steefel.
- 112su. England Since 1815. (3 cred.; grad.; see 75su.) Mr. Willson.
- 125su. American Diplomatic History. (3 cred.; grad.; see 93su.) Mrs. Tyler.
- 126su. Survey of Latin-American History. (3 cred.; grad.; see 95asu.) Mrs. Tyler.
- 137su. Selected Readings—Social America, Nineteenth Century. (3 cred.; grad.; see 96su.) Mr. Jordan.
- 192su. Selected Readings—The Frontier and Western Civilization. (3 cred.; sr., grad.; ar.) Mr. Webb.

HUMANITIES

FIRST TERM

- 4su. Humanities in the Modern World. An introduction to the study of the humanities since World War I. The authors studied include Freud, Lenin, Shaw, Capek, Malraux, Thomas Mann, T. S. Eliot, and others. The background topics include civilization between two wars, the impact of psychoanalysis, creative evolution, communism versus fascism, etc. (3 cred.; all; no prereq.; Sec. 1, MTWThF II; 301F; Mr. McClosky; Sec. 2, MTWThF III; 301F; Mr. Castell.)

SCHOOL OF JOURNALISM

Fees.—A fee of \$1 a term is required of any student registered for one or more journalism courses. This \$1 fee entitles students to use of typewriters in the typewriting and reporting laboratories and provides certain necessary supplies for their use in class.

FIRST TERM

- 10su.‡ Photography. This course is designed to acquaint the student with the fundamental principles of photography, including training in the use of cameras, developing, printing, and other technical elements of photography. (3 cred.; soph., jr., sr.; no prereq.; lect. TTh VI, lab MWF VI-VII; 20MurH.) Mr. Hill.
- 13su. Introduction to Reporting. Lectures, practice, and conferences. Practical instruction in news gathering, news writing, and news analysis. The study of news sources and problems of the reporter. Some attention will be given to news display. Reports on aspects of leading American newspapers and on selected books dealing with the contemporary newspaper. This course is a basic course for journalism majors, but for high school and junior college teachers who are enrolled, assignments are given which relate to their work. (3 cred.; open to adult specials who demonstrate through tests their capacity and soph., jr., sr.; MTWThF I; 212MurH.) Mr. Gerald.
- 55su.‡‡ Advertising and Newspaper Typography. Training in the principles and practices of typographical arrangement of advertisements and newspaper pages. Lectures and laboratory work designed to teach the student how to work with type, how to prepare layouts, how to handle headline forms, copy blocks, illustrations, borders, type devices, and other makeup problems. Printing and engraving processes. The course is planned for supervisors of school publications as well as for prospective newspaper and advertising practitioners. (3 cred.; open to well-qualified soph., jr., sr.; prereq. 12 or 13, or consent of the instructor; lect. TTh VI, lab. MWF VI; 311MurH.) Mr. Barnhart.
- 68su. Problems in Radio Writing. Practical study and assignments in the various fields of radio writing; radio news, advertising, dramatic scripts, public affairs programs, etc. Students receive training in broadcasting techniques in the school's radio studio. Study of the radio audience, analyses of audience response. (3 cred.; jr., sr.; prereq. a course in reporting and consent of instructor; MTWThF II; 302MurH.) Mr. Charnley.
- 73su. Magazine Writing and Editing. Lectures and conferences. Practice in production of nonfiction articles for periodicals, general and specialized, and newspapers; instruction in magazine editing. Subjects and materials; analysis of manuscript markets; study of magazine policies and practices. Students with special training and aptitude may devote some attention to editing problems of book publishers. (3 cred.; jr., sr.; prereq. 12 or 13, or consent of the instructor; MTWF IV and 1 hr. ar.; 302MurH.) Mr. Charnley.

‡ A fee of \$5 per term is charged for this course.

‡‡ A fee of \$1 per credit is charged for this course.

- 82su. Supervision of School Publications. Practical consideration of problems facing supervisors of junior college, teachers college, and high school newspapers, magazines, yearbooks, with special emphasis on the solution of publication problems in wartime. (3 cred.; jr., sr.; prereq. consent of instructor; MTWThF III; 302MurH.) Mr. Barnhart.
- 112su.* Current Newspaper Problems. Editorial policy and editorial leadership; the presentation of the news of politics, business, science, the fine arts, labor, agriculture, crime, and other categories of news that have special social significance; technological changes and their impact on the press; newspaper consolidations, chain newspapers, and syndicates; newspaper and radio, etc. Topics will be chosen in light of students' special interests. (3 cred.; jr., sr., grad.; prereq. consent of instructor; MTWThF III; 311MurH.) Mr. Gerald.
- 113su.* The Press and Foreign Affairs. An analysis and appraisal of the reporting and interpretation of foreign news by the leading newspapers and press associations in various countries. The foreign correspondent, the press and radio in the important national states; some of the factors that affect news from these countries. A study of the channels of communication in war and peace and an analysis of the nationalistic struggle for cable, wireless, and radio supremacy by the great powers. The place of the press associations. Foreign news censorship. This course is intended to help the newspaper reader and radio listener understand the background of foreign news. (3 cred.; jr., sr., grad.; no prereq.; MTWF IV and 1 hr. ar.; 311MurH.) Mr. Nafziger.
- 210su.* Research in Newspaper Problems. Individual research in either historical or current phases of newspaper, periodical, and other publishing fields, radio, or advertising problems. (2 or 3 cred.; seminar for graduate students; prereq. consent of instructor; hrs. ar.) Mr. Charnley.

SECOND TERM

- 14su. Newspaper Reporting. Advanced reporting problems, both in news gathering and news writing. Extensive practice assignments. Writing the feature story. Specialized news sources. (3 cred.; prereq. 13; MTWThF I; 302MurH.) Mr. Gerald.
- 67su. Radio News Writing. Processing news for radio broadcast; radio news style; news broadcast patterns; special events, interviews, news dramatization and other special radio news forms. Use of the radio news wire. Students in the course spend considerable time in the radio news room preparing news broadcasts for WLB, the university station. (3 cred.; jr., sr.; prereq. 13 or consent of instructor; MWF III and 2 hrs. ar.; 302MurH.) Mr. Charnley.
- 121su.* The Newspaper in a Dynamic Society. The political environment of the newspaper, past and present, and the economic climate in which it lives. Industrialization, urbanism, changes in the social structure and their effects on the newspaper. Patterns of newspaper ownership—private, co-operative, and subsidized—and their evaluation. The newspaper of the future. (3 cred.; jr., sr., grad.; no prereq.; MTWThF II; 311MurH.) Mr. Gerald.
- 210su.* Research in Newspaper Problems. (See 210su, first term.) Mr. Gerald.

MATHEMATICS

FIRST TERM

- 1su. Higher Algebra. A collegiate treatment of the topics of elementary algebra for those who have had one year of elementary algebra. (5 cred.; all; prereq. 1 yr. of elementary algebra in high school; open for credit to any student offering not more than one-half year of high school higher algebra for entrance credit; MTWThF I-II; 104F.) Miss Reizman.

- 6su. Trigonometry. A treatment of logarithms and plane trigonometry. (5 cred.; all; prereq. 1 or high school higher algebra; open for credit even to students with high school trigonometry; MTWThF I-II; 105F.) Mr. Donsker.
- 7su. College Algebra. Selected topics in algebra commencing with quadratic equations and extending through the theory of equations and determinants, omitting logarithms. (5 cred.; all; prereq. 1 or high school higher algebra; MTWF III-IV, Th III, V; 104F.) Mr. Fleming.
- 15su. Elementary Mathematical Analysis I. This, together with Course 16, provides a course for premedical and other students who desire a survey of college mathematics including trigonometry, algebra, and calculus with emphasis on fundamental ideas rather than on technical preparation for more advanced courses in mathematics. (5 cred.; all; prereq. 1 or high school higher algebra; MTWF III-IV, Th III, V; 105F.) Miss Gibbens, Mr. Donsker.
- 30su. Analytic Geometry. (5 cred.; all; prereq. 6 and 7 or 6 and 8 or 15 and 16; MTWF III-IV, Th III, V; 101F.) Mr. Olmsted, Miss Reizman.
- 50su. Calculus I: Differential Calculus. (5 cred.; jr., sr.; prereq. 30; MTWThF I-II; 102F.) Mr. Koehler, Mr. Fleming.
- 110su.* A Tutorial Course in Advanced Mathematics. Properly qualified students whose needs are not met by the courses listed may, by special arrangement, be given an opportunity of obtaining through lectures or through reading and conferences the content of other graduate courses regularly offered by the department. (3 or 6 cred.; jr., sr., grad.; prereq. 51; ar.) Miss Gibbens.
- 126su.* The Calculus of Finite Differences. The basic definitions and formulas with applications to the summation of series, interpolation, numerical integration, and the solution of simple difference equations. The analogy between the calculus of finite differences and the infinitesimal calculus is investigated and an introduction given to the Euler-Maclaurin summation formula. (3 cred.; jr., sr., grad.; prereq. 51; MTWThF III; 102F.) Mr. Koehler.
- 139su.* Limits and Series. The analytical theory of limits with applications to infinite series. (3 cred.; jr., sr., grad.; prereq. 51; MTWThF II; 101F.) Mr. Olmsted.

SECOND TERM

- 6su. Trigonometry. (See 6su, first term.) (5 cred.; all; prereq. 1 or high school higher algebra; open for credit even to students with high school trigonometry; MTWThF I-II, 105F.) Mr. Donsker.
- 7su. College Algebra. (See 7su, first term.) (5 cred.; all; prereq. 1 or high school higher algebra; MTWF III-IV, Th III, V; 104F.) Mr. Fleming.
- 16su. Elementary Mathematical Analysis II. (See 15su, first term.) (5 cred.; all; prereq. 15; MTWF III-IV, Th III, V; 105F.) Miss Carlson, Mr. Donsker.
- 51su. Calculus II; Integral Calculus. (5 cred.; jr., sr.; prereq. 50; MTWThF I-II; 102F.) Mr. Koehler, Mr. Fleming.
- 110su.* A Tutorial Course in Advanced Mathematics. (See 110su, first term.) Miss Carlson.
- 118su.* Vector Analysis. The laws of algebraic combination of vectors; geometrical and physical applications; vector differential operators. (3 cred.; jr., sr., grad.; prereq. 51; MTWThF III; 102F.) Mr. Koehler.

MUSIC†

FIRST TERM

- 1su. Ear Training. (2 cred.; all; no prereq.; MTWThF I; 103Mu.) Miss Kendall.
 5su. Harmony. (3 cred.; all; prereq. 4; MTWThF II; 103Mu.) Mr. Oberg.
 11su. Piano. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Miss Kendall, Mr. Stephens.
 12su. Voice. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Miss Hull.
 13su. Violin. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Mr. Peterson.
 14-26su. Instruments of the Orchestra. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.)
 Ar.
 27su. Organ. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Mr. Jennings.
 31su. Music Appreciation (Symphony). (2 cred.; all; no prereq.; MTWF IV; 104Mu.)
 Mr. Oberg.
 34su. History of Music. (2 cred.; all; no prereq.; MTWThF III; 103Mu.) Mr. Ferguson.
 45su. University Chorus. (1 cred.; all; no prereq.; T 7:00 to 9:00 p.m.; 5NMA.) Mr.
 Killeen.
 76su. Form and Analysis. (3 cred.; jr., sr.; prereq. 4-5 and Psy. 1-2; MTWThF II;
 104Mu.) Mr. Stephens.
 77-78-79su. Composition-Orchestration. (2 cred.; prereq. 4-5-6, 7-8; ar.; Mu.) Mr. Fer-
 guson.
 83-84-85su. Advanced Composition. (2 cred.; prereq. 77-78-79; ar.; Mu.) Mr. Ferguson.
 200-201-202su. Basis of Musical Expression. (3 cred.; grad.; MWF VII-VIII; 104Mu.)
 Mr. Ferguson.
 205-206-207su. Composition in Larger Forms. (3 cred.; grad.; ar.; Mu.) Mr. Ferguson.
 209-210-211su. Advanced Topics in Musical Analysis. (3 cred.; grad.; TTh VII-VIII;
 104Mu.) Mr. Oberg.

SECOND TERM

- 11su. Piano. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Mr. Lindsay.
 12su. Voice. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Ar.
 13su. Violin. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Mr. Peterson.
 14-26su. Instruments of the Orchestra. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.)
 Ar.
 33su. Music Appreciation. Program and chamber music. (2 cred.; all; no prereq.; MTWF
 IV; 104Mu.) Ar.

PHILOSOPHY

FIRST TERM

Students who for reasons connected with military service need courses or sequences other than those listed are invited to confer with the instructors before or during the registration periods.

- 3su. Ethics. Problems of life treated in terms of (1) contemporary social, political, and economic forces and (2) the character of the individual. The psychological and philosophical foundations of morality; the reconstruction of morality; the history of morals and ethical thought. (3 cred.; soph., jr., sr.; no prereq.; MTWThF II; 302F.) Mr. Castell.

† Courses for which no special fee is indicated may be taken by Summer Session students on payment of the regular Summer Session fee. Students who pay as much as \$25 per term for special music fees may enroll for other courses in any department of the Summer Session for an additional fee of \$20.05 per term, making a total of \$45.05 for general and special fees. All students who register for either the general courses or the special courses must pay the \$2 deposit.

- 63su. Principles of Mature Thinking. From infantile to adult intelligence. A study of language, meaning, understanding, reasoning, and the ways of knowing. The functions of logic and experience. Critique of infantilism in thought and conduct. Applications to problems of philosophy and education. (3 cred.; soph., jr., sr.; no prereq.; MTWThF III; 302F.) Mr. Feigl.
- 153su. Philosophy of Science. An attempt to provide a clear understanding of the meaning, methods, and implications of modern science through the examination of basic concepts, presuppositions, and procedures. The topics include description, explanation, prediction, experimentation; space, time, number, matter, energy; causality, probability, statistics; organic life, evolution, mind. (3 cred.; jr., sr., grad.; MTWF IV and 1 hr. ar.; 302F.) Mr. Feigl.
- 191su. Seminar. Research problems in philosophy. (Cred. ar.; open only to qualified students upon consultation with instructor.) Mr. Feigl, Mr. Castell.

SECOND TERM

- 1su. Problems of Philosophy. Introduction to the subject; the main fields of investigation; permanent problems; principal methods and schools of philosophy; historical and contemporary views. (3 cred.; all; no prereq.; MTWThF I; 302F.) Mr. Conger.
- 2su. Logic. A study of the difference between logical and fallacious reasoning; types of fallacies; the rules of a good definition; syllogisms; what constitutes proof; hypothesis; generalization; probability; evaluation. (3 cred.; all; no prereq.; MTWF IV and 1 hr. ar.; 302F.) Miss Shaw.
- 70su. Modern Philosophies of Social Reform. Social philosophy as theory of social criticism. Central position of law and property in a theory of social criticism. Examination of democracy, laissez-faire, revolution, collective responsibility, communism, and fascism as concepts in modern social criticism. (3 cred.; soph., jr., sr.; MTWThF III; 302F.) Miss Shaw.
- 115su. Contemporary Philosophy. A survey of present-day supernaturalisms, idealisms, naturalisms, and positivisms, with special emphasis upon Dewey, Santayana, Whitehead, Russell, and others whose work is important for problems of war and peace. (3 cred.; jr., sr., grad.; prereq. 6 cred.; MTWThF II; 322F.) Mr. Conger.
- 192su. Seminar. Research problems in philosophy. (Cred. ar.; open only to properly qualified students upon consultation with instructor.) Mr. Conger, Miss Shaw.

NOTE—For Mr. Castell's course in Humanities (first term), see Humanities, 4su, page 34.

PHYSICS

FIRST TERM

- 1-2-3su. Introduction to Physical Science, Part I. Lectures and experimental demonstrations. (4½ cred.; all; prereq. high school algebra and plane geometry; lect. MWThF I-II, T I; 133Ph.) Mr. Rassweiler.
- 1a-2a-3asu.† Introduction to Physical Science, Part I. Laboratory included. Fulfills group requirements in Science, Literature, and the Arts. (6 cred.; all; prereq. high school algebra and plane geometry; lect. MWThF I-II, T I, 133Ph; lab. TTh VI-VIII, 153Ph.) Mr. Rassweiler.
- 4su.‡ General Physics, Part I. (Primarily for premedical students.) Mechanics. Laboratory included. (2½ cred.; all; prereq. completion of Math. 15-16, or registration in calculus; lect. and quiz MTWThF II, 166Ph; lab. T VIII-IX, or W VIII-IX, or Th VIII-IX, 153Ph.) Mr. Valasek.

† A fee of \$3 per term is charged.

‡ A fee of \$1 per term is charged.

- 5su.‡‡ General Physics, Part I. (Primarily for premedical students.) Optics and acoustics. Laboratory included. (2½ cred.; all; prereq. 4 or equiv.; lect. and quiz MTWThF III; 166Ph; lab. M VI-VII, or T VI-VII; 352Ph.) Mr. Valasek.
- 7su.‡‡ General Physics, Part I. (Primarily for students in the Institute of Technology and those majoring in physics, mathematics, or chemistry.) Mechanics. Laboratory included. (2½ cred.; all; prereq. registration in calculus; lect. and quiz MTWThF II; 166Ph; lab. T VIII-IX, or W VIII-IX, or Th VIII-IX; 153Ph.) Mr. Valasek.
- 9su.‡‡ General Physics, Part I. (Primarily for students in the Institute of Technology and those majoring in physics, mathematics, or chemistry.) Optics and acoustics. Laboratory included. (2½ cred.; all; prereq. Phys. 7 or equiv.; lect. and quiz MTWThF III; 166Ph; lab. M VI-VII, or T VI-VII; 352Ph.) Mr. Valasek.
- 102su. Intermediate Physics. Thermodynamics. (3 cred.; all; prereq. calculus and 15 cred. in physics; MTWThF I and 1 hr. ar.; 145Ph.) Mr. Hill.
- 111su.* Modern Physics. Lectures and readings on selected topics in contemporary fields of research. (3 cred.; jr., sr., grad.; prereq. a general course in physics, Math. 51; MTWF IV, Th V and 1 hr. ar.; 145Ph.) Mr. Hill.
- 134su.*‡‡‡ Experimental Optics. Measurements of indices of refraction, wave lengths, intensities, absorption, optical activity, focal lengths, and aberrations of lenses. (3 cred.; jr., sr., grad.; prereq. a general course in physics; lab. MWF VI-IX; 352Ph.) Mr. Valasek and Mr. Rassweiler.
- 136su.*‡‡‡ Spectrum Analysis. Experiments with the spectrograph. Analysis of spectra. (3 cred.; jr., sr., grad.; prereq. a general course in physics; lab. MWF VI-IX; 352Ph.) Mr. Valasek and Mr. Rassweiler.

SECOND TERM

- 1-2-3su. Introduction to Physical Science, Part II. (See 1-2-3su, first term.) (4½ cred.; all; prereq. Phys. 1-2-3su, Part I, or equiv.; lect. MWThF I-II, T I; 133Ph.) Mr. Buchta.
- 1a-2a-3asu.‡ Introduction to Physical Science, Part II. (See 1a-2a-3asu, first term.) (6 cred.; all; prereq. Phys. 1a-2a-3asu, Part I, or equiv.; lect. MWThF I-II, T I; 133Ph; lab. TTh VI-VIII; 153Ph.) Mr. Buchta.
- 4su.‡‡ General Physics, Part II. (Primarily for premedical students.) Mechanics. Laboratory included. (2½ cred.; all; prereq. Phys. 4su, Part I; lect. and quiz MTWThF II; 166Ph; lab. T VIII-IX, or W VIII-IX, or Th VIII-IX; 153Ph.) Mr. Wall.
- 5su.‡‡ General Physics, Part II. (See 5su, first term.) (2½ cred.; all; prereq. Phys. 5su, Part I; lect. and quiz MTWThF III; 166Ph; lab. M VI-VII, or W VI-VII; 352Ph.) Mr. Wall.
- 7su.‡‡ General Physics, Part II. (See 7su, first term.) (2½ cred.; all; prereq. Phys. 7su, Part I; lect. and quiz MTWThF II; 166Ph; lab. T VIII-IX, or W VIII-IX, or Th VIII-IX; 153Ph.) Mr. Wall.
- 9su.‡‡ General Physics, Part II. (See 9su, first term.) (2½ cred.; all; prereq. Phys. 9su, Part I; lect. and quiz MTWThF III; 166Ph; lab. M VI-VII, or W VI-VII; 352Ph.) Mr. Wall.
- 110su.* Modern Experimental Physics. Photoelectric effect, ionization, vacuum gauges, e/m experiments, etc. (3 cred.; jr., sr., grad.; prereq. Phys. 144 or equiv.; MWF VI-IX; 49Ph.) Mr. Wall.
- 114su.* Elementary Physical Investigation. Individual projects in experimental or theoretical physics. (3 cred.; sr., grad.; prereq. 15 cred. in physics, Math. 51; ar.) Mr. Buchta, Mr. Wall.

‡ A fee of \$3 per term is charged.

‡‡ A fee of \$1 per term is charged.

‡‡‡ A fee of \$2 is charged for this course.

POLITICAL SCIENCE

FIRST TERM

- 1su. American Government and Politics. (Part 1 of Political Science 1-2-3.) An examination of the fundamentals of American government: nature and growth of the constitution; citizenship; individual rights and liberties; political parties; public opinion; nominations and elections. Special attention will be given to wartime changes and possible postwar developments throughout the course. (3 cred.; all; no prereq.; MTWThF I; 209Bu.) Mr. Ludwig.
- 25su. World Politics. An introduction to the field of contemporary international relations; the policies of the great powers today; nationalism; internationalism; Europe and the postwar settlement. (3 cred.; all; no prereq.; MTWThF II; 211Bu.) Mr. Mills.
- 108su. Legislative Organization and Procedure. A study of the structure and functioning of Congress and the state legislatures, including such topics as bicameralism, apportionment, the committee system, party leadership, parliamentary procedure, limitations on debate, legislative councils, bill drafting bureaus, and reference services. (3 cred.; jr., sr., grad.; prereq. 6 cred. or consent of instructor; MTWF IV and 1 hr. ar.; 221Bu.) Mr. Short.
- 125su. Recent Social Legislation. A survey of governmental activity in the field of social welfare and social security legislation; underlying principles and theory; the development of plans of social insurance abroad and in the United States; constitutional and administrative problems; a critical examination of the Social Security Act and the state laws adopted pursuant thereto. (3 cred.; jr., sr., grad.; prereq. 9 cred. or consent of instructor; MTWThF II; 221Bu.) Mr. Christensen.
- 128su. Community Postwar Planning. Community development; population problems; economic base of the community; use areas; circulation; housing; community facilities and services; public finance; planning procedures and aids; organization for planning. (3 cred.; jr., sr., grad.; prereq. 9 cred. or consent of instructor; MTWThF II; 339Lib.) Mr. Ludwig.
- 135su. State Government and Administration in Minnesota. A study of the organization and powers of the legislative, executive, and judicial branches of state government in Minnesota with special reference to recent developments in administrative organization, financial management, and civil service. (3 cred.; jr., sr., grad.; prereq. 6 cred. or consent of instructor; MTWThF III; 221Bu.) Mr. Short.
- 141su. European Democracies—Postwar Reconstruction. An analysis of the parties and politics of European democracies with special reference to the problems of postwar reconstruction. (3 cred.; jr., sr., grad.; prereq. 6 cred. in pol. sci. or 12 cred. in soc. sci.; MTWThF I; 221Bu.) Mr. McClosky.
- 155su. Government in Latin America. An analysis and evaluation of historical background, structural organization, political philosophy, and public policy of modern governments in Latin America. (3 cred.; jr., sr., grad.; prereq. 6 cred. or consent of instructor; MTWF IV, 1 hr. ar.; 211Bu.) Mr. Christensen.
- 170su. Problems of Postwar Domestic Reconstruction. Same as Social Science 101, Sociology 167. (3 cred.; all; no prereq.; MTWThF I; 211Bu.) Mr. E. M. Kirkpatrick, Mr. Monachesi, Mr. Lindblom.
- 198su. Contemporary World Problems. Japanese imperialism in Southeastern Asia and the Philippines; India; the interests of the United States and the other western powers; the postwar settlement in Southeastern Asia. (3 cred.; soph. with a "C" average; jr., sr., grad.; no prereq.; MTWThF III; 211Bu.) Mr. Mills.
- 202su.* Seminar in American Government, Politics, and Administration. (Cred. ar.; grad., and sr. with consent of instructor; ar.; first meeting 12:00 noon first day of classes; ar. with instructor.) Mr. Ludwig, Mr. Short, Mr. Christensen.

298su.* Seminar in International Relations. (Cred. ar.; grad., and sr. with consent of instructor; ar.; first meeting 12:00 noon first day of classes; 215Bu.) Mr. Mills.

SECOND TERM

2su. American Government and Politics. (Part 2 of Political Science 1-2-3.) A description, analysis, and evaluation of the legislative, executive, and judicial branches of government with special attention to wartime changes and possible postwar problems. (3 cred.; all; no prereq.; MTWThF I; 221Bu.) Mr. Kirkpatrick.

100su. The Constitution and Social Change. The historical background of American constitutionalism; impact of the war on constitutional government; executive, legislative, and judicial influences on the "changing constitution"; judicial review; federal centralization; the growth of administrative agencies and their wartime significance; postwar constitutional problems. (3 cred.; jr., sr., grad.; prereq. 6 cred. or consent of instructor; MTWThF III; 111Bu.) Mr. Hawkins.

153su. Far Eastern Government. An analysis and evaluation of constitutional development, governmental organization, and public policy of Chinese and Japanese government. Special attention will be given to problems arising in both countries as a result of the war and to the likely postwar developments. (3 cred.; jr., sr., grad.; prereq. 6 cred. or consent of instructor; MTWThF I; 111Bu.) Mr. Hawkins.

161su. Problems of Democracy. The meaning of democracy; an examination and evaluation of the criticisms and defenses of democracy; an analysis of democratic institutions in America with special reference to the problems of the war and postwar reconstruction. (3 cred.; jr., sr., grad., others with consent of instructor; no prereq.; MTWThF II; 221Bu.) Mr. Kirkpatrick.

201su.* Seminar in American Government, Politics, and Administration. (Cred. ar.; grad., and sr. with the consent of instructor; ar.; first meeting 12:00 noon first day of classes; 213Bu.) Mr. Kirkpatrick, Mr. Hawkins.

PSYCHOLOGY

FIRST TERM

1su. General Psychology. First half of 1-2su. (3 cred.; all; no prereq.; MTWF IV, Th V; studio 1, WLB, EdH.) Mr. Heron.

1-2su. General Psychology. An introductory survey of psychology; its materials, fundamental laws, applications, and relations to other sciences. (6 cred.; all; no prereq.; MTWThF III, MTWF IV, Th V; 211Psy.) Mr. Stacey.

4-5su.† Introductory Laboratory Psychology. Simple experiments illustrating the subject matter of contemporary psychology. Included are human and animal learning, visual experience, differences in artistic, musical, and other kinds of abilities, measurement of each student's personality traits, and reactions to advertisements. (4 cred.; soph., jr., sr.; prereq. gen. psy.; MTWThF VI-VII-VIII; 211Psy.) Mr. Smith.

111su. Frontiers of Psychology. A treatment of topics which are not often discussed in academic psychology because they are on the borderline between science and superstition but which are of great interest especially in times of severe emotional stress. These topics will include: spiritualism and mediumship; telepathy; clairvoyance; suggestion; and hypnosis. (3 cred.; jr., sr., grad.; prereq. gen. psy.; MTWThF I; 115Psy.) Mr. Heron.

125-126su. Psychology of Individual Differences. Quantitative studies on the contributions of such factors as sex, race, physical traits, family heredity, environment, and age to the causation of individual differences, including discussion of the relation of these topics to the war effort. (6 cred.; jr., sr., grad.; prereq. 1-2; 4-5, or 5 cred. in statistics; MTWThF II-III; 115Psy.) Mr. Paterson.

† A fee of \$2 is charged for this combination.

144-145su. Abnormal Psychology. A survey of ideas of causation and of techniques of treating abnormal behavior from early historical times; special emphasis is put upon the care and treatment of the abnormal in America. Consideration of the various psychoses and psychoneuroses and of social problems related to them. (6 cred.; jr., sr., grad.; prereq. gen. psy.; MTWThF II-III; 206Pt.) Mr. Bird.

SECOND TERM

1-2su. General Psychology. (See 1-2su first term.) (6 cred.; all; no prereq.; MTWThF III, MTWF IV, Th V; 115Psy.) Mr. Tinker.

2su. General Psychology. Second half of 1-2su. (3 cred.; all; prereq. first half of 1-2; MTWF IV, Th V; 211Psy.) Mr. Stacey.

130su.†† Vocational and Occupational Psychology. Theory and practice in present-day vocational guidance. Theory and use of the *Dictionary of Occupational Titles* in the United States Employment Offices, in industry, and in the armed forces. Experience in interviewing and in giving, scoring, and interpreting vocational tests is provided. (3 cred.; jr., sr., grad.; prereq. 9 cred. in psy.; lect. MF IV, Th V; lab. TW IV-V; 211Psy.) Mr. Brayfield.

160su. Psychology in Personnel Work. Psychology as applied to the selection and retention of a stabilized personnel in business and the armed services. The standardized interview; principles and techniques of employment tests; methods of judging character qualities; the rating scale; personnel classification methods. (3 cred.; jr., sr., grad.; prereq. gen. psy.; MTWThF III; 211Psy.) Mr. Brayfield.

171-172su. Introduction to Clinical Psychology. A survey of clinical psychology in relation to mental deficiency, special abilities and disabilities, personality disorders, and psychosomatic disturbances in adults and children. (6 cred.; sr., grad.; prereq. 12 cred. in psy. or child welfare, or ed. psy., and permission of instructor; MTWThF I-II; 115Psy.) Mr. Meehl.

ROMANCE LANGUAGES

FIRST TERM

FRENCH

1su. Beginning French. Regular beginning course with special attention to those who desire a reading knowledge of French. (5 cred.; all; no prereq.; MTWThF I-II; 202F.) Mr. Clefton.

3su. Intermediate French. Equivalent to either French 3f or French 4w. (5 cred.; prereq. 3 or 2 with grade of C; MTWThF III, MTWF IV and 1 hr. ar.; 202F.) Mr. Sirich.

54su. Practical French Conversation. Equivalent to French 54w. (2 cred.; prereq. 3-4 or equiv.; TWThF I; 203F.) Mrs. Miller.

75su† or 190su. French Civilization and Culture. (2 cred.; jr., sr., grad.; prereq. 70-71-72 or 73-74 or equiv.; MTWF IV; 203F.) Mrs. Miller.

119su.* Eighteenth Century French Literature: Voltaire. Equivalent to 119w. (2 cred.; jr., sr., grad.; prereq. 70-71-72 or 73-74 or equiv.; TWThF II; 203F.) Mr. Sirich.

165su. French Romanticism: Poetry. (2 cred.; jr., sr., grad.; prereq. 70-71-72 or 73-74 or equiv.; TWThF III; 203F.) Mr. Clefton.

† French 75, Spanish 66. Graduate students who wish to take these courses for credit will register for the higher of the two numbers listed and arrange with the instructor for additional work in the subject.

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

SPANISH

- 1su. Beginning Spanish. (5 cred.; all; no prereq.; MTWThF I-II; 201F.) Ar.
- 3su. Intermediate Spanish. (5 cred.; all; prereq. 1-2 or two years of high school Spanish; MTWThF III, MTWF IV and 1 hr. ar.; 226F.) Ar.
- 4su. Intermediate Spanish. (5 cred.; all; prereq. 3 or three years of high school Spanish; MTWThF III, MTWF IV and 1 hr. ar.; 227F.) Ar.
- 53su. Spanish Composition and Conversation. Equivalent to 53f. (2 cred.; jr., sr.; prereq. 3-4 or equiv.; TWThF II; 226F.) Mr. Cúneo.
- 66su† or 116su. Prose of the Renaissance. Equivalent to 116w. (2 cred.; jr., sr., grad.; prereq. 68-69 or equiv.; TWThF I; 226F.) Mr. Grismer.
- 70su. Latin-American Culture. (Course conducted in Spanish.) Equivalent to 70s. (2 cred.; jr., sr.; prereq. 4 or equiv.; TWThF III; 201F.) Mr. Cúneo.
- 75su. Survey of Spanish-American Literature. Equivalent to 75w. (2 cred.; prereq. 4 or equiv.; MTWF IV; 201F.) Ar.
- 143su. Recent Trends in Spanish-American Contemporary Literature. (2 cred.; jr., sr., grad.; prereq. 68-69 or 74-75 or equiv.; TWThF III; 204F.) Ar.
- 170su. The Spanish Language in the Americas. (2 cred.; jr., sr., grad.; prereq. 9 senior college credits; TWThF I; 227F.) Ar.
- 177su. Readings in Medieval Spanish Literature. (2 cred.; jr., sr., grad.; prereq. 68-69 or equiv.; TWThF II; 204½F.) Mr. Grismer.

Instituto de Estudios Hispano-Americanos‡

The institute, properly housed, will offer intensive training in spoken Spanish, Spanish-American culture, and Spanish-American literature. Arrangements are being made to meet the needs of (1) elementary, (2) intermediate, and (3) advanced students. The program carries nine quarter credits. The institute will be staffed by Professor James Cúneo, director, and an adequate number of native assistants. A prospectus giving fees and costs for room and board will appear later. Requests for further information should be addressed to the director of the Summer Session, 700-A Administration Building, University of Minnesota, Minneapolis 14, Minnesota.

SECOND TERM

FRENCH

- 1su. Beginning French. (See 1su, first term.) (5 cred.; all; no prereq.; MTWThF III, MTWF IV and 1 hr. ar.; 201F.) Mr. Wilson.
- 54su. Practical French Conversation. Equivalent to 54w. (2 cred.; prereq. 3-4 or equiv.; TWThF I; 203F.) Ar.
- 117su. Seventeenth-Century French Literature: Prose. (2 cred.; jr., sr., grad.; prereq. 70-71-72 or 73-74 or equiv.; TWThF II; 203F.) Mr. Wilson.

SPANISH

- 1su. Beginning Spanish. (5 cred.; all; no prereq.; MTWThF I-II; 201F.) Ar.
- 2su. Beginning Spanish. (Continuation of Spanish 1.) (5 cred.; all; prereq. Spanish 1; MTWThF I-II; 226F.) Ar.
- 4su. Intermediate Spanish. (5 cred.; all; prereq. 3 or three years of high school Spanish; MTWThF III, MTWF IV and 1 hr. ar.; 202F.) Mr. Pattison.
- 176su. Spanish Poetry of the Twentieth Century. (2 cred.; jr., sr., grad.; prereq. 65-66-67 or 68-69; TWThF II; 204½F.) Mr. Pattison.

† French 75, Spanish 66. Graduate students who wish to take these courses for credit will register for the higher of the two numbers listed and arrange with the instructor for additional work in the subject.

‡ A laboratory fee of \$40 is charged for this course in addition to tuition and incidental fees. Board and room charge is additional.

RUSSIAN

FIRST TERM

- 1su. Beginning Russian. Beginning course with special attention to the needs of those who desire a reading knowledge of modern Russian. (4 cred.; all; no prereq.; TWThF I-II; 311F.) Mr. Reichardt.
- 20su. Advanced Russian Reading. Reading of Russian newspapers and articles in the fields of literature, arts, history, sciences, etc., according to needs of students. (3 cred.; prereq. Russian 1-2 or permission of instructor; TWF III-IV; 311F.) Mr. Reichardt.

SECOND TERM

- 2su. Intermediate Russian. Continuation of Russian 1. (4 cred.; all; prereq. Russian 1; TWThF I-II; 311F.) Mr. Reichardt.

SOCIAL SCIENCE

FIRST TERM

- 101su. Problems of Postwar Domestic Reconstruction. Same as Political Science 170su, Sociology 167su. An examination of selected economic, political, and social problems involved in postwar domestic reconstruction. Each class session will be conducted as a "round table" by three members of the staff. (3 cred.; all; no prereq.; MTWThF I; 209EdH.) Mr. E. M. Kirkpatrick, Mr. Monachesi, Mr. Lindblom.

SOCIOLOGY AND SOCIAL WORK

FIRST TERM

SOCIOLOGY

- 1su. Introduction to Sociology. A study of the characteristics of human group life. An analysis of the factors associated with the development of human group life and man's social environment; the structure of the social environment and its influence upon the individual's behavior; the processes involved in social change and the social problems that accompany social change. A survey of the fundamental social institutions such as the family and the church; the development and decline of social institutions; change in the institutional functions and social disorganization. (3 cred.; all; no prereq.; Sec. 1, MTWThF II; 109J; Mr. Sletto; Sec. 2, MTWThF I; 6F; Mrs. Goodrich.)
- 14su. Rural Sociology. A study of rural and urban relationships. The position of an agricultural class in an industrial society. (3 cred.; 2nd qtr. fr.; prereq. Soc. 1; MTWThF II; 104J.) Mr. Nelson.
- 49su. Social Pathology. A survey course of contemporary social problems with especial emphasis on the conditions and processes in personal demoralization and social disorganization. The scientific approach to the study of poverty, unemployment, physical diseases and defectiveness, mental deficiency, insanity, vagrancy, suicide, etc. (3 cred.; 2nd qtr. fr.; prereq. Soc. 1; MTWThF III; 2J.) Mr. Sletto.
- 100su. Social Psychology. (3 cred.; jr., sr., grad.; prereq. Soc. 1 and 15 cred. in soc. sci., child welfare, educ., phil., or psy., or consent of instructor; MTWThF II; 104J.) Mr. Kirkpatrick.
- 114su. Rural Social Institutions. (3 cred.; jr., sr., grad.; prereq. same as for 100; MTWThF III; 109J.) Mr. Nelson.
- 119su. The Family. With special reference to contemporary marriage problems. (3 cred.; jr., sr., grad.; prereq. same as for 100; MTWF IV, Th VI; 109J.) Mr. Kirkpatrick.

167su. Problems of Postwar Domestic Reconstruction. Same as Soc. Sci. 101su, Pol. Sci. 170. (3 cred.; all; no prereq.; MTWThF I; 209EdH.) Mr. E. M. Kirkpatrick, Mr. Lindblom, Mr. Monachesi.

200su.* General Seminar in Sociology. (2 cred.; ar.) Staff.

SOCIAL WORK

129su.† Principles of Social Case Work. A study of the purposes, problems, and processes of generic social case work, including a study of the relationship between the individual and the social worker and community as contributory to the treatment of the problems presented. (3 cred.; grad.; MTWThF I; 2J.) Mrs. Fenlason.

170su.† Introductory Psychiatry. A lecture course, includes a discussion of: mental hygiene, mental mechanisms, psychiatric history-taking, review of schools of psychiatry, classification of mental diseases. (3 cred.; grad.; MTWThF II; ar.) Dr. Hinckley.

171su. Descriptive Neuropsychiatry. (Same as Medicine 171.) (Prereq. Neuropsy. 70 or Psy. 144-145; 2 cred.) Staff.

173Asu. Behavior Problems in Younger Children. (The same as Child Welfare 140su.) (3 cred.; sr., grad.; prereq. 12 cred. in psy., ed. psy., or soc.; MTWThF III; 202Pt.) Miss Templin.

180su.†† Field Work Training in Social Work. (3-5 cred.; grad.) Mrs. Doyle.

240su.* General Seminar in Social Work. (2 cred.; ar.) Staff.

SECOND TERM

SOCIOLOGY

1su. Introduction to Sociology. (See 1su, first term.) (3 cred.; all; no prereq.; MTWThF I; 104J.) Mr. Schneider.

2su. Individual and Group Adjustment. The influence of social interaction on personality and personality adjustment with special reference to the family. The role of attitude and prejudice in relation to racial and other minority groups. Forms of social opposition including competition, class tension, and warfare. Adjustment of tension and frustrations with relation to leadership, crowd behavior, and fascism. Social control and social change in relation to postwar objectives. (3 cred.; prereq. 1; MTWThF II; 6F.) Mrs. Goodrich.

53su. Elements of Criminology. A general survey of the field of criminology. (3 cred.; jr., sr.; prereq. Soc. 1; MTWThF II; 104J.) Mr. Vold.

103su. Sociology of Conflict. (3 cred.; jr., sr., grad.; prereq. same as for 100; MTWThF III; 104J.) Mr. Vold.

120su. Social Life and Cultural Change. (3 cred.; jr., sr., grad.; prereq. same as for 100; MTWF IV, Th VI; 104J.) Mr. Schneider.

200su.* General Seminar in Sociology. (2 cred.; ar.) Staff.

SOCIAL WORK

130su.† Principles of Social Case Work. (See 129su for description.) (3 cred.; grad.; MTWThF I; 2J.) Mrs. Fenlason.

139su.† Personality Development As It Affects Case Work Practice. (3 cred.; grad.; MTWThF II; 109J.) Miss Green.

173Bsu. Behavior Problems in Older Children. (The same as Child Welfare 141su.) (3 cred.; sr., grad.; prereq. same as 173Asu; MTWThF I; 202Pt.) Miss Kuenne.

181su.†† Field Work Training in Social Work. (3-5 cred.; grad.) Miss Green, Miss Flanagan.

240su.* General Seminar in Social Work. (2 cred.; ar.) Staff.

† Admission on consultation with a social work adviser.

‡ A fee of \$3.50 is charged for this course. In Summer Session credit toward 153-154-155, 156-157-158, and/or 221-222-223, 227-228-229, may be taken under numbers 180 or 181.

SPEECH

FIRST TERM

- Speech Clinic.†† (Open for eight weeks this summer.) For students who have particular speech defects such as cleft palate; stuttering, lisping, dialect. (Ar. with director.) Mr. Bryngelson and others.
- 1-2-3su.† Fundamentals of Speech. Speech as social adaptation and control. Technique of body and voice. Oral reading. Public speaking. (3 cred.; fr., soph., jr., sr.; no prereq.; MTWThF I; 305F.) Mr. Gilkinson and others.
- 31su.††† Introduction to the Theater. A course designed to acquaint the student with the theater of today. Readings and projects in various modern theater crafts. (3 cred.; soph., jr., sr.; prereq. 1-2-3 or 5-6 or concurrent registration; MTWThF I; 19Mu.) Ar.
- Ed.C.I.59su.†††† Speech in the Elementary Grades. Discussion of the development of good speech habits for elementary school children and the identification and handling of speech difficulties in the elementary schoolroom. (3 cred.; jr., sr.; prereq. Ed.61A-B or teaching experience, course in Fundamentals of Speech recommended; MTWThF III; 308F.) Mrs. Chapman.
- 61su.† Personality Development through Speech. A study of behavior as indicated through speech; why and how man talks; basic elements in the development of unsocial and inadequate emotional patterns; speech symptoms evaluated from cause and effect relations; psychologic and social factors in speech; analysis of individual problems of self-consciousness, stage fright, and ineffective speech behavior, speech as a means of self-control and social control as applied to teacher and pupil. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6. Psy. 1-2; MTWThF II; 409aF.) Mr. Bryngelson.
- 65su.† Radio Speech. Speech arts and psychology of the radio. Announcing and broadcasting. The radio speech. Radio drama and interpretative reading, voice, diction, articulation, pronunciation. Practice, exercises, projects, and reports on problems of appeal and audience response. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6; MTWThF VI and 1 hr. ar.; 302MurH.) Mr. Ziebarth.
- 67su.† Phonetics. The study of English speech sounds as they occur separately and in connected speech. Strong and weak forms, stress, assimilation. Practice in ear training. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6; MTWThF VI; 305F.) Mr. Dusenbury.
- 81su.† Interpretative Reading. Esthetic theory of literature and of oral reading. Practice in reading for interpretation and mastery of technique. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6; MTWThF II; 308F.) Mr. Rarig.
- 101su. Argumentation and Persuasion. Argumentation as a method of analysis, of controversial questions, briefing adaptive and nonadaptive persuasion, practice in speaking and writing. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6; Psy. 1-2; 10 cred. in soc. sci.; MTWThF VII and 1 hr. ar.; 308F.) Mr. Rarig.
- *105su. Theory of Reading and Acting. Literature as an art; its various forms; the psychology of the creative imagination; speech elements in literature; origins and nature of speech symbols and technique of their use. Collateral readings, problems, reports, term papers. (3 cred.; prereq. 1-2-3 or 5-6, 81-82-83, Psy. 1-2; MTWThF I; 308F.) Mr. Rarig.

† Admission on consultation with a social work adviser.

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

†† The clinic will accept a limited number of nonstudent patients.

††† A fee of \$2 is charged for this course.

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

- 111su.††† Stage Direction. Practice and theory of stage direction. Esthetics of the theater, analysis of the play, casting, rhythm, reading, organization of production. Each student will direct two one-act plays this term. (3 cred.; sr., grad.; prereq. 31, 32-33, 34, 91, 92, 93; MTWThF III; 18Mu.) Mr. Whiting.
- 121-122su.* Advanced Speech Problems. Experimental methods in general speech. Review of published research, special reports. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6, Psy. 1-2; MTWThF II; 409F.) Mr. Gilkinson.
- 151su.§ (also listed as Ed.C.I.140su.) The Teaching of Speech. Orientation in problems of speech education. Review of studies. Teaching methods and special devices, voice recording, tests. Direction of extracurricular activities. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6 or equiv. or permission of instructor; MTWThF III; 305F.) Mr. Gilkinson.
- 162su.* Speech Pathology. Neurology of Speech. Dysphemia and its associated symptom, stuttering. Relation of stidedness and speech disorders, heredity, current theories of dysphemia, types of treatment. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6 and 61, 67; MTWF IV and 1 hr. ar.; 406F.) Mr. Bryngelson.
- 164-166su.* Clinical Methods and Practice in Speech Pathology. (3 cred.; sr., grad.; prereq. 1-2-3 or 5-6, and 61, 67, 162-163, Ed. Psy. 140-142; consult instructor; MWF III and other hrs. ar.; 406F.) Mr. Bryngelson.
- 171su. History of the Theater. A study and an analysis of the arts and crafts of the theater in the nineteenth and twentieth centuries. Special reports and projects. (3 cred.; sr., grad.; prereq. 1-2-3 or 5-6, 31, courses in dramatic literature highly recommended; MTWThF III; 19Mu.) Mr. Whiting.
- 181-182-183su.* Readings in Speech. Directed reading and the preparation of reports on selected subjects. (Cred. ar.; jr., sr., grad.; prereq. 1-2-3 or 5-6 and 6 additional credits and consent of instructor; ar.) Staff.

SECOND TERM

- 1su.‡ Fundamentals of Speech. Same as first term. Ar.
- 2-3su.‡ Fundamentals of Speech. Continuation of Course 1, above. (MTWThF III; 308F.) Ar.
- 32su.††† Beginning Acting. Creative approach. (3 cred.; soph., jr., sr.; prereq. 31; MTWThF II; 19Mu.) Mr. Whiting.
- 112su.††† Stage Direction. Continuation of 111su. (MTWThF III; 18Mu.) Mr. Whiting.
- 181-182-183su.* Readings in Speech. Staff.

ZOOLOGY

(Credit is given for acceptable work done at any accredited marine or freshwater biological station.)

FIRST TERM

- 1su.††† General Zoology. Structure, physiology, embryology, classification, and evolution of animals. (5 cred.; all; no prereq.; lect. MTWF I, Th I-II, 211Z; lab. MTWF II-III-IV; 101Z.) Mr. Minnich.

† The entire course in elementary zoology includes both 1su and 2su. No credit is given for 1su until the satisfactory completion of 2su.

‡ A fee of \$1 is charged for this course.

†† A fee of \$1.50 is charged for this course.

††† A fee of \$2 is charged for this course.

§ Carries undergraduate credit only in the College of Education.

SUMMER SESSION

21su.†† Histology. Microscopic structure of the tissues and organs. (5 cred.; soph., jr., sr.; prereq. 1-2-3 or equiv.; lect. MTWTh VI, F VI-VII; lab. MTWTh VII-VIII-IX; 201Z.) Mr. Ringoen.

197su.* Problems. Advanced work in some special line. (3 cred. or more; jr., sr., grad.; prereq. 1-2-3 and special requirements; ar.) Ar.

SECOND TERM

2su.†† General Zoology. Continuation of 1su. (5 cred.; all; prereq. 1su or equiv.; lect. MTWF I, Th I-II; 211Z; lab. MTWF II-III-IV; 101Z.) Ar.

198su.* Problems. Advanced work in some special line. (3 cred. or more; jr., sr., grad.; prereq. 1-2-3 and special requirements; ar.) Ar.

† The entire course in elementary zoology includes both 1su and 2su. No credit is given for 1su until the satisfactory completion of 2su.

‡ A fee of \$1.50 is charged for this course.

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

INSTITUTE OF TECHNOLOGY

COLLEGE OF ENGINEERING AND ARCHITECTURES

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

AERONAUTICAL ENGINEERING

Aeronautical Engineering Laboratory fee required of sophomores, juniors, and seniors in Aeronautical Engineering \$1.50 per term, \$3 per quarter.

SUMMER QUARTER

- 1su. Aeronautics. (Page 55) (3 cred.; prereq. M.&M. 24; MWF IV; 105A.) Mr. Baggs.
2su. Aircraft and Auto Engines. (Page 55) (3 cred.; prereq. soph.; open only to aeronautical engineers or by petition; lect. MF III; 105A; quiz. W II, 105A; lab. W III-IV; 107A.) Mr. Ruszaj.
100su. Aerodynamics. (Page 55) (3 cred.; prereq. Aero.E. 1 and M.&M. 25; MWF II; 215A.) Mr. Cronk.
115su. Airplane Stresses. (Page 55) (3 cred.; prereq. Aero.E. 83; lect. TTh II; 105A; lab. F I-II; 9A.) Mr. Von Eschen.
121su. Airplane Design. (Page 55) (4 cred.; prereq. 120; lect. TTh I; 105A, lab. MW I-III; 9A.) Mr. Von Eschen.

ARCHITECTURE

SUMMER QUARTER

All regular courses in architectural design including Graphic Representation and certain courses in drawing, painting, and modeling will be offered in a special 1945 summer quarter extending approximately from June 20 to September 1. For further information consult the School of Architecture.

- Arch.4-5-6su. Graphic Representation. (Page 59) (5 cred.; no prereq.; MTWThF VI-VIII; 402E.) Mr. Heath.

DESIGN

Completion of these courses is dependent on achievement, rather than time. Students will continue their registration until the course is completed and a mark is reported. An acceptable quality of work normally allows a rate of progress as indicated for each course.

The object of the courses in architectural design is to develop the individual student's skill in creative effort as applied to the production of architecture. They provide opportunity for the student to exercise himself in all necessary phases of that creative effort, including, especially, research, composition, construction, and representation as four essential and interrelated parts of one unified process.

The courses consist of a series of problems, classified into three stages of advancement called grades, and culminating in a thesis whose satisfactory completion is a prerequisite for the degree in architecture. Most problems are done under criticism in which critics representing the several phases involved will collaborate. Certain problems are done entirely without criticism, in order to develop and test more fully the student's own power of independent achievement.

§ Page numbers in course descriptions refer to the Bulletin of the Institute of Technology for 1944-46, where further information may be found.

Work in all these courses is carried on simultaneously and continuously. A student may enter or leave them at any time he is judged ready to do so. They are administered by a design committee consisting of the major and consulting critics and Mr. Roy Jones, chairman. See also Statement Concerning Courses in Architectural Design issued by the School of Architecture.

- AD-Isu.‡ Architectural Design, Grade I. (Page 60) (15 cred.; no prereq.; MTThF I-IV, MTWThF VI-VIII; 402E.) Mr. Robert Jones, Mr. Cerny, Mr. Robertson.
 AD-IIsu.‡ Architectural Design, Grade II. (Page 60) (15 cred.; prereq. AD-I; MTThF I-IV, MTWThF VI-VIII; 402E.) Mr. Robert Jones, Mr. Cerny, Mr. Robertson.
 AD-IIIsu.‡ Architectural Design, Grade III. (Page 60) (15 cred.; prereq. AD-II; MTThF I-IV, MTWThF VI-VIII; 317E.) Mr. Robert Jones, Mr. Cerny, Mr. Robertson.

DRAWING, PAINTING, AND MODELING

Completion of these courses is dependent on achievement rather than time. Students will continue their registration until the course is completed and a mark is reported. An acceptable quality of work normally allows a rate of progress as indicated for each course.

The object of these courses is to develop students' skill in esthetic expression through the medium of form and color. Courses consist of studio exercises divided into successive stages of advancement called grades. Work in most of the grades is carried on continuously. A student may enter or leave them at any quarterly interval he is judged ready to do so.

Any of the following courses may be taken at any one of the following periods: T I-IV, W I-IV, Th I-IV.

- DP-Isu.‡‡ Drawing and Painting, Grade I. (Page 60) (2 to 4 cred.; 417E.) Mr. Burton.
 DP-IIsu.‡‡ Drawing and Painting, Grade II. (Page 60) (2 to 4 cred.; prereq. DP-I or equiv.; 417E.) Mr. Burton.
 DP-IIIsu.‡‡ Drawing and Painting, Grade III. (Page 60) (2 to 4 cred.; prereq. DP-II or equiv.; 417E.) Mr. Burton.
 DP-IVsu.‡‡ Drawing and Painting, Grade IV. (Page 60) (2 to 4 cred.; prereq. DP-III or equiv.; 417E.) Mr. Burton.
 DP-Vsu. Drawing and Painting, Grade V. (Page 60) For graduate students only. Continuation of DP-IV. (2 to 4 cred.; prereq. DP-IV or equiv.; 417E.) Mr. Burton.
 M-Isu.‡‡ Modeling, Grade I. (Page 60) (2 to 4 cred.; no prereq.; 405E.) Mr. Burton.
 M-IIsu.‡‡ Modeling, Grade II. (Page 61) (2 to 4 cred.; prereq. M-I or equiv.; 405E.) Mr. Burton.

CIVIL ENGINEERING

SUMMER QUARTER

- 11su. Surveying. (Page 68) (3 cred.; prereq. M.&M. 12 and Dr. 2; lect. M III, 21E; lab. W II-IV, VI-IX, field.) Mr. Boon.
 13su. Surveying. (Page 68) (3 cred.; prereq. C.E. 12; lect. F IV, 21E; lab. T VI-VIII, F VI-IX, field.) Mr. Cutler, Mr. Boon.
 17su. Surveying. (Aero.E.) (Page 68) (3 cred.; prereq. M.&M. 12; TTh VI-IX; field.) Mr. Zelner.
 23su. Summer Camp. (Page 68) (4 cred.; prereq. C.E. 16 and C.E. 22, Th VI-IX, field; F VI-VII, 217E; S I-IV, field.) Mr. Cutler, Mr. Zelner.
 32-33su. Stresses in Structures. (Page 69) (7 cred.; prereq. C.E. 31 and Dr. 23; lect. MTWTh II, 227E; lab. M VI-IX, W VI-VIII, F II-IV, 229E.) Mr. Springer.

‡ A fee of \$2 is charged for this course.

‡‡ A fee of \$1 is charged for this course.

- 130su. Statically Indeterminate Structures. (Page 69) (3 cred.; prereq. C.E. 33 and M.&M. 128; lect. MTh II, 225E; lab. M III-IV, 255E.) Mr. Johnston.
- 141su. Reinforced Concrete. (Page 70) (3 cred.; prereq. C.E. 33; lect. TTh III, 225E; lab. F III-IV, 225E.) Mr. Springer.
- 146su. Plain Concrete. (Page 70) (3 cred.; prereq. M.&M. 141; lect. MW VI, 110Ex; lab. W I-IV, Ex.) Mr. Johnston.

DRAWING AND DESCRIPTIVE GEOMETRY

FIRST AND SECOND TERMS

- 41-42-43su. Technical Drawing. General course in the theory and practice of freehand drawing. Perspective, sketching, rendering, lettering, and industrial drawing. Modification of this course of particular interest to dental, medical, and scientific students. (No cred. for tech. students; 2 cred. per course for others; no prereq. for Course 41; 6 hrs. per week for each course.) Mr. Doseff.
- 81-82-83su. Advanced Drawing. Principles of design—traditional and modern. Layouts, composition, and illustration. Scientific modeling (3 cred. per course; prereq. 43. or equiv.; 8 hrs. per week for course.) Mr. Doseff.
- 86-87su. Anatomical Drawing. (3 cred. per course; prereq. 43 or equiv.) Mr. Doseff.
- (See also page 11, Art Courses.)

SUMMER QUARTER

- 1su. Engineering Drawing. (Page 72) (3 cred.; prereq. solid geometry; Sec. 1, MWThF VI-VII, 201E; Sec. 2, MWThF VI-VII, 1E; Sec. 3, MTThF I-II, 201E.) Mr. Myers, Mr. Williams, Mr. Quaid.
- 2su. Engineering Drawing. (Page 72) (3 cred.; prereq. Dr. 1; MTWF II-III; 101E.) Mr. Bullen.
- 3su. Descriptive Geometry. (Page 72) (3 cred.; prereq. Dr. 2 and M.&M. 11; TTh III-IV. S I-IV; 201E.) Mr. Eggers.
- 7su. Engineering Drawing. (Page 72) (3 cred.; prereq. solid geometry; MWFS III-IV; 455C.) Mr. Palmer.
- 10su. Solid Geometry. (Page 73) (No cred.; no prereq.; MTFs III; 309E.) Mr. Potter.
- 21su. Drafting. (C.E.) (Page 73) (2 cred.; prereq. Dr. 3; MTh VI-VIII; 101E.) Mr. French.
- 22su. Structural Detailing. (Page 73) (2 cred.; prereq. Dr. 21; MTh VI-VIII; 101E.) Mr. French.
- 26su. Drafting, (E.E.). (Page 73) (2 cred.; prereq. Dr. 3; TWF VI-VII; 101E.) Mr. Potter.
- 28su. Drafting, (Aero.E.). (Page 73) (2 cred.; prereq. Dr. 3; MTh VI-VIII; 101E.) Mr. French.

ELECTRICAL ENGINEERING

SUMMER QUARTER

- 11su. Elements of Electrical Engineering. (Page 76) (3 cred.; prereq. registration in physics and M.&M. 24; MWF III; 138EE.) Mr. Cartwright.
- 13su. Elements of Electrical Engineering. (Page 76) (3 cred.; prereq. registration in M.&M. 25; MWF IV; 138EE.) Mr. Cartwright.
- 14su. Elements of Electrical Engineering Laboratory. (Page 76) (1 cred.; prereq. E.E. 13 or registered in E.E. 13; M VI-VII; 21E.) Mr. Cartwright.
- 36su. Electric Power, (M.E.). (Page 77) (3 cred.; prereq. Phys. 9; lect. TTh II, 138EE; lab. Th VIII-IX, 107C EE.) Mr. Cartwright.

- 46su. Electric Power, (Aero.E.). (Page 77) (3 cred.; prereq. Phys. 9; lect. TTh III, 138EE; lab. Th VI-VII; 107C EE.) Mr. Cartwright.
- 64su. Elements of Communication. (Page 78) (2 cred.; prereq. E.E. 111 or registration in E.E. 111; lect. F III, 139EE; lab. M VI-VII, 307EE.) Mr. Todd.
- 66su. Elements of Communication. (Page 78) (2 cred.; prereq. E.E. 65; lect. T IV, 138EE; lab. T VI-VII, 307EE.) Mr. Todd.
- 111su. Junior Electrical Engineering. (Page 76) (5 cred.; prereq. E.E. 15, 16; MTWThF II; 139EE.) Mr. Caverley.
- 112su. Junior Electrical Engineering Laboratory. (Page 76) (2 cred.; prereq. E.E. 111 or registration in E.E. 111; T VI-IX; 107C EE.) Mr. Caverley.
- 115su. Junior Electrical Engineering. (Page 76) (3 cred.; prereq. E.E. 113, 114; MWF I; 138EE.) Mr. Caverley.
- 116su. Junior Electrical Engineering Laboratory. (Page 76) (1 cred.; prereq. E.E. 115 or registration in E.E. 115; lab. given alternate weeks, M VI-IX; 107C EE.) Mr. Todd.
- 119su. Engineering Electronics. (Page 76) (3 cred.; prereq. E.E. 117; lect. TTh I; 138EE; lab. M VI-IX; 107C EE.) Mr. Caverley.

ENGLISH (ENGINEERING)

SUMMER QUARTER

- 4su. Composition (Page 79) (3 cred.; prereq. placement test; Sec. 1, MTF III, 107E; Sec. 2, MTF III, 104E; Sec. 3, MWF VII, 107E; Sec. 4, MWF VII, 215E.) Mr. Guthrie and others.
- 5su. Composition. (Page 79) (3 cred.; prereq. Eng. 4; MWF IV; 107E.) Ar.
- 6su. Composition. (Page 79) (3 cred.; prereq. Eng. 5; MWF IV; 104E.) Ar.

GENERAL ENGINEERING

SUMMER QUARTER

- 70su. Slide Rule. (Page 79) (1 cred.; prereq. M.&M. 12 or registration in M.&M. 12; hrs. and rm. ar.) Mr. French.

MATHEMATICS AND MECHANICS

SUMMER QUARTER

- 9su. Higher Algebra. (Page 82) (No cred.; no prereq.; MTWThF V; 206E.) Mr. Saunders.
- 11su. College Algebra. (Page 82) (5 cred.; prereq. M.&M. 9; Sec. 1, MTThFS II, 106E; Sec. 2, MTWThF V, 106E; Sec. 3, MTWThF VI, 203E; Sec. 4, MTWThF VI, 106E.) Mr. Doeringsfeld, Mr. McEwen, Mr. Saunders.
- 12su. Trigonometry. (Page 82) (5 cred.; prereq. M.&M. 11; MTWThF V; 215E.) Mr. McEwen.
- 13su. Analytic Geometry. (Page 82) (5 cred.; prereq. M.&M. 11 and 12, MTWThF I; 205E.) Mr. Priestler.
- 24su. Calculus I: Differential. (Page 82) (5 cred.; prereq. M.&M. 13; Sec. 1, MTWThF I, 227E; Sec. 2, MTWThF I, 106E; Sec. 3, MTWThF III, 106E.) Mr. McEwen, Mr. Siler.
- 25su. Calculus II: Integral. (Page 82) (5 cred.; prereq. M.&M. 24; Sec. 1, MTWThF II, 136E; Sec. 2, MTWThF I, 203E.) Mr. Siler.
- 26su. Technical Mechanics: Statics. (Page 83) (5 cred.; prereq. M.&M. 25; MTWThF II; 135E.) Mr. Herrick.

- 85su. Strength of Materials, (Chem.E. and Prebus.). (Page 83) (3 cred.; prereq. M.&M. 84; hrs. ar.) Mr. Doeringsfeld.
- 87su. Materials Testing Laboratory. (Chem.E. and Prebus.). (Page 83) (1 cred.; prereq. M.&M. 85 or registration in M.&M. 85; hrs. ar.) Mr. Doeringsfeld.
- 127su. Technical Mechanics: Dynamics. (Page 83) (5 cred.; prereq. M.&M. 26; MTWThF III; 203E.) Mr. Wilcox.
- 128su. Strength of Materials. (Page 83) (5 cred.; prereq. M.&M. 26; MTWThF I; 104E.) Mr. Miller.
- 129su. Hydraulics. (Page 84) (4 cred.; prereq. M.&M. 26; MTWTh III; 205E.) Mr. Doeringsfeld.
- 141su. Materials Testing Laboratory. (Page 83) (2 cred.; prereq. M.&M. 128 or registration in M.&M. 128; lect. T VI, 110Ex; lab. T VII-VIII, Ex.) Mr. Miller.
- 143su. Hydraulics Laboratory. (Page 84) (1 cred.; prereq. M.&M. 129 or registration in M.&M. 129; Th VI-VII; Ex.) Mr. Doeringsfeld.
- 151su. Differential Equations. (Page 83) (3 cred.; prereq. M.&M. 25; MWF V; 203E.) Ar.

MECHANICAL ENGINEERING

FIRST TERM

- 1su.† Elementary Woodworking. (Ind.Ed.) (Page 84) (2 cred.; no prereq.; not an engineering elective; hrs. ar.) Mr. Richards.
- 2su.† Machine Woodworking. (Ind.Ed.) (Page 85) (2 cred.; no prereq.; not an engineering elective; hrs. ar.) Mr. Richards.
- 3su.† Wood Finishing and Furniture Construction. (Ind.Ed.) (Page 85) (2 cred.; no prereq.; not an engineering elective; hrs. ar.) Mr. Richards.
- 4su.† General Woodwork. (Prebus.) (Page 85) (2 cred.; no prereq.; hrs. ar.) Mr. Richards.
- 5su.† Pattern Practice. (Page 85) (2 cred.; prereq. Chem. 5, 7, 10, or 15 and Dr. 2; hrs. ar.) Mr. Richards.

SUMMER QUARTER

- 5su.† Pattern Practice. (Page 85) (2 cred.; prereq. Chem. 5, 7, 10, or 15, and Dr. 2; lect. T VI, W II, 202ME; lab. T VII-IX, Shop.) Mr. Richards.
- 13su.† Forging, Welding, and Heat Treating. (Page 85) (2 cred.; prereq. Chem. 5, 7, 10, or 15 and Dr. 2; lect. TTh VI, 153ME; lab. T VII-IX, Shop.) Mr. Hughes.
- 17su.† Machine Shop Practice. (E.E.) (Page 85) (2 cred.; prereq. M.E. 13; lect. T IV, W VI, 202ME; lab. W VII-IX, Shop.) Mr. Crowder.
- 18su.† Machine Shop Practice. (Aero.E.) (Page 85) (2 cred.; prereq. M.E. 13; lect. T IV, W VI, 202ME; lab. W VII-IX, Shop.) Mr. Crowder.
- 20su. Elements of Machine Design. (Page 86) (2 cred.; prereq. Dr. 3; MF VI-VII, Th VII-VIII; 151ME.) Mr. Palmer.
- 22su. Mechanism. (Page 86) (3 cred.; prereq. M.E. 21 and M.&M. 24; lect. MW II, 251ME; lab. M VI-VIII, 255ME.) Mr. Palmer.
- 23su. Dynamics of Machine Design. (Page 86) (3 cred.; prereq. M.&M. 127; lect. MF VI, 251ME; lab. F VII-IX, 255ME.) Mr. Ryan.
- 24su. Elements of Machine Design. (Page 86) (3 cred.; prereq. M.&M. 128; lect. T VI, Th I, 251ME; lab. T VII-IX, 255ME.) Mr. Ryan.
- 32su. Elementary Mechanical Laboratory. (Aero.E.) (Page 87) (2 cred.; prereq. M.E. 131 or registration in M.E. 131; T VI-IX; 160ME.) Mr. Lee.
- 33su. Elementary Mechanical Laboratory. (M.E.) (Page 87) (2 cred.; prereq. M.E. 131 or registration in M.E. 131; T VI-IX; 160ME.) Mr. Lee.

† A fee of \$2 is charged for this course.

- 34su. Mechanical Laboratory. (Page 87) (2 cred.; prereq. M.E. 33; Th VI-IX; Ex.) Mr. Lee.
- 35su. Elementary Steam and Power Laboratory. (Page 87) (2 cred.; prereq. M.E. 34 and M.E. 141 or registration in M.E. 141; Th VI-IX; Ex.) Mr. Shoop.
- 71su.† Machine Shop Practice. (M.E.) (Page 85) (2 cred.; prereq. M.E. 13; lect. T IV, W VI, 202ME; lab. W VII-IX, Shop.) Mr. Crowder.
- 72su.† Machine Shop Practice. (Page 86) (2 cred.; prereq. M.E. 71; lect. MW IV, 202ME; lab. W VII-IX, Shop.) Mr. Crowder.
- 80su. Industrial Materials. (Page 86) (2 cred.; prereq. Chem.Eng. 31; MW IV; 110Ex.) Mr. Jordan.
- 131su. Thermodynamics. (Page 87) (3 cred.; prereq. M.&M. 25 and Phys. 8; lect. MWF I, 254ME; lab. T I-II, 251ME.) Mr. Lee.
- 132su. Thermodynamics. (Page 87) (3 cred.; prereq. M.E. 131; TTh II, F III; 254 ME.) Mr. Shoop.
- 141su. Heat-Power Engineering. (Page 87) (3 cred.; prereq. M.E. 132; MWF II; 254ME.) Mr. Shoop.
- 150su. Internal Combustion Engines. (Page 88) (3 cred.; prereq. M.E. 131; MWF IV; 251ME.) Mr. Robertson.

SCHOOL OF MINES AND METALLURGY

METALLOGRAPHY

SUMMER QUARTER

- 152su. Metallography for Aeronautical Engineers. (Page 93) (3 cred.; prereq. Senior Aero.E.; lect. TTh IV; lab. T VI-VII; ar.) Mr. Nagler.

† A fee of \$2 is charged for this course.

INSTITUTE OF TECHNOLOGY

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

SCHOOL OF CHEMISTRY

An *asterisk* (*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 25.)

Students registering for laboratory courses in Chemistry or Chemical Engineering should purchase a \$5 Chemistry Deposit Card from the bursar. Course fee, laboratory material, and breakage will be deducted from the Chemistry Deposit Card.

INORGANIC CHEMISTRY

FIRST TERM

- 1su.‡ General Inorganic Chemistry. (Agr., arch., predent., premed.) Study of the general laws of chemistry and of the nonmetals and metals and their compounds. (4 cred.; no prereq.; lect. MTWThFS III, W VI, 100C; lab. MTThF VI-VIII, 290C.) Mr. Klug.
- 4su.‡ General Inorganic Chemistry. Study of the general laws of chemistry and of the nonmetals and their compounds. More intensive than Course 1. (4 cred.; prereq. high school chem.; lect. MTWThFS II, 325C; lab. MTThF VI-VII, 290C.) Mr. Reyerson.
- 11su.‡‡ Semimicro Qualitative Analysis. Laboratory work in systematic qualitative analysis with lectures on solutions, ionization, chemical and physical equilibria, oxidation and reduction, etc. (4 cred.; prereq. 2, 5, 7, 10, or 15; lect. MTWThF IV, W VI, 111C; lab. MF VI-IX; 290C.) Mr. Maynard.

SUMMER QUARTER

- 4su.‡ General Inorganic Chemistry. Study of the general laws of chemistry and of the nonmetals and their compounds. More intensive than Course 1. For engineers, etc. (4 cred. per qtr.; prereq. high school chemistry; lect. TThF IV, 100C; quiz S I; lab. W I-III, 110C.) Mr. Heisig.
- 6su.‡§ General Inorganic Chemistry. Study of the general laws of chemistry and of nonmetals, metals, and their compounds. (5 cred.; no prereq.; lect. MWF II, 410C; lab. TTh I-III and S I-II, 290C.) Mr. Maynard.
- 9su.‡ General Inorganic Chemistry. Study of general laws of chemistry and of nonmetals and their compounds. More intensive than Courses 6 and 7. (5 cred.; prereq. high school chemistry; lect. MWF II, 225C; lab. TTh I-III or TThS I-II, 290C.) Mr. Maynard.
- 12su.‡‡ Semimicro Qualitative Analysis. Laboratory work in systematic qualitative analysis with lectures on solutions, ionization, chemical and physical equilibria, oxidation and reduction, etc. (5 cred.; prereq. 7 or 10; lect. MWF VI, 225C; lab. MWF VII-VIII, 290C.) Mr. Heisig.

‡ A fee of \$2 is charged for this course.

‡‡ A fee of \$2.40 is charged for this course.

§ Freshmen entering the School of Chemistry without credit in high school chemistry must register in this section and for two additional hours; S I-II in both 6 and 7.

- 13su.†† Semimicro Qualitative Analysis. Laboratory work in systematic qualitative analysis with lectures on solutions, ionization, chemical and physical equilibria, oxidation, reduction, etc. (5 cred.; prereq. 12; lect. MWF VI, 215C; lab. M VII-VIII, WF VII-IX, 210C.) Mr. Barber.
- 14su.‡ General Inorganic Chemistry. (Engineers and miners without high school chemistry.) General laws of chemistry; the nonmetals, the metals, and their compounds. (4 cred.; no prereq.; lect. TThS IV, 115C; lab. TTh VII-IX, 290C.) Mr. Klug, Mr. Pervier.
- 104su.* Advanced Inorganic Chemistry. A discussion of selected topics in theoretical inorganic chemistry. (3 cred.; prereq. Anal. Chem. 1 and 2, Org. Chem. 52 or 55; lect. TThS III; 111C.) Mr. Reyerson.
- 105su.* Advanced Inorganic Chemistry. Co-ordination compounds. (3 cred.; prereq. Anal. Chem. 1 and 2, Org. Chem. 52 or 55; ar.) Ar.
- 109su.*† Synthetic Inorganic Chemistry. Methods of preparation and purification of inorganic compounds of special interest. Current literature. (3 to 5 cred.; prereq. 13 or permission of instructor; lect. and lab. hrs. ar.) Mr. Heisig.
- 301su. Research in Inorganic Chemistry. (Cred and hrs. ar.) Mr. Sneed, Mr. Reyerson, Mr. Barber, Mr. Klug, Mr. Maynard.

SECOND TERM

- 2su.‡ General Inorganic Chemistry. (Agr., arch., predent., premed.) Study of the general laws of chemistry and of the nonmetals and metals and their compounds. (4 cred.; prereq. 1; lect. MTWThF III, W VI, 100C; lab. MTThF VI-VII.) Mr. Maynard.
- 5su.‡ General Inorganic Chemistry. Study of the general laws of chemistry and of the nonmetals and their compounds. More intensive than 2. (4 cred.; prereq. 4; lect. MTWThF II, W VI, 325C; lab. MTThF VI-VII, 290C.) Mr. Sneed.

ANALYTICAL CHEMISTRY

FIRST TERM

- 7su.‡ Quantitative Analysis. (Premed.) Introductory course covering the general principles and methods of quantitative analysis, both gravimetric and volumetric. Typical problems are assigned and attention given to proper laboratory practice. (4 cred.; prereq. qual. anal.; lect., rec., quiz TTh V-VI, 315C; lab. MWF V-VIII, TTh VII-VIII, 310C.) Mr. Geiger.
- 123su.‡ Advanced Analytical Chemistry. Problems are assigned that involve special technique on more advanced theory than the basic courses. (3 cred.; prereq. grav. and vol. anal.; hrs. ar.; 310C.) Mr. Geiger.
- 203su.* Selected Topics in Analytical Chemistry. (Cred. and hrs. ar.; 310C.) Mr. Geiger.

SECOND TERM

- 7su.‡ Quantitative Analysis. (Premed.) Introductory course covering the general principles and methods of quantitative analysis, both gravimetric and volumetric. Typical problems are assigned and attention given to proper laboratory practice. (4 cred.; prereq. qual. anal.; lect., rec., quiz TTh V-VI, 315C; lab. MWF V-VIII, TTh VII-VIII, 310C.) Mr. Geiger.
- 124su.‡ Advanced Analytical Chemistry. Continuation of Course 123. (3 cred.; hrs. ar.; 310C.) Mr. Geiger.
- 203su.* Selected Topics in Analytical Chemistry. (Cred. and hrs. ar.; 310C.) Mr. Geiger.

† A fee of \$2 is charged for this course.

†† A fee of \$2.40 is charged for this course.

SUMMER QUARTER

- 1su.† Quantitative Analysis. (Gravimetric.) Introductory course covering the general principles and methods of gravimetric analysis. Typical problems are assigned and attention given to proper laboratory practice. (5 cred.; prereq. qual. anal.; lect., rec., quiz MWF VI, 315C; lab. MWF VI-IX; 310C.) Mr. Geiger.
- 96su. Senior Topics.
- 301su.* Research in Quantitative Analysis. (Cred. and hrs. ar.; 310C.) Mr. Geiger.

ORGANIC CHEMISTRY

FIRST TERM

- 1su.†† Elementary Organic Chemistry. (Premed., predent., pharm.) Discussion of important classes of organic compounds, both aliphatic and aromatic. Laboratory work includes the preparation of typical substances. (4 cred.; prereq. 11 or 12; lect. MTWThF I, 325C; rec. TTh II, 315C; lab. MWF II-IV, 390C; lab. conference TTh III, ar. C.) Mr. Lauer and assistants.
- 110su.†† Organic Qualitative Analysis. Reactions of typical functional groups, identification of pure organic compounds, separation and identification of constituents of mixtures. (5 cred.; prereq. 156 and 159 or equiv.; lect. MWF IV, 315C; 15 hrs. of lab. work ar.) Mr. Koelsch and assistants.
- 130su.‡ Organic Quantitative Analysis. Methods of proximate and ultimate analysis of organic compounds, with special attention to semimicro methods. (2 or 3 cred.; prereq. 156 and 159, Anal. Chem. 1 and 2 are advisable; hrs. ar.) Mr. Lauer and assistants.
- 141su.* Reagents in Organic Chemistry. (Page 65, Institute of Technology Bulletin.) (3 cred.; prereq. 156 and 159; MTWThF III; 115C.) Mr. Koelsch.
- 301su. Research in Organic Chemistry. (Cred. ar.; prereq. 110; hrs. ar.) Mr. Lauer, Mr. Koelsch.

SECOND TERM

- 2su.†† Elementary Organic Chemistry. (See description for 1su.) (4 cred.; prereq. 1; lect. MTWThF I, 325C; rec. TTh II, 215C; lab. MWF II-IV, 390C; lab. conference TTh III; ar.) Mr. Arnold and assistants.
- 139su.‡ Advanced Organic Chemistry Laboratory Work. Selected laboratory problems of an advanced nature, including some original work. Ability to read German is assumed. (2 or 3 cred.; prereq. 156 and 159; hrs. ar.) Mr. Arnold and assistants.
- 302su. Research in Organic Chemistry. (Cred. ar.; prereq. 110; hrs. ar.) Mr. Arnold.

FIRST AND SECOND TERMS

- 115su.* Heterocyclic Compounds (not described). A survey of typical ring closures leading to heterocycles, together with important properties of these compounds. (3 cred.; prereq. 156 and 159 or permission of instructor; MWF I, 315C.) Ar.
- 156su. Elementary Organic Chemistry (lectures). (All except premed., predent., pharm.) Discussion of the important classes of organic compounds, both aliphatic and aromatic, together with some heterocyclic compounds. (3 cred.; prereq. 55; for students majoring in chem.; lect. MWF III, 111C; quiz Th III, 325C.) Ar.
- 159su.‡ Elementary Organic Chemistry Laboratory Work. (All except premed., predent., pharm.) Laboratory work to accompany 55su. (2 cred.; prereq. 55 and 58; must be preceded or accompanied by 156; for students majoring in chem.; lab. conference S III, 325C; lab. (1) T VII-IX, Th VI-VIII; (2) T II-IV, T VI-VIII.) Ar.

† To receive credit for any part of this course a student must complete both 1 and 2.

‡ A fee of \$2 is charged for this course.

†† A fee of \$10 is charged for this course to cover special chemicals.

PHYSICAL CHEMISTRY

SUMMER QUARTER

- 103su. Physical Chemistry. General survey of the subject. (3 cred. per qtr.; prereq. 102; lect. MWF IV, 215C; rec. S IV, 225C.) Mr. MacDougall.
- 106su.† Physical Chemistry Laboratory. (1 or 2 cred. per qtr.; prereq. 102 and 105; lab. conf. [for students registered for 2 cred.] 1 hr. a week; lab. M VI-VIII, W VII-VIII; 190C.) MacDougall and assistants.
- 301su. Research in Physical Chemistry. Mr. MacDougall.

CHEMICAL ENGINEERING

SUMMER QUARTER

- 105su.‡§ Fuels and Combustion. The technology of solid, liquid, and gaseous fuels, analysis, combustion characteristics, specific uses, and furnaces. Calculation of heat and material balance. (4 cred.; prereq. Anal. Chem. 1, 2; two lect. MW III, two rec. TTh III 215C, and one lab. 4 hrs. per week; 10C.) Mr. Stoppel, Mr. Pike.
- 118su. Chemical Engineering Equipment Design. Fundamental principles in the design of simple chemical engineering equipment. (3 cred.; prereq. 103; rec. MWF II, 115C; lab. W VI-IX, 445C.) Mr. Jackson.
- 121su. Chemical Engineering Economics. The economic and business considerations controlling chemical engineering industries and their statistical analysis. Economic factors affecting plant location, layout, and design. Unit operation costs. Principles of management, operation and control. (3 cred.; prereq. 131; TThS II; 115C.) Mr. Montonna.
- 132su.† Organic Technology. Similar to 131 but covering organic field. Destructive distillation of coal and wood, petroleum oils, paper, organic processes, synthetic products, vegetable and animal oils, fats, waxes, soap, sugar, starch, etc. (3 cred.; prereq. for chem. engrs. Chem. Engr. 103 and 131; prereq. for chem. Org. Chem. 52; MTWFS I; 225C.) Mr. Mann.
- 151su.‡§ Chemical Manufacture (Inorganic). Manufacture of technical products on a scale large enough to afford data for the determination of operating conditions and costs of manufacture. Use of semi-plant scale equipment. Technical trade journals used. (Laboratory, 3 or more cred; prereq. 103, 131; lab., Sec. 1 MT VI through 10:00 p.m., 90C; Sec. 2 ThF VI through 10:00 p.m., 90C.) Mr. Mann, Mr. Stoppel, Mr. Jackson.
- 152su.‡§ Chemical Manufacture (Organic). Similar to 151 but covering the unit organic processes. (Lab. 3 or more cred.; prereq. 103, 131; lab. Sec. 1, MT VI through 10:00 p.m., 90C; Sec. 2, ThF VI through 10:00 p.m., 90C.) Mr. Stoppel, Mr. Jackson, Mr. Pike.
- 301-302-303su. Research in Chemical Engineering. Unit operations, applied electro-chemistry and electric furnace work, and chemical manufacture. (Cred. ar.) Mr. Mann, Mr. Montonna, Mr. Stoppel.

† Chemists receive 4 credits in Organic Technology as they do not take Unit Operations.

‡ A fee of \$2 per quarter is charged. The student should purchase a \$5 chemistry deposit card from the bursar, in the Administration Building. No student will be assigned a desk in the laboratory until he presents this card. The \$2 course fee, laboratory material, and breakage will be charged against the deposit.

§ Each laboratory section is limited to 16 students.

COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

GENERAL INFORMATION

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

Agriculture offers a limited number of courses to college undergraduates interested in this field, and a larger number of courses from most of the agricultural divisions for graduate students. For high school teachers of agriculture a number of graduate courses in technical agriculture and in education are available in addition to the special Work Shop in Agricultural Education (see College of Education).

The offerings in home economics are designed primarily for advanced undergraduate students and qualified graduate students. The courses listed represent the fields of foods and nutrition, related art, family relationships, textiles and clothing, and home economics education.

GRADUATE STUDY

Opportunity is offered in many divisions of the College of Agriculture, Forestry, and Home Economics for graduate study either for the first six-week term of the Summer Session or for the entire session of eleven weeks. In some divisions both courses and thesis work may be carried for the entire session. In other divisions thesis or course work only may be pursued through the Summer Session. Information concerning graduate work during the summer, in any division, may be obtained from the head of the division and from the Graduate School. Thesis and problem work is correlated in most divisions with the work in the Experiment Station, and the facilities offered during the summer are in most divisions especially attractive because of the field work possible only at that time.

Students intending to register for any phase of graduate work and who expect to obtain credit in the Graduate School should make arrangements through the proper committees and with the dean of the Graduate School and should register in that school.

ADMISSION

The undergraduate courses of the Summer Session are open to all registered students qualified to pursue the work to advantage, but college credit will be given only when college entrance requirements have been fulfilled.

For details of admission requirements, see the Bulletin of General Information.

An *asterisk* (*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 25.)

AGRICULTURAL BIOCHEMISTRY

FIRST TERM

4su. Introduction to Organic and Biochemistry. (Page 66§) (5 cred.; soph., jr., sr.; prereq. Inorg. Chem. 1 and 2 or 4 and 5; MTWThF I, II; 113SnH.) Mr. Greenwood.
203asu.*‡ Research Problems. (Page 26†) (2 to 5 cred.; grad.; prereq. permission of instructor; ar.) Mr. Geddes, Mr. Briggs, Miss Kennedy.

† Page numbers in course descriptions refer to the Graduate School Bulletin for 1940-42, where further information may be found.

‡ This course requires the purchase of a laboratory "yellow card" for \$5 at the cashier's office, University Farm.

§ Page numbers in course descriptions refer to the College of Agriculture, Forestry, and Home Economics Bulletin for 1942-44, where further information may be found.

SUMMER SESSION

SECOND TERM

203bsu*† Research Problems. (Page 26†) (Second part of 203asu; 2 to 5 cred.; grad.; prereq. 203a; ar.) Mr. Geddes, Mr. Briggs, Miss Kennedy.

AGRICULTURAL ECONOMICS

FIRST TERM

200su. General Seminar in Agricultural Economics. (Page 65†) (Grad.; ar.) Mr. Jesness and staff.

AGRICULTURAL EDUCATION

For list of courses in Agricultural Education see courses listed under the College of Education, page 87.

AGRICULTURAL ENGINEERING

FIRST TERM

42su.†† Art Metal Work. A course designed for persons interested in creating articles of permanent beauty and value. Working in iron, copper, brass, aluminum, and pewter. Making trays, plates, bowls, coasters, candle sticks, bracelets, etc. Etching, use of jeweler's saw, soldering, making wooden hammers. (3 cred.; no prereq.; TWThF VI-VIII; 106En and 20En. Limited to 15 students.) Mr. Dent.

AGRONOMY AND PLANT GENETICS

FIRST AND SECOND TERMS

AGRONOMY

201su.* Research in Farm Crops. (Page 29†) (3 to 9 cred.; prereq. 121, 123; grad.; ar.) Mr. Wilson, Mr. Arny.

PLANT GENETICS

241su.* Research in Plant Genetics. (Page 29†) (Grad.; ar.) Mr. Hayes, Mr. Burnham, Mr. Immer.

244su. Laboratory Methods in Plant Breeding. (Page 30†) (3 cred.; grad.; ar.) Mr. Immer.

ANIMAL AND POULTRY HUSBANDRY

FIRST AND SECOND TERMS

213su.* Research in Animal Husbandry. (Page 33†) (1 to 3 cred.) Mr. Peters, Mr. Ferrin, Mr. Winters, Mr. Harvey.

214su.* Research in Poultry Husbandry. (Page 33†) (1 to 3 cred.) Mr. Sloan.

DAIRY HUSBANDRY

FIRST TERM

208su. Research in Dairy Production. (Page 59†) (Prereq. preliminary graduate work.) Mr. Fitch, Mr. Petersen, Mr. Gullickson, Mr. Gilmore.

209su. Research in Dairy Manufacturing. (Page 59†) (Prereq. preliminary graduate work.) Mr. Combs, Mr. Coulter.

† Page numbers in course descriptions refer to the Graduate School Bulletin for 1940-42, where further information may be found.

‡ This course requires the purchase of a laboratory "yellow card" for \$5 at the cashier's office, University Farm.

‡‡ A fee of \$3 is charged for this course.

SECOND TERM

- 210su. Research in Dairy Production. Same as 208su, first term.
 211su. Research in Dairy Manufacturing. Same as 209su, first term.

ENTOMOLOGY AND ECONOMIC ZOOLOGY

FIRST TERM

- 13su. Field Zoology. Offered at Itasca Park. (1 cred.; fr.; no prereq.) Mr. Mickel.
 55su. Entomological Techniques. Practical laboratory instruction in mounting, preservation of insect larvae, preparation of microscopic mounts of minute insects, labeling, classifying, and cataloging specimens of insects for scientific study. (9 hrs. lab.; 3 cred.; jr., sr.; ar.) Mr. Mickel.

FIRST AND SECOND TERMS

- 197su. Introduction to Research. Preparation for investigational work in lines of entomology. Advanced laboratory, field, and library work; training in the preparation of bibliographies and manuscripts; special problems. (2½ or more cred.; jr., sr., grad.; prereq. 9 hrs. ent., and other prescribed work; ar.; Ad.) Mr. Mickel, Mr. Granovsky, Mr. Haydak, Mr. Hodson, Mr. Marshall.
 204su. Research in Entomology. Ample opportunity for research work in various phases of entomology will be afforded properly qualified students. This work will be individual. Students who plan to undertake special problems should correspond with the division relative to methods of collection and preparation of material. (3 or more cred.; grad.; ar.) Mr. Mickel, Mr. Granovsky, Mr. Haydak, Mr. Hodson, Mr. Marshall.

FORESTRY

FIRST TERM

(Offered at Itasca Park. Open only to students who have completed at least one quarter of forestry, or one year in a junior college, or other college. The schedule is so arranged as to occupy the student's full time for 5½ days per week. All field or laboratory work.)

- 2su. Field Dendrology. (Page 85†) (1 cred.; no prereq.) Mr. Rees.
 5su. Field Silviculture. (Page 85†) (2 cred.; no prereq.) Mr. Cheyney.
 6su. Field Mensuration. (Page 85†) (2 cred.; no prereq.) Mr. Brown.
 11su. Camp Management. (Page 86†) (1 cred.; no prereq.) Mr. Brown.
 Ent.13su. Field Zoology. (See also under Entomology and Economic Zoology, above.) (1 cred.; no prereq.) Mr. Mickel.
 Bot.6su. Forest Botany. (Not offered in 1945.)

HOME ECONOMICS

FIRST TERM

- 27su. Related Art Problems. Problems worked out relating to costume and house furnishing design. (3 cred.; jr., sr.; prereq. 21; MWThF VI-VII-VIII; 112HE.) (Limited to 24 students.) Miss V. Goldstein.
 50su. Textiles. A lecture and laboratory course dealing intensively with textile materials—fibers and fabrics, with special emphasis upon the selection, maintenance, and conservation of household fabrics; textile problems of the consumer-buyer. (3 cred.; jr., sr.; prereq. H.E. 1; MTWFS III-IV, Th III; 305HE.) Miss Phelps.

† Page numbers in course descriptions refer to the College of Agriculture, Forestry, and Home Economics Bulletin for 1942-44, where further information may be found.

- 86su. Home Management: Operation and Maintenance Laboratory. Actual experience in a home management house with various household management problems including the care and development of the child of preschool age. (4 cred.; prereq. 40, 17, 85 or 185 or parallel, H.E.Ed. 90, or C.W. 40) (Limited to regular undergraduate home economics students at the University of Minnesota.) Miss Studley, Miss Jeary.
- 116su. Family Clothing Problems. A consideration of the present-day clothing problems of the family; problems in buying clothing; governmental controls of clothing production including the simplification of clothing; the sizing of garments and patterns; recent developments in the choice of clothing for specific uses such as work clothing for women, infants, and children's clothing. (3 cred.; jr., sr., grad.; prereq. 1, 50; MTWThFS II; 305HE.) Miss Phelps.
- 120su. Art History and Appreciation. The historical development of painting, sculpture, architecture, decoration, furniture, and costumes, studied with special emphasis on design and influence upon modern styles. (3 cred.; jr., sr., grad.; MTWThFS III; 313HE.) Miss V. Goldstein.
- 142su. Experimental Cookery. An intensive study of problems in foods and food preparation especially those affected by war conditions. Individual laboratory problems. (3 cred.; jr., sr., grad.; prereq. 40 or equiv., Agr. Biochem. 4 or equiv.; MTWThF I-II and 2 hrs. ar.; 107HE.) (Limited to 12 students.) Mrs. Leavitt.
- 146su. Special Food Problems. Individual problems in foods and food preparation. (3 cred.; prereq. 142 or equiv.; sr., grad.; MWThF VI-VII-VIII; 107HE.) (Limited to 12 students.) Mrs. Leavitt.
- 170su. Current Problems in Nutrition. Principles of human nutrition and their application to the promotion and health of the family in normal time and in wartime. (3 cred.; jr., sr., grad.; prereq. 31, 40, Agr. Biochem. 4, Physiol. 3 cred. or equiv.; MTWThFS III; 213HE.) Miss Biester.
- 179su. Readings in Nutrition. This course deals with current publications and movements in the field of human nutrition. It provides experience in locating and using recent periodicals and books, and contacts with local and state agencies promoting nutrition programs. (3 cred.; jr., sr., grad.; prereq. 34, 170 or equiv.; MTThF VII, MF VIII; 313HE.) Miss Biester.
- 180su. Home Planning and Furnishing. Problems in selecting a home and prolonging the life of the house and its furnishings. Intelligent planning and furnishing of the home will be stressed. (5 cred.; jr., sr., grad.; prereq. 55 or equiv., 120 recommended; MTWThF VI-IX; 106,203HE.) Miss H. Goldstein.
- 184su. Home Management: Operation and Management, Lectures. Discussion of the management aspects of homemaking with emphasis on the problems involved in the use of time, energy, and money. (3 cred.; jr., sr.; prereq. H.E. 40, C.W. 40 or H.E.Ed. 90 or parallel; MTWThFS II; 203HE.) Miss Jeary.
- 185su. Family Relationships. A study of the factors that promote security, stability, and satisfaction in the immediate family group. The relation of the family to the community. The results of the impact of the war on family life. (2 cred.; jr., sr., grad.; prereq. C.W. 40 or H.E.Ed. 90; MTWF III; 203HE.) Miss Studley.
- 295su. Home Economics Problems. Investigation of selected problems in the field of related art. (1 cred.; grad. only; permission of instructor; hrs. ar.) Miss H. Goldstein.

SECOND TERM

- 85su. Home Management: Operation and Management, Lectures. Discussion of the management aspects of homemaking with emphasis on the problems involved in the use of time, energy, and money. (3 cred.; jr., sr.; prereq. H.E. 40, C.W. 40 or H.E.Ed. 90 or parallel; MTWThFS IV; 213HE.) Miss Jeary.

86su. Home Management: Operation and Maintenance Laboratory. Same as first term. (4 cred.; jr., sr.; prereq. H.E. 40 or parallel, 85, C.W. 40, or H.E.Ed: 90; hrs. ar.) Miss Jeary.

HOME ECONOMICS EDUCATION

For list of courses in Home Economics Education see courses listed under the College of Education, page 94.

HORTICULTURE

FIRST AND SECOND TERMS

- 190-191-192su. Special Problems. (Page 111†) (2 to 4 cred.; jr., sr., grad.; ar.; Hr.) Mr. Alderman, Mr. Brierley, Mr. Harvey, Mr. Krantz, Mr. Currence, Mr. Wilcox, Mr. Hutchins.
- 247su.* Report on Special Horticultural Topics. (Page 112†) (9 cred. or less) Mr. Alderman, Mr. Brierley, Mr. Harvey, Mr. Krantz, Mr. Currence, Mr. Wilcox, Mr. Hutchins.

PLANT PATHOLOGY AND BOTANY

FIRST AND SECOND TERMS

- 206su.* Research in Plant Pathology. (Page 142† description for Course 203-204-205.) (Cred. ar.; grad.; PP.) Mr. Stakman, Mr. J. J. Christensen, Mr. Eide, Miss Hart, Mr. C. M. Christensen, Miss Dossdall, Mr. Sharvelle.
- 210su.* Research in Mycology. (Page 142†) (Cred. ar.; grad.; prereq. 105-106-107; PP.) Mr. Stakman, Mr. C. M. Christensen, Miss Dossdall.
- 257su.* Research Problems in Applied Plant Physiology. (Page 143†) (Cred. ar.; grad.; AgrBot.) Mr. Harvey, Mr. Landon.
- 263su.* Research Problems in Agricultural Botany. (3 to 5 cred.; grad.; AgrBot.) Mr. Harvey, Mr. Stakman, Mr. Larson.

BIOLOGICAL STATION SUMMER SESSION

If there are a sufficient number of advance registrations, the Biological Station at Itasca Park will offer a limited curriculum during the second term of the Summer Session, which begins on July 30.

Courses in botany, wildlife, vertebrate zoology, pathology and possibly entomology will be offered. Prospective students should communicate with the Director of the Biological Station at Cloquet, Minnesota, at their earliest convenience, indicating the line of study in which they are interested. More detailed information will be furnished in a special circular dealing with the Biological Station, which will be issued in the spring quarter. Application for registration must be filed with the Director of the Summer Session at Minneapolis 14, Minnesota, not later than June 1, 1945.

† Page numbers in course descriptions refer to the Graduate School Bulletin for 1940-42, where further information may be found.

LAW SCHOOL

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

The Law School will offer a complete quarter (June 18 to September 1) of law work with courses for both beginning and advanced students. Registration will be for the quarter, not for the single term. Courses offered are:

FIRST YEAR COURSES

First and Second Terms

Contracts. Mr. Read.

Actions and Equity I. Mr. Pirsig.

ADVANCED COURSES

First and Second Terms

Banking and Negotiable Papers. Mr. Kinyon.

Property II. Mr. Bade.

Taxation. Mr. Rottschaefer.

Insurance. Mr. Pirsig.

Trade Regulations. Mr. McClintock.

Labor Law. Mr. McClintock.

Tuition fees for the quarter are: resident, \$42; nonresident, \$71. Credit hour fee: resident, \$3.50; nonresident, \$6. There will be the usual incidental fee of \$9.65 for the Coffman Memorial Union, the Health Service, the *Minnesota Daily*, etc. Deposit fee for the summer quarter only, \$2.

MEDICAL SCHOOL

GENERAL INFORMATION

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

GENERAL

Any of the courses offered by the departments of the Medical School (except section clinics of limited registration) are open to any student in the Summer Session, who has the necessary preparation to benefit therefrom, provided room is available in the classes.

Medical classes of the Summer Session, 1945, will register on June 29, and instruction will begin on July 2.

FEES—MEDICAL STUDENTS

The Medical School tuition fee for a full Summer Session is \$77 for residents of Minnesota, and \$150 for nonresidents. Less than a full program may be paid for on a credit hour basis, namely \$6.50 per credit hour (nonresidents \$12.50). In addition each student will pay the incidental fee of \$9.65 and a deposit of \$10. Students in certain courses are required to furnish microscopes.

Term fees are one half the quarter fees. Laboratory fees are not required under this plan. The schedule of total fees will therefore be:

	Per Quarter	Per Term
Tuition fee	\$77.00 (\$150.00)	\$38.50 (\$75.00)
Incidental fee	9.65	4.83
Deposit	10.00	10.00

Fees must be paid on the above basis by all who elect the program of clinical subjects in the senior medical year; and by all who desire time credit on the medical course in this or any other medical school.

FEES—SUMMER SESSION STUDENTS

Students who do not desire to register for time credit toward a medical degree or for a program of clinical subjects may pay on the above basis; or at their option they may pay the regular Summer Session fee of \$31.05 per term, plus special course fees as indicated in course descriptions, and a \$2 deposit.

CLINICAL YEARS

The Medical School offers a full regular program during the summer quarter of each year. In order to receive legal time credit toward the degree of doctor of medicine or bachelor of medicine in this institution, students must be matriculated in the Medical School; see the Bulletin of the Medical School for requirements for admission and regulations governing advanced standing. Medical students from other schools who desire to enter for the summer only may do so as adult special students, receiving subject credit only. If such students desire legal time credit toward a medical degree, they should make arrangements with the institution from which they intend to take the degree. No obligation to accept such students into regular classes at this school is attached to adult special registration. Such students from other medical schools may take one of the programs listed below (except section clinics if already full) or, provided there is room in the classes, make up a special program from the courses offered. Admission to any course is conditioned upon the limit set by the department concerned.

Students from other institutions should consult the Bulletin of the Medical School to determine to what extent the courses listed fulfill their respective needs. They should consult the deans or department heads in their own schools as to equivalence of the courses offered at the University of Minnesota.

PROGRAMS FOR CLINICAL (JUNIOR AND SENIOR) YEARS

The courses offered in the clinical years are as follows:

The didactic and clinical courses for one regular quarter are offered in the Summer Session, and all of the regular students will be in attendance. Students of other schools who desire to extend their clinical knowledge may register for the courses offered *if there is room in the classes.*

LABORATORY YEARS

Regular programs for freshman or sophomore medical students are offered. These courses may be taken by properly prepared students from other institutions as adult special students, without matriculation in the Medical School, if there is room in the classes. Students who desire to secure time credit toward the degree of doctor or bachelor of medicine in this school must matriculate and secure written consent from the officers of the school from which they expect to receive their medical degrees.

OPPORTUNITY FOR PRACTITIONERS

Attention is called to short courses offered from time to time throughout the year under the General Extension Division and the Center for Continuation Study. These courses are exclusively for practitioners and are largely practical in nature. Circulars may be obtained from the Center for Continuation Study.

The regular clinics in the University of Minnesota Hospitals and Dispensary, the Minneapolis General Hospital, the Ancker Hospital, Glen Lake Sanatorium, and the Wilder Dispensary, St. Paul, will go on as usual during the Summer Session, and will be open to visiting physicians.

ELECTIVES

Various electives will be offered in the laboratory and clinical departments. See departmental statements in this bulletin and also special Summer Session programs of the Medical School for details.

GRADUATE COURSES

Attention is called to opportunities offered in Medical School departments to work during the Summer Session for advanced degrees, either in laboratory or clinical branches. Such work involves admission to, and registration in, the Graduate School. For detailed information see the statement under "Graduate School" in this bulletin or the special bulletin on graduate work in medicine.

SCHOOL OF NURSING

COURSES AND FEES

Graduate Nurses

The program of courses in the 1945 Summer Session has been especially planned to meet the needs of graduate nurses who are preparing for head nurse and supervisory positions. The student may complete courses totaling approximately eight or nine credits in the six-week period from June 18 through July 28. She may also carry approximately eight credits (chiefly non-professional) in the second term, July 30 through September 1.

Bolton Fund scholarships paying tuition, fees, and maintenance may be requested by graduate nurses who qualify for admission, who are carrying at least one half of their total number of credits in nursing courses, and who are preparing for essential positions. Requests for these funds should be addressed to the Director, School of Nursing, University of Minnesota, Minneapolis 14, Minnesota.

Students register in College of Education and pay Summer Session fees. See page 18.

Workshop in Nursing Education

The School of Nursing will not be able to conduct the Nursing Education Workshop June 18 through June 30 announced in the Preliminary Bulletin, because of faculty shortages.

Graduate Nurses in Psychiatric Nursing Instruction

An advanced course of three quarters in psychiatric nursing instruction will be offered starting June 18. The students will spend the Summer Session registered at the University in the School of Nursing for a full academic program. Courses during this period will be selected on the basis of individual need. The second and third quarters will be spent at the Rochester State Hospital where the student will receive a planned program of clinical instruction and experience. The course is open to graduate registered nurses. Bolton Fund scholarships are available for tuition, fees, and maintenance, and application should be made to the Office of Admissions and Records, University of Minnesota, Minneapolis 14, Minnesota.

Tuition \$100 a quarter, incidental fee \$9.65 for first quarter. No incidental fee is charged for second and third quarters.

Postgraduate Nursing Students

The School of Nursing admits postgraduate students in Operating Room Technique, Teaching of Operative Aseptic Technique, and Administration of the Operating Room at the beginning of the summer quarter for a nine-month course. Such applicants must: (1) be registered nurses; (2) have had one year of successful experience, preferably in institutional work; (3) have completed college courses in Sociology 1 and Psychology 1 and 2 with a grade of "C", or one year of satisfactory college work; and (4) meet the minimum entrance requirements for admission to the University of Minnesota. For further information see the Bulletin of the School of Nursing.

Students register in School of Nursing. They are exempt from tuition and incidental fee, but pay a \$10 matriculation deposit.

Supplementary Course in Operating Room Technique

The School of Nursing admits graduate nurses at the beginning of the summer quarter for a three-month supplementary course in Operating Room Technique. Applicants must be registered nurses; there will be no tuition fee. Maintenance is provided. There will be 55 hours of classes, demonstrations, and conferences scheduled and students will be permitted to register for an additional three-credit course on the University Campus. The clinical experience in the operating room will be on the basis of 36 hours per week.

Students register in the School of Nursing and pay a \$10 matriculation deposit. For further information write to Director, School of Nursing, University of Minnesota, Minneapolis 14, Minnesota.

Nursing Education Majors

Nursing education majors are urged to register for courses in their major during the Summer Session in order to accelerate their programs.

College graduates who have completed a basic professional program in nursing may begin specialization in the nursing education major in the Summer Session.

Students register in College of Education and pay Summer Session fees. See page 18.

Wartime Emergency Class

Due to the extreme emergency, students for the basic course including high school graduates, students in the degree curriculum, with 75 credits of satisfactory college work and college graduates will be admitted to the School of Nursing at the beginning of the first term of the Summer Session. For information about courses, admission requirements, etc., see the Bulletin of the School of Nursing. Students admitted to this class are eligible for membership in the U. S. Cadet Nurse Corps which pays all required expenses and a monthly cash stipend for personal items. For further information regarding this program, see the Bulletin of the School of Nursing. Application should be made to the Office of Admissions and Records, University of Minnesota, Minneapolis 14, Minnesota.

Students register and pay fees in the School of Nursing.

Fees—School of Nursing

The School of Nursing offers work on the quarterly (not term) basis. Fees charged for summer quarter 1945:

1st quarter in residence in School of Nursing:	11th and 12th quarters:
Tuition, resident and nonresident \$50.00	Tuition (Senior Cadets) none
Incidental fee 9.65	Postgraduates, tuition none
Transportation fee 8.00	Psychiatric nursing
Deposit 10.00	Tuition per quarter \$100.00
2nd through 10th quarters:	Incidental fee (1st quarter only) 9.65
Tuition, resident and nonresident \$20.00	

Prenursing Students—Degree Curriculum

Prenursing students registered in the College of Science, Literature, and the Arts may accelerate their total program by registering for a full program in the summer quarter. Some scholarship aid is available to qualified students. Requests for scholarship aid should be addressed to the Dean of Students, University of Minnesota, Minneapolis 14, Minnesota.

Students register in the College of Science, Literature, and the Arts and pay Summer Session fees. See page 18.

High school graduates who plan to take the basic professional program leading to the bachelor of science degree may accelerate their total program by registering in the College of Science, Literature, and the Arts for a full program in the Summer Session.

ANATOMY

FIRST TERM

165su. Hematology. For medical technologists and others. Lecture and laboratory work. Class limited to 45 but minimum of 12 required. (5 cred.; prereq. Anat. 103 or equiv.; TS I-IV, Th I-III, TTh VI-VIII; 104, 213IA.) Microscope fee \$1.50. Dr. Downey, Dr. Reiff.

FIRST AND SECOND TERMS

3su. Elementary Anatomy. Special course under auspices of the United States Public Health Service. (3 cred.; for nurses; lect. TTh II; lab. MW VIII-IX; 301-303IA.) Dr. Kirschbaum and assistants.

- 100su.† Gross Human Anatomy. Dissection of abdomen, pelvis and lower extremity. Permission of instructor required for students not enrolled in Medical School. (9 cred.; fr. med.; prereq. Zool. 1-2-3; lect. MTWTh VI, 102IA; lab. MTWTh VII-IX, 306-308, 312, 313IA.) Dr. Boyden, Dr. Wells, and assistants.
- 111su.‡‡ Human Neurology. Morphology of the central nervous system and sense organs. (6 cred.; soph. med. and others; prereq. Anat. 103, 107; lect. TThS II, 102IA; lab. sections AB, MWF II-III, sections CD, MWF VI-VII, 213-215IA.) Microscope fee \$1.50. (Medical students are required to furnish their own microscopes.) Dr. Rasmussen and assistants.
- 116su. Correlated Anatomy. Review of anatomy from dissection material and by demonstrations. (2 cred.; prereq. Anat. 100-101; hrs. ar.) Dr. Morningstar.
- 134su. Anatomy of Newborn. Limited to 12 students. (3 cred.; prereq. Anat. 100, 101, 107; hrs. ar.) Dr. Wells.
- 150su. Special Topics in Neurology. Study of literature on selected phases of human neurology. (Cred. ar.; prereq. Anat. 111; hrs. ar.) Dr. Rasmussen.
- 152su. Prosection. Preparation of cadavers for demonstration. Limited to 4 students. (Cr. and hrs. ar.) Dr. Boyden.
- 156su.‡‡‡ Advanced Anatomy. Individual problems in gross anatomy, histology, hematology, embryology, or neurology. Includes advanced work for clinical graduate students. Permission of instructor required. (Cred. and hrs. ar.) Dr. Boyden, Dr. Downey (1st term), Dr. Rasmussen, Dr. Wells, Dr. Campbell, Dr. Kirschbaum, Dr. Miller.
- 204su. Research in Anatomy. Research in gross anatomy, histology, hematology, embryology or neurology. Permission of instructor required. (Cred. and hrs. ar.) Dr. Boyden, Dr. Downey (1st term), Dr. Rasmussen, Dr. Wells, Dr. Campbell, Dr. Kirschbaum.

BACTERIOLOGY AND IMMUNOLOGY

FIRST TERM

- 53su. General Bacteriology. (Page 16†) (5 cred.; prereq. general chemistry and biology; MTWThF VI, VII, VIII; course fee \$1.50.) Dr. Skinner.
- 101su.‡‡‡ Medical Bacteriology. (Page 16†) (5 cred.; prereq. chemistry and biology; MWF I-III.) Dr. Larson.
- 114su. Molds, Yeasts, and Actinomycetes. (Page 16†) (4 cred.; prereq. Bact 53; MTThF II, III, IV.) Dr. Skinner.
- 116su. Immunity. (Page 16†) (3 cred.; prereq. Bact. 53; MTThF VI, VII; course fee \$1.50.) Dr. Larson.
- 201su. Research in Bacteriology. (Page 16†) (Cred. and hrs. ar.) Dr. Larson, Dr. Skinner.

SECOND TERM

- 101su.‡‡‡ Medical Bacteriology. (Page 16†) Continuation of first term. (MWF I-III.) Dr. Evans.

† Page numbers refer to the Medical School Bulletin for 1943-45, where further information may be found.

‡ A fee of \$7.50 is charged for this course.

‡‡ A fee of \$5 is charged for this course.

‡‡‡ A fee of \$1 per credit is charged for this course.

‡‡‡‡ Microscope required. Students (except medical) may obtain use of microscope by purchasing \$1.50 microscope card from bursar.

SUMMER SESSION

MEDICINE

FIRST AND SECOND TERMS

DIVISION OF INTERNAL MEDICINE

Required Courses

- 18-19su. Principles of Medical and Surgical Nursing.
- 104su. Introduction to Internal Medicine. Systematic lectures and clinics in the field of internal medicine. Junior year. (6 cred.; 22 hrs. a qtr., 66 hrs. total; prereq. Med. 101, 102.) Dr. Watson and staff.
- 109su. Clinic in Medicine. Part of Course 112. (University Hospital.) Dr. Barron.
- 111su. Clinical Clerkship in Medicine. Individual work in the medical wards of the University Hospital, taking and recording of case histories, making of physical examinations, and carrying out assigned laboratory work. Clerks are held responsible for history and course of disease as well as a detailed knowledge of the treatment given to patients assigned them. Junior year. (6 cred.; 260 hrs.; prereq. clear record in all prior subjects.) Dr. Watson and staff.
- 111xsu. Same as Course 111. (Minneapolis General Hospital.) Dr. Fahr and staff.
- 112su. Senior Clerkship in Internal Medicine (Admissions). Supervised study of new cases in the Outpatient Medical Clinic. Rotation through special clinics including cardiology, gastrointestinal diseases, chest diseases, diabetes, metabolism and endocrinology, hematology, allergy, rheumatoid disease, peripheral vascular disease, and gastroscopy. (6 cred.; 260 hrs.) Dr. Wetherby and staff.

Elective Courses

- 128su. Abnormal Physical Signs in the Chest. (Jr., sr.; 17 hrs. Not more than 4 students. Ancker Hospital.) Dr. Geer.
- 129su. Advanced Physical Diagnosis. (Preq. Med. 101; jr.; not less than 3 or more than 6 students; Minneapolis General Hospital.) Dr. Peppard.
- 132su. Diagnosis and Treatment of Diseases of the Lungs. Three lectures and two clinics per week. (Hospital wards and dispensary.) Lectures with or without hospital work. (Cred. and hrs. ar.; soph., jr., sr.) Dr. Myers.
- 133su. Gastroenterology. Clinic demonstration and discussions of disorders of the gastrointestinal tract. (Jr., sr.; 4 to 8 students; University Hospital.) Dr. Carey.
- 136su. The Respiratory Organs in Health and Disease. (One or more qtrs.; limited to 6 students.) Dr. Myers.

Courses for Graduate Students

- 201su. Clinical Medicine. Dr. Watson, Dr. Barron, Dr. Fahr, Dr. Spink.
- 202su. Diseases of the Cardiovascular Apparatus. Dr. Fahr.
- 203su. Research in Medicine. Dr. Watson, Dr. Fahr, Dr. Spink.
- 205su. Tuberculosis. Dr. Myers.

For other courses see Graduate Medical School Bulletin.

DIVISION OF DERMATOLOGY

Required Courses

- 123su. Courses in Dermatology. Clinical lectures upon the common skin diseases and syphilis, including diagnosis and treatment. (Senior year; prereq. Med. 101, 102; 22 hrs. summer qtr.; 2 cred.) Dr. Michelson and staff.
- 124su. Senior Clerkship in Dermatology. Sections of the senior class in dermatology and syphilis. (4 cred.; 90 hrs.; University Hospital.) Dr. Michelson and staff.
- 124xsu. Part of Course 124. (Minneapolis General Hospital.) Dr. Sweitzer and staff.

Elective Courses

- 157su. Ward Clinics in Dermatology. (Jr.; 17 hrs. Ancker Hospital.) Dr. Lynch, Dr. Madden, Dr. Gager, Dr. Klein.
- 158su. Clinic in Dermatology. (Wilder Dispensary.) Dr. Klein.
- 159su. Assistantship, Dermatology, and Syphilis. (Prereq. jr. med. clerkship; limited to one student; Minneapolis General Hospital.) Dr. Sweitzer, Dr. Rusten, Dr. Winer.
- 160su. Assistantship and Conference in Dermatology. (Prereq. jr. med. clerkship; limited to one student; University Hospital.) Dr. Michelson and staff.
- 161su. Assistantship in Dermatology. (Prereq. Med. 124; limited to 2 students; Minneapolis General Hospital.) Dr. Sweitzer.
- 163su. Treatment of Syphilis. (Limited to 2 students; University Hospital.) Dr. Michelson and staff.
- 164su. Seminar in Pathology. Histopathology of the skin. Clinical and pathological phases will be exemplified. (Prereq. Path. 102.) Dr. Winer.
- 165su. Seminar in Dermatology. (Hrs. ar.) Dr. Michelson and staff.
- 166su. Allergy and Dermatology. (Cred. and hrs. ar.; limited to one student.) Dr. Rusten.

Courses for Graduate Students

- 225su. Clinical Dermatology and Syphilology. Wards and Outpatient Department of the University Hospital. Dr. Michelson and staff.
- 226su. Clinical Dermatology and syphilology. Wards and Outpatient Department of the Minneapolis General Hospital. Dr. Sweitzer and staff.
- 227su. Histopathology of the Skin. Dr. Michelson and staff.
- 228su. Research in Dermatology and Syphilology. Dr. Michelson and staff.

Note: Graduate students in Dermatology are urged to elect Surgery 205, 206, 207, for instruction in the Tumor Clinic of the Outpatient Department of the University Hospitals.

DEPARTMENT OF NEUROPSYCHIATRY

Required Courses

- 101su. Clinical Neuropsychiatry. Systematic clinics, demonstrations, and lectures. (4 cred.; 44 hrs.; jr. yr.; prereq. Med. 101, 102.) Dr. McKinley, Dr. Hammes, and staff.
- 103su. Junior Clinical Clerkship in Neuropsychiatry. Sections of the class for nine-week periods in the University Hospital. (6 cred.; 260 hrs.) Dr. McKinley and staff.
- 105su. Neuropsychiatric Clinic. Seniors only. Tuesdays 4-5, Todd Amphitheater. Dr. McKinley and staff.

Elective Courses for Nonmedical Students

- 70su. Introductory Psychiatry (Social Work 170). For upper group only. (3 cred.; 33 hrs.; prereq. elem. psy. and soc.) Dr. Hinckley.
- 171su. Descriptive Neuropsychiatry (Social Work 171). (2 cred.; 22 hrs.; prereq. Neuropsy. 70 or Psy. 144-145.) Staff.
- 173su. Mental Hygiene Aspects of Public Health Nursing. For graduate nurses only. (3 cred.; 33 hrs.) Miss Shalit.

Elective Courses for Medical Students

- 143su. Problems in Neuropathology. (Same as Path. 114.) (Cred. and hrs. ar.; prereq. Path. 101 and 102; 19MH; limited to 2 students.) Dr. Baker.

- 144su. Pathology of the Nervous System. (Same as Path. 115 and Neuropsy. 207.) Individual gross and microscopic studies on existing preparation in neuropathology. (Cred. and hrs. ar.; prereq. Path. 101 and 102; 19MH; limited to 2 students.) Dr. Baker.
- 145su. Problems in Neuropsychiatry. The student will be assigned a topic for special study. (Cred. and hrs. ar.; prereq. Path. 102; limited to 2 students.) Dr. McKinley, Dr. Baker, Dr. Hathaway, Dr. Schiele.
- 146su. Psychiatric Problems in General Medical Practice, Including the Psychoneuroses. Junior year. (Not less than 5 students. University Hospital.) Dr. Schiele.
- 151su. Survey of Neuropathology. (Same as Path. 117 and Neuropsy. 212.) (Cred. and hrs. ar.; prereq. Med. 150; 19MH.) Dr. Baker.

Courses for Graduate Students

- 207su. Pathology of the Nervous System. Independent review of neuropathology. (Cred. and hrs. ar.; limited to 2 students; 19MH.) Dr. Baker.
- 208su. Clinical Neurology. Supervised practice, inpatient and outpatient services. (Cred. and hrs. ar.) Dr. McKinley, Dr. Baker, Dr. Schiele.
- 208xsu. Clinical Psychiatry. Supervised practice, inpatient and outpatient services. (Cred. and hrs. ar.) Dr. McKinley, Dr. Baker, Dr. Schiele.
- 209su. Research in Neurology and Psychiatry. (Cred. and hrs. ar.) Dr. McKinley, Dr. Baker, Dr. Hathaway.
- 212su. Survey of Neuropathology. (1 cred. per qtr.; prereq. Neuropsy. 210; 19MH.) Dr. Baker.
- 216su. Neuropsychiatric Case Conference. (Cred. and hrs. ar.) Dr. McKinley and staff.
- 218su. Child Neuropsychiatry. Clinical experience in the Children's Clinic. (Cred. and hrs. ar.) Staff.

OBSTETRICS AND GYNECOLOGY

FIRST AND SECOND TERMS

Required Courses

- 120su. Obstetrics. The physiology of pregnancy, labor, and puerperium. For senior medical students. (1 cred.; 11 hrs.) Dr. McKelvey, Dr. Lund, Dr. Rogers, and staff.
- 135su. Clinical Clerkship in Obstetrics and Gynecology. Clinics in obstetrics and gynecology in the University Hospital and Dispensary. (6 cred.; 260 hrs.) Dr. McKelvey, Dr. Lund, Dr. Rogers, and staff.
- 135xsu. Clinical Clerkship in Obstetrics and Gynecology. Part of 135su given at the Minneapolis General Hospital.

Courses for Graduate Students

- 201su. Advanced Obstetrics and Gynecology. Part I. Required of first year fellows. Dr. McKelvey, Dr. Lang, and staff.
- 205su. Advanced Obstetrics and Gynecology. Part II. Required of second year fellows. Dr. McKelvey, Dr. Lang, and staff.
- 209su. Advanced Obstetrics and Gynecology. Part III. Required of third year fellows. Dr. McKelvey, Dr. Lang, and staff.
- 216su. Research. Staff.

OPHTHALMOLOGY AND OTOLARYNGOLOGY

FIRST AND SECOND TERMS

Required Courses

- 100su. Lectures in Ophthalmology. Senior medical students. Dr. Hansen, Dr. Camp, Dr. Hoffman, Dr. Hymes, Dr. Pfunder, Dr. Stanford.
- 102su. Lectures in Laryngology. Senior medical students. Dr. Boies, Dr. Phelps, Dr. Hochfilzer, Dr. Holmen, Dr. Tangen.
- 103su. Clinic in Diseases of the Eye. Diagnosis and treatment of cases. All senior medical students are required to have an ophthalmoscope on an individual basis. Dr. Hansen, Dr. Hoffman, Dr. Stanford.
- 104su. Clinic in Diseases of the Ear. Senior medical students. Diagnosis and treatment of cases. Dr. Boies, Dr. Connor, Dr. Fjelstad, Dr. Hochfilzer, Dr. Holmen, Dr. Tangen.
- 105su. Clinic and Conferences in Diseases of the Nose and Throat. Diagnosis and treatment of cases. Senior medical students. Dr. Boies and staff.

Elective Courses

- 106su. Operative Clinic in Eye. Limited to 6 students. (1 cred.; T or Th 3:00 to 4:30.) Dr. Hansen and staff.
- 107su. Ophthalmoscopy. Limited to 8 students. Two sections. (22 hrs. cred.; days and hrs. ar. with the departmental office.) Dr. Hoffman, Dr. Schwartz, Dr. Stanford.

PATHOLOGY

FIRST AND SECOND TERMS

Required Courses

- 4su. Pathology for Students in Dentistry. (7 cred.; 110 hrs.; 8 hrs. lab.; lect. MF 1:30-2:30, TTh 8:30-9:30, S 9:30-10:30.) Dr. Clawson, Dr. McCartney, and staff.
- 109su. Clinical-Pathological Conference. Presentation of clinical data on selected cases with discussion of etiology and diagnosis. Required in clerkship period. Elective for others. (1 cred.; prereq. Path. 102; F 4:00-5:00; 102IA.) Dr. Bell and staff.

Elective Courses

- 104su. Autopsies. Postmortem technique; examination of fresh organs, etc. (Cred. and hrs. ar.; prereq. Path. 102.) Dr. Bell and staff.
- 111su. Conference on Autopsies. (1 cred.; prereq. Path. 102; T 12:30-2:00; 104IA.) Dr. Bell and staff.
- 201su. Research. Students with the necessary preliminary training may elect research either as a major or minor in pathology. Permission required. (Cred. and hrs. ar.) Dr. Bell, Dr. Clawson, Dr. McCartney, Dr. Noble.

PEDIATRICS

FIRST AND SECOND TERMS

Required Junior Courses

- 120su. The Normal Child. (a) Physical growth and development. Dr. Beach, Dr. Bosma. (b) Psychological development. Dr. Theta Wolf. (c) Physiology and metabolism of infancy and childhood. Dr. McQuarrie, Dr. Ziegler. (1 cred.; 11 hrs.; WS 8:00 to 8:50 a.m.; Eustis Amphitheater.)

- 121su. Clinical Diagnosis in Infancy and Childhood. The pathogenesis of all diseases and disorders of childhood, their recognition and classification, including the disturbances of speech, psychiatric disorders, dental diagnosis, and indications for orthodontia. Follows Course 120. (1 cred.; 11 hrs.; WS 8:00 to 8:50 a.m.; Eustis Amphitheater.) Dr. McQuarrie, Dr. Bryngelson, Dr. Adams, Dr. Jensen, Dr. Stoesser, Dr. Cohen, and staff.
- 122su. Diseases of Infancy and Childhood and Their Treatment. Emphasis is placed on the diseases which are more or less peculiar to the age periods before the sixteenth year. Follows Course 121. (2 cred.; 22 hrs.; WS 8:00 to 8:50 a.m.; Eustis Amphitheater.) Dr., McQuarrie, Dr. Adams, Dr. Jensen, Dr. Stoesser, and senior staff.
- 123su. Divisional Demonstration Clinic on Noncontagious Diseases. One quarter for each student. (1½ cred.; 17 hrs.; W 9:00 to 10:30 a.m.; Minneapolis General Hospital.) Dr. Huenekens.
- 124su. Junior Clinical Clerkship in Pediatrics. Patients in the wards are assigned to individual students for examination, treatment, and "follow-up" observation under supervision. Each student has five weeks at University Hospital and five weeks at Minneapolis General Hospital. (6 cred.; 260 hrs.) Dr. McQuarrie, Dr. Adams, Dr. Jensen, Dr. Stoesser, Dr. Beach, and junior staff.
- 130su. Divisional Demonstration Clinic on Contagious Diseases. One quarter for each student. (1 cred.; 11 hrs.; Minneapolis General Hospital and Ancker Hospital.) Dr. Stoesser and clinical staff.

Required Senior Courses

- 135su. Senior Clinical Clerkship in Pediatrics. Patients in dispensaries are assigned to individual students for examination, treatment, and "follow-up" observation under supervision. Special clinics in well-baby care, allergy, heart, metabolism, and child psychiatry are attended each week. One sixth of class on pediatric clerkship at one time—one half assigned to the University Hospital, the other half to the Minneapolis General Hospital). (4 cred.; 6 weeks; 160 hrs.; 9:00 to 12:00 noon daily.) Dr. McQuarrie, Dr. Adams, Dr. Jensen, Dr. Stoesser, and staff.

Elective Courses

- 150su.† Physiology and Diseases of the Newborn. Dr. Adams, Dr. Stoesser.
- 152su.† Fundamental Principles of Nutrition and Metabolism as Applied to Children. Seminar course. Dr. McQuarrie, Dr. Ziegler.
- 154su.† Endocrinology As Applied to Pediatrics. Seminar course. Dr. McQuarrie.
- 156su.† Advanced Study of Noncontagious Diseases. Both clinical and experimental subject matter included. Dr. McQuarrie, Dr. Adams.
- 158su.† Advanced Study of Contagious Diseases. Dr. Platou, Dr. Stoesser.
- 160su. Allergic Disorders in Childhood. Dr. Stoesser.
- 162su. Common Behavior Disturbances in Childhood. Their recognition and management. Dr. Jensen, Dr. Lippman.
- 166su. Weekly Seminar for Detailed Discussion of Fundamental Subjects Related to Pediatrics. Dr. McQuarrie, Dr. Ziegler.
- 168su. Speech Disturbances in Childhood. Clinic course. Dr. Bryngelson, Dr. Jensen, Mrs. Brown.
- 170su. Rheumatic Infection and Heart Diseases in Childhood. Dr. Adams, Dr. Dwan.
- 172su. Dental Disorders in Relation to General Health. Dr. Rudolph, Dr. Cohen, Dr. Armstrong.

† Not offered to fewer than 40 students. Time and credit to be arranged with Dr. McQuarrie.

Courses for Graduate Students

- 200su. Graduate Seminar in Pediatrics. (1½ cred. per qtr.; 17 hrs.) Dr. McQuarrie and senior clinical staff.
- 202su.† Pediatric Clinic. Outpatient department. University Hospitals. (Daily 9:00-12:00 noon.) Dr. Adams, Dr. Jensen, Dr. Beach.
- 204su.† Three month's residence in pediatrics at the University Hospital. Dr. McQuarrie, Dr. Adams, Dr. Jensen, Dr. Ziegler.
- 206su.† Three month's residence in pediatrics at the Minneapolis General Hospital. Dr. Huenekens, Dr. Seham, Dr. Stoesser, Dr. Richdorf.
- 208su.† Pediatric Research. Special problems. Students may collaborate with members of the staff or with other students. Dr. McQuarrie, Dr. Ziegler, and staff.
- 210su. Special Clinics in Pediatrics. Dr. Adams, Dr. Jensen, Dr. Stoesser.

PHARMACOLOGY

FIRST AND SECOND TERMS

- 8su. Elementary Pharmacology. For student nurses. (3 cred.; 33 hrs.; lect. TTh VII, 113MeS; lab. TTh VIII-IX, 101MH.) Dr. Wright, Dr. Litchfield, Mrs. Cranston, Mr. McManus.
- 53su. Dental Pharmacology. A continuation of Pharm. 54w. For junior dental students. (1 cred.; prereq. Pharm. 54w; 1945.) Dr. Litchfield.
- 55su. Prescription Writing for Dental Students. (1 cred.; prereq. pharm. 54.) Dr. Wright.
- 103,104,108su. General Pharmacology. A detailed study of drugs important in medical practice in continuation of Course 102. Prescription writing. For junior medical students. (3 cred.; lect. 33 hrs.; prereq. Pharm. 102; MF 4:00; 129MH.) Dr. Bieter, Dr. Wright.
- 109su.‡ Pharmacological Problems. Experimental study of special topics in pharmacology with a review of the literature. (Cred. and hrs. ar.) Dr. Litchfield.
- 110,110xsu. Toxicology. A study of the incidence, symptoms, treatment, etc. of the more common poisons; public health and industrial toxicology; medico-legal implications; and laboratory exercises in systematic qualitative toxicological analysis. Lectures only may be taken if desired (110xsu.). (Cred. and hrs. ar.) Dr. Wright.
- 111su. Advanced Toxicology. An intensive laboratory study of analytical methods employed in quantitative toxicological analysis, with assigned readings and critical discussions of methods and interpretations. (Prereq. 110, or may be taken simultaneously; hrs. and cred. ar.) Dr. Wright.
- 203su. Research in Pharmacology. For graduate and advanced students. (Cred. and hrs. ar.) Dr. Bieter, Dr. Wright.
- 204su. Advanced Pharmacology. (Cred. and hrs. ar. Limited to 4 graduate students.) Dr. Bieter, Dr. Wright.
- 205su. General Discussions in Pharmacology. With collateral reading. (1 cred.; 11 hrs.; limited to 6 advanced students.) Dr. Bieter, Dr. Wright.

PHYSIOLOGY

FIRST TERM

- 4su. Human Physiology. An elementary course consisting of lectures and demonstrations for students desiring an introduction to the subject. (4 cred.; prereq. high school or college biology and chemistry; lect. and dem. MTWThF I, II.) Course fee \$2. Dr. King and others.

† Not offered to fewer than 10 students. Time and credit to be arranged with Dr. McQuarrie.

‡ A fee of \$1 per credit is charged for this course.

- 153su. Problems in Physiological Chemistry. Special work arranged with qualified students. May be taken one or more quarters. (Cred. and hrs. ar.; prereq. courses 100, 101.) Dr. Armstrong, Dr. Burr, Dr. Barnum.
- 203su. Research in Physiology. (Cred. and hrs. ar.) Dr. Visscher.
- 205su. Research in Physiological Chemistry. (Cred. and hrs. ar.) Dr. Armstrong, Dr. Burr, Dr. Barnum.

SECOND TERM

- 2su.† Elements of Physiology. Primarily for students of nursing. (4 cred.; no prereq.; lect. MTWThF I; lab. TF III-IV.) Mrs. Coe and others.
- 153su. Problems in Physiological Chemistry. Special work arranged with qualified students. May be taken one or more quarters. (Cred. and hrs. ar.; prereq. courses 100, 101.) Dr. Armstrong, Dr. Burr, Dr. Barnum.
- 203su. Research in Physiology. (Cred. and hrs. ar.) Dr. Visscher.
- 205su. Research in Physiological Chemistry. (Cred. and hrs. ar.) Dr. Armstrong, Dr. Burr, Dr. Barnum.

FIRST AND SECOND TERMS

- 1su.‡ Elements of Physiological Chemistry. Offered for students of nursing. (4 cred.; no prereq.; lect. TWF II; lab. Th II-III.) Dr. Barnum.
- 56su. Physiological Chemistry. Primarily for dental students. (2 cred.; jr., sr.; prereq. Org. Chem.; hrs. ar.) Dr. Armstrong, Dr. Burr.
- 59su. Human Physiology. Primarily for dental students. Second quarter of a two-quarter course. (5 cred.; sr.; prereq. 58 or equiv.; lect. TThS I, quiz S II, lab. T II-IV.) Course fee \$5. Dr. King, Dr. Corson, Mr. Kubicek, and others.
- 103su. Physiology of Circulation, Respiration, etc., for sophomore medical students and others. (9 cred.; jr., sr.; prereq. Zool. and Org. Chem.; lect. MTWThFS I, conf. TS III, lab. Div. A MW VI-VIII, Div. B MW II-IV.) Course fee \$7.50. Dr. Visscher, Dr. Keys, Dr. King, Dr. Lifson, Dr. Lorber, and others.

SCHOOL OF PUBLIC HEALTH

FIRST TERM

- 50su.§ Public and Personal Health. Causes of diseases and of physical defects; fundamental principles and working methods of health conservation and disease prevention. Lectures, discussions, and directed readings. (3 cred.; open to jrs. and srs. who have not taken 3, 4, 52, or G.C. 10C Human Biology in the General College; no prereq.; MTWThFS II; †.) Dr. Potthoff.
- 53su. Elements of Preventive Medicine and Public Health. Susceptibility, resistance, and immunity to disease; methods of spread and prevention of communicable and degenerative diseases; protection of food, water, and milk; school health work; vital statistics. (5 cred.; prereq. 3 or 50 or equiv. and a course in bacteriology; public health nurses and students in medical social work; lect. MTWThFS III, rec. MTWF IV; †.) Dr. Cowan, Mrs. Sandve.
- 58su. Maternal and Child Hygiene. The maternal welfare program; importance of breast feeding; conduct of infant welfare clinics in cities and rural communities; consideration of child of preschool and school age as to malnutrition, physical defects, cardiac and nervous disorders. (3 cred.; for nurses only; prereq. 53 and 62; MTWThF VI.) Ar.

† Room schedule is posted on bulletin board outside of 121 Millard Hall.

‡ A fee of \$2.50 is charged for this course.

§ No credit is granted for this course in the major sequence in public health nursing.

- 61su. Mental Hygiene. Emotional reaction to the environment; prevention of mental disturbances; relationship of these problems to work of public health nurses. (3 cred.; public health nurses; prereq. 53 and/or 62 which may be taken concurrently; MTWThFS I; †.) Miss Shalit.
- 62su. Principles of Public Health Nursing I. Trends, principles and techniques in public health nursing service including family health guidance. (3 cred.; public health nurses; prereq. 53 or equiv. but may be taken with 53; MTWThFS II; †.) Miss Freeman, Miss Vavra.
- 66su.††§ Field Practice in Rural Nursing. Credits allowed according to experience in this field. The student accompanies the rural nurse on her rounds and observes and participates in the activities in a rural nursing program. Special attention to organization for rural health work, methods of health teaching, development of community leadership, planning and conducting classes of various types for differing age groups, home visiting, etc. (Cred. ar.; public health nurses only; jr., sr.; prereq. 53, 62, and 67.) Miss Freeman, Mrs. Sandve, and associates.
- 67su.††§ Field Practice with Family Health Agency. Credits allowed according to experience in this field. Lectures, demonstrations, and supervised experience in prenatal and infant clinics, and in home visiting. This includes bedside care of all types of cases, with emphasis on promotion of physical and mental health and recognition of social problems. (Cred. ar.; public health nurses only; jr., sr.; prereq. 53, 62.) Miss Freeman, Mrs. Sandve, and field associates.
- 90su. Measurement in Medicine. Classification and measurement as descriptive methods in medicine; frequency proportions and probability; errors of random sampling and judgment of significance by statistical methods. (2 cred.; freshman medical students and special permission of instructor.) Mr. Treloar.
- 91su. First Aid. Principles of first aid in home, industry and community; first aid for war injuries. Medical students only. (1 cred.; 22 hrs.) Dr. Potthoff.
- 101su. Public Health Administration and Field Work. A series of field trips to acquaint the student with the activities of the State Board of Health and with problems of water filtration, sewage disposal, and milk sanitation. (2 cred.; sr. med. students only.) Dr. Boynton and associates.
- 102su. Environmental Sanitation I. Methods for promoting man's health and comfort by controlling his environment, water supply sanitation, food sanitation, pollution abatement; sewage, excreta, and waste disposal; bathing place sanitation, air hygiene, illumination, housing, control of insect and animal vectors of disease, industrial hygiene and sanitation. (3 cred.; sr., grad.; prereq. 50 or 51 or 53 or 100 or by permission, or may be taken concurrently with any of these; MTWThFS VI; †.) Mr. Whittaker.
- 123su. Topics in Public Health. Selected readings in public health with discussion based on these readings. (Cred. ar.; prereq. permission of instructor; ar.) Dr. Boynton.
- 129su. Principles and Problems of Teaching Social Hygiene. (Same as Ed.C.I. 129.) Emphasis will be placed on methods of teaching social hygiene in the public schools and materials for instructional use in the elementary and secondary schools. Designed for both school personnel and nurses. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed. or grad. nurses; MTWThF VI and 1 hr. ar.; 360SBH.) Dr. Pearce, Miss Biester.
- 171su. Problems in Public Health Nursing. For advanced students who wish to work on special problems in public health nursing. (Cred. ar.; prereq. 170 or permission of instructor.) Miss Freeman and associates.

† Room schedule is posted on bulletin board outside of 121 Millard Hall.

‡ Students must maintain a C average in theory completed before they are admitted to any field work.

†† A fee of \$50 per month is charged for this course.

172su.‡ Workshop in Public Health Nursing Supervision. (June 15-30.) After a brief orientation the class will be organized in small discussion groups under the direction of a discussion leader. These small groups will study their particular supervisory problems, and report periodically to the entire group. Special library and guidance facilities will be available. (3 cred.; prereq. experience in public health nursing and permission of instructor; hrs. ar.) Miss Freeman, and visiting lecturers. Students should make reservations at least a month in advance for this course.

SECOND TERM

- 59su.¶ Health of the School Child. Mental and physical growth; discovery of physical defects; exercise, fatigue, emotional problems; health habits; diseases of school children; practical problems of health supervision and health instruction. (3 cred.; prereq. 4, 50, 51, 52, or 53, will be waived for teachers and school nurses, but cred. granted only after completion of prereq.; MTWThFS III.) Miss Grout, Miss Bestul, Dr. Todd.
- 60su. Tuberculosis and Its Control. History of tuberculosis movement and campaign in the United States. Early diagnosis and sanatorium treatment; tuberculosis in children; the psychology of tuberculosis; supervision of returned sanatoria patients; state program for the eradication of tuberculosis; legislation. (2 cred.; jr., sr.; prereq. 4, 50, 51, 52, 53, and 62; MTWF IV; †.) Dr. Myers.
- 63su. Principles of Public Health Nursing II. Organization of public health nursing services; program planning; evaluation; professional problems in public health nursing. (3 cred.; public health nurses; prereq. 53 or equiv. but may be taken with 53; MTWThFS II; †.) Miss Henriksen, Miss Bestul.
- 65su.‡‡ Field Practice in School Nursing. Credits allowed according to experience in this field. Working with the school nurse the student observes and participates in the activities included in the school nursing program; special attention to organization, relationships, techniques, methods of informal health teaching, provision for handicapped children, and home visiting. (Cred. ar.; public health nurses only; jr., sr.; prereq. 53, 62, and 67.) Mrs. Sandve.
- 66su.‡‡ Field Practice in Rural Nursing. Credits allowed according to experience in this field. The student accompanies the rural nurse on her rounds and observes and participates in the activities in a rural nursing program. Special attention to organization for rural health work, methods of health teaching, development of community leadership, planning and conducting classes of various types for differing age groups, home visiting, etc. (Cred. ar.; public health nurses only; jr., sr.; prereq. 53, 62, and 67.) Mrs. Sandve.
- 67su.‡‡ Field Practice with Family Health Agency. Credits allowed according to experience in this field. Lectures, demonstrations, and supervised experience in prenatal and infant clinics and in home visiting. This includes bedside care of all types of cases, with emphasis on promotion of physical and mental health and recognition of social problems. (Cred. ar.; public health nurses only; jr., sr.; prereq. 53, 62.) Mrs. Sandve.
- 70su.‡‡‡ Practice Teaching in Home Nursing for Public Health Nurses. (Same as Ed.T. 50.) Includes practice in planning instruction and in teaching adults. Enrolment limited. (4 cred.; jr., sr.; prereq. 65, 66, 67, and permission of instructor; MTWThF VI-VIII; †.) Miss Bestul.

‡ Room schedule posted on bulletin board outside of 121 Millard Hall.

‡ A fee of \$3 is charged for this course.

‡‡ A fee of \$50 per month is charged for this course.

‡‡‡ A fee of \$1 per credit is charged for this course.

‡ Students must maintain a C average in theory completed before they are admitted to any field work.

¶ Students cannot receive credit for both Courses 59 and 69.

- 90su. Measurement in Medicine. Classification and measurement as descriptive methods in medicine; frequency proportions probability; errors of random sampling and judgment of significance by statistical methods. (2 cred.; freshman medical students and special permission of instructor.) Mr. Treloar.
- 91su. First Aid, Principles of first aid in home, industry, and community; first aid for war injuries. (1 cred.; 22 hrs.; freshman medical students only.) Dr. Potthoff.
- 101su. Public Health Administration and Field Work. A series of field trips to acquaint the student with the activities of the State Board of Health and with problems of water filtration, sewage disposal, and milk sanitation. (2 cred.; sr. med. students only.) Dr. Boynton and associates.
- 115su. Food Sanitation. Sanitary problems associated with the production, processing and distribution of milk, meat, shellfish, and other foods, methods of public health supervision. Lectures, field and laboratory demonstrations. (3 cred.; prereq. 102, 104, 106; MTWThFS I; †.) Mr. Adams.
- 125su. The Community Health Education Program. A course intended primarily for those preparing for leadership in community health education to include organization, administration, and evaluation of community health education programs and the selection, preparation, and use of media commonly employed in health education. (3 cred.; prereq. 53 or 104, and 106, or to be taken concurrently with 106; MTWThF VI; †.) Miss Grout.
- 129su. Principles and Problems of Teaching Social Hygiene. (Same as Ed.C.I. 129.) Emphasis placed on methods of teaching social hygiene in the public schools and materials for instructional use in the elementary and secondary schools. Designed for both school and personnel nurses. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed. or grad. nurses; MTWThF III and 1 hr. ar.; 360SBH.) Dr. Pearce, Miss Biester.

BIOMETRY

FIRST TERM

- 110su. Biometric Principles. An introduction to statistical analysis with emphasis on the basic principles of statistical reasoning, the description of univariate distributions, normal correlations, simple tests of significance, and goodness of fit. Course 111 will be taken concurrently. (3 cred.; prereq. 18 cred. in biol. sci. or math. through anal. geom.; MTWThFS I; 118MH.) Mr. Treloar.
- 111su.† Biostatistics Laboratory. Practical training in machine calculation and statistical techniques. To be taken concurrently with Course 110. (2 cred.; lab. 12 hrs. ar.; 118MH.) Mr. Treloar.

SECOND TERM

- 80su.† Elementary Vital Statistics. Sources of data on population mortality, morbidity, and natality. Calculation of rates and graphical comparison of time and age trends. (3 cred.; public health nurses and special permission of instructor; MTWThFS I; 118MH.) Mr. Treloar.
- 140su.† Vital Statistics. Study of official sources of vital statistics, including population changes, calculation of rates and graphical exposition of trends. (3 cred.; permission of instructor; MTWThFS I; 118MH.) Mr. Treloar.
- 150su.† Life Tables. Mortality rates and the construction of the life table. Laboratory course with discussions, offered when sufficient demand exists. (3 cred.; prereq. permission of instructor; †.) Mr. Treloar.

† Room schedule posted on bulletin board outside of 121 Millard Hall.

‡ A fee of \$1 per term is charged for this course.

SUMMER SESSION

RADIOLOGY

FIRST TERM

Required Courses

- 104su. Roentgen and Radium Therapy. Junior, senior, and graduate students. (11 hrs.) Dr. Stenstrom.
- 111su. Medical Roentgenologic Conference for Medical Clerks. Part of Medicine 111. (9 hrs.) Dr. Peterson.
- 112su. Roentgen Diagnostic Clinic for Medical Clerks. Part of Medicine 112. (9 hrs.) Dr. Bergh.
- 121su. Roentgenology and Radiation Therapy and Biophysics. Lectures and demonstrations. For junior medical students. (44 hrs.; 4 cred.) Dr. Stenstrom.
- 124su. Pediatric-Roentgenologic Conference for Pediatric Clerks. Part of Pediatrics 124. (9 hrs.) Dr. Tucker.
- 125asu. Radiation Therapy for Surgical Clerks. Part of Surgery 135. (9 hrs.) Dr. Stenstrom.
- 125csu. Surgical Roentgenologic Conference for Surgical Clerks. Part of Surgery 135. (9 hrs.) Dr. Bergh.
- 163asu. Neurosurgical Roentgenologic Conference for Neurosurgical Clerks. (9 hrs.; 1 cred.) Dr. Peterson, Dr. Peyton.

Elective Courses

- 125bsu. Roentgen Diagnostic Clinic for Surgical Clerks. Part of Surgery 135. (9 hrs.) Dr. Hansen.
- 195su. Clinic in X-ray Therapy. Junior or senior year. (11 hrs.) Dr. Stenstrom.

SECOND TERM

Required Courses

- 104su. Roentgen and Radium Therapy. Junior, senior, and graduate students. (11 hrs.) Dr. Bergh.
- 111su. Medical Roentgenologic Conference for Medical Clerks. Part of Medicine 111. (9 hrs.) Dr. Rigler.
- 112su. Roentgen Diagnostic Clinic for Medical Clerks. Part of Medicine 112. (9 hrs.) Dr. Rigler.
- 121su. Roentgenology and Radiation Therapy and Biophysics. Lectures and demonstrations. For junior medical students. (44 hrs.; 4 cred.) Dr. Rigler.
- 124su. Pediatric-Roentgenologic Conference for Pediatric Clerks. Part of Pediatrics 124. (9 hrs.) Dr. Rigler.
- 125asu. Radiation Therapy for Surgical Clerks. Part of Surgery 135. (9 hrs.) Dr. Tucker.
- 125bsu. Roentgen Diagnostic Clinic for Surgical Clerks. Part of Surgery 135. (9 hrs.) Dr. Hansen.
- 125csu. Surgical Roentgenologic Conference for Surgical Clerks. Part of Surgery 135. (9 hrs.) Dr. Rigler.
- 163asu. Neurosurgical Roentgenologic Conference for Neurosurgical Clerks. (9 hrs.; 1 cred.) Dr. Peterson, Dr. Peyton.

Elective Courses

- 195su. Clinic in X-ray Therapy. Junior or senior year. (11 hrs.) Dr. Tucker.

SURGERY

FIRST AND SECOND TERMS

Required Courses

- 121su. Principles of Surgery. The basic principles of surgery, including anesthesia, antiseptics, asepsis, hemostasis, inflammations and the process of the repair of tissues. Lectures and demonstrations. Sophomores. (3 cred.; 33 hrs.) Dr. Knight, Dr. Dennis, Dr. Leven, Dr. Varco, Dr. Lannin, Dr. Merendino.
- 126su. Orientation Course in General Surgery. A series of clinical lectures on regional surgery (exclusive of urology, orthopedics, and neurosurgery) emphasizing pathology, diagnosis, and essentials of treatment. These lectures attempt to orient the student in his study and reading. Juniors. (2 cred.; 22 hrs.) Staff.
- 127su. Surgical Diseases of the Nervous System. Lectures on the surgical diseases of the brain, spinal cord, meninges, peripheral nerves, and sympathetic nervous system. Juniors. (11 hrs.) Dr. Peyton.
- 129su. Surgical Clinics for Juniors. Amphitheater clinic demonstrating surgical conditions in hospital patients. (3 cred.; 33 hrs.) Surgery staff.
- 135su. Clinical Clerkship. The individual study of assigned patients; case histories, laboratory examinations, provisional diagnoses with suggestions as to therapy; attendance at operation and observation of postoperative management. (6 cred.; 260 hrs.; jr.) Staff.
- 135asu. Clinical Pathology of Tumors. A combined clinical and pathological consideration of tumors. In so far as available material permits, a systematic presentation of the manifestations and effects of malignant tumors which come in the province of general surgery and its divisions. Part of Course 135. (University Hospital.) Staff.
- 135bsu. Reading Course. A weekly recitation during the clerkship on assigned reading in a standard textbook of surgery. Quiz and lecture. Part of Course 135. Surgery staff.
- 135csu. Surgical-Pathological Conference. A review of the gross and microscopic findings of surgical specimens removed during the preceding week; also an attempt will be made to review systematically some of the aspects of surgical pathology which are of especial importance to surgeons. Part of Course 135. Surgery staff.
- 135casu. Medico-Surgical-Pathological Conference. Weekly combined meetings of medical and surgical staffs in which the postmortem findings of particularly interesting and instructive cases are discussed.
- 135dsu. Roentgenological-Surgical Conference. The films of all surgical patients presenting interesting roentgen findings are reviewed. Part of Course 135 (see also Radiology program.) Radiology and Surgery staffs.
- 135esu. Surgical Conference. Cases presenting interesting problems are presented and discussed. Part of Course 135. Surgery staff.
- 135fsu. Physiological Pathology of Surgical Diseases. A weekly conference in which surgical problem cases are presented, emphasis being placed on the physiological aspects of the problem. Part of Course 135. Physiological and Surgery staffs.
- 135gsu. Outpatient Surgical Clinic, General Surgery, and Proctology. Sections daily in the Outpatient Department. Part of Course 135. Dr. Wangensteen, Dr. Dennis, Dr. W. A. Hanson, Dr. J. K. Anderson, Dr. Varco, Dr. Lannin, Dr. Merendino.
- 135gasu. Applied Surgical Anatomy. Weekly demonstrations in which by the use of dissections prepared by surgical fellows a systematic review of the regional anatomy of the major conditions coming with the purview of surgery and its specialties is presented. Part of Course 135. Surgery staff.
- 135hsu. Fractures and Traumatic Surgery. Under the supervision of the hospital staff the student participates in the care of fractures. Part of Course 135. (Minneapolis General Hospital.) Surgery staff.

- 137su. Outpatient Surgical Clinic, General Surgery, Special Surgery Clinics and Proctology. Sections daily in the Outpatient Department. (2 cred.; 22 hrs.; sr.) Surgery staff.
- 163su. Neurosurgery Clerkship. For seniors. The individual study of assigned patients on the neurosurgical service. History taking, examination, special studies, diagnosis and therapy are considered, with attendance at operations. Dr. Peyton and staff.
- 163asu. Neurosurgical-Neurological-Roentgenologic Conference. A weekly review of X rays and case histories on neurosurgical and neurological services. (Part of course 163.) Dr. Peyton, Dr. Baker, Dr. Peterson, and staffs.
- 170su. Urology Clerkship. For seniors. The individual study of assigned patients on the urological service. History taking, examination, special studies, diagnosis and therapy are considered, with attendance at operations. Dr. Creevy and staff.
- 190su. Orthopedic Clerkship. For seniors. The individual study of assigned patients on the orthopedic service. History taking, examination, special studies, diagnosis and therapy are considered, with attendance at operations.

Elective Courses

- 139su. Operative Surgery. The student is permitted to participate in surgical procedures on hospital patients in the operating room. (Cred. and hrs. ar.) Staff.
- 152su. Problems in Clinical Investigations. A study of special case records correlated with literature study. (Cred. and hrs. ar.) Dr. Wangenstein, Dr. Creevy, Dr. Peyton, Dr. Dennis, Dr. Varco.
- 159su. Clinic in Traumatic Surgery. Juniors and seniors. (11 hrs.; Minneapolis General Hospital.) Dr. Zierold.
- 167su. Problems in Experimental Surgery. Students under supervision will investigate problems assigned to them. As their experience increases, they are permitted to do the operations incident to their problems. (Cred. and hrs. ar.) Dr. Wangenstein, Dr. Creevy, Dr. Peyton, Dr. Dennis, Dr. Varco.
- 168su. The Physiologic Pathology of Certain Aspects of Surgical Disease. Sixth year. (Cred. and hrs. ar.) Dr. Dennis, Dr. Varco.
- 169su. Diagnostic Bedside Surgical Clinic. At least four students must register if course is to be given. (Cred. and hrs. ar.; Minneapolis General Hospital.)

DIVISION OF ANESTHESIA

Required Courses

- 121bsu. Principles of Anesthesia. Part of Course 121. 5 lectures. Dr. Knight.
- 136esu. Individual Instruction in Anesthesia. Part of Surgical Specialties, Surgery 136.
- 136gsu. Clinical Conferences in Anesthesia. Part of Surgical Specialties, Surgery 136.

Elective Course

- 165su. Clinical Anesthesia. Selected students may spend additional time in the clinical administration of anesthetics. Dr. Knight.

Course for Undergraduate and Graduate Students

- 104su. Principles of Anesthesia. Lectures and conferences. (1 cred.; 11 hrs.) Dr. Knight.

SCHOOL OF NURSING§§

FIRST TERM

- Nurs.Ed.60su. Ward Administration. The organization of the hospital; principles of administration and their application to ward management; analysis and maintenance of nursing service; selection, orientation, assignments and motivation of personnel; planning and conducting clinical teaching programs. (4 cred.; graduate nurses§; no prereq.; MTWF III, IV; ar.§) Mrs. Randall.
- Nurs.Ed.62su. Personnel Program in Schools of Nursing. Survey of principles and techniques of personnel work applied to problems in schools of nursing. The relationship of such topics as individual differences, human behavior, personality, emotions, and intelligence to the problems of personnel guidance. Study of such techniques as psychological tests, personnel records, orientation periods, remedial programs, and counseling interviews in schools of nursing. (3 cred.; grad. nurses§; no prereq.; MTWThFS I; ar.§) Miss Gordon.
- Nurs.Ed.72su. Principles of Learning and Methods of Teaching. Study of learning situations in the basic professional program in nursing. Sources, selection, and organization of instructional materials; evaluation of nursing care; content and methods of clinical teaching; measurement of outcomes. (3 cred.; grad. nurses; no prereq.; MTWThF VI, M VII; ar.§) Miss Harrington.
- Nurs.Ed.73su. Principles of Economics in Nursing Service Administration. A study of the principles of business administration in their application to hospital organization and management. (1 cred.; grad. nurses§; no prereq.; TTh VIII; ar.§) Miss Gorgas.

FIRST AND SECOND TERMS

Courses run through both terms.

- Ed.T.51Asu.†‡|| Special Methods of Teaching in Schools of Nursing. (3 cred.; sr., grad.; prereq. Ed.51A-B or parallel; MWF II; ar.§) Miss Harrington.
- Nurs.12su. Introduction to Nursing. (3 cred.; prereq. registration in School of Nursing; hrs., days, and rms. ar.§) Miss Boyle.

† College of Education Bulletin 1944-1946.

‡ A fee of \$1 per credit is charged for this course.

§ These include students in Part III of the degree curriculum.

|| Classroom schedule will be posted on the bulletin board outside Room 125, Medical Sciences Building, at the beginning of the Summer Session.

|| See page 133 Combined Class Schedule 1944-1945 and page 64.

§§ For courses in Public Health Nursing see pages 77-78.

COLLEGE OF PHARMACY

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

Beginning the fall quarter, 1944-45, work for all classes in the College of Pharmacy was decelerated. Therefore no professional subjects in pharmacy will be offered during the summer of 1945. Those courses which are a part of the pharmacy curriculum and which are offered in other departments during the summer of 1945, may be taken by registering in the college.

SCHOOL OF DENTISTRY

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

The School of Dentistry is operating on the accelerated plan of four quarters a year thereby enabling a student to complete the four-year course in three calendar years. The summer quarter will begin on June 18 and close on September 1, 1945. Fees will be the same as for other quarters.

There will be a freshman class entering in October, 1945 and applications are now being received and acted upon for that freshman dental class.

For detail of courses and fees in dentistry, consult the Bulletin of the School of Dentistry.

COLLEGE OF EDUCATION

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

Courses in elementary and secondary education listed in the following pages may be used for *renewal of teaching certificates*. Former teachers, re-entering the profession during the present emergency should consult with elementary and secondary education advisers or with the dean's office, College of Education, concerning a program for renewal of certificates.

Students reading this section of the bulletin should note that under Curriculum and Instruction, Educational Administration, Educational Psychology, and Methods and Directed Teaching, the courses are grouped for those interested in elementary, secondary, and higher education fields. Under each division courses of general interest are listed *General Courses* and these are followed by the offerings in *Elementary Education*, *Secondary Education*, and *Higher Education*.

Professional courses in education presuppose completion of Junior College requirements in the University of Minnesota or the equivalent in colleges of similar grade elsewhere. Graduation from the advanced course of Minnesota state teachers colleges is accepted as equivalent. Students with this training may be admitted to any course for which they have satisfied the prerequisite.

For all general matters relating to admission, advanced standing, credits, honor points, curricula, and requirements for graduation, students should consult the College of Education Bulletin. Students expecting to become candidates for a degree should seek as early as possible the advice of the major adviser in the department concerned in order to learn the requirements of the special curriculum they will need to complete.

STUDENTS' WORK COMMITTEE

Undergraduate students with questions concerning program adjustments and substitutions for required work should consult their advisers or the chairman of the Students' Work Committee. The office of the chairman in the first term will be 206 Burton Hall (Miss Alexander), and in the second term, 202 Burton Hall (Miss Edwards).

WORKSHOPS AND SPECIAL COURSES

Four workshops have been scheduled for the first term of the Summer Session. For teachers in primary grades, kindergartens, and nursery schools, and for others interested in child development, the Institute of Child Welfare will offer Ed.C.I. 131su, Workshop in Childhood Education and Child Development. (See page 107.) Two additional workshops have been arranged for high school teachers in special fields: Agr.Ed. 201su, Workshop in Agricultural Education (see page 87); and H.E.Ed. 293su, Problems in Home Economics Education (see page 84). The fourth workshop, listed under Ed.C.I. 228su, has been planned for the study of problems of teacher education in the liberal arts colleges and teacher training institutions.

In the second term, problems of intercultural education in the schools will be studied in a workshop of regional importance. The Bureau for Intercultural Education and the National Conference of Christians and Jews have co-operated with the University of Minnesota in making this offering possible. A copy of the special announcement for this workshop may be secured from the dean's office, College of Education. (See description on page 8 and course listing under Ed.C.I. 110su, page 90.)

SUMMER DEMONSTRATION HIGH SCHOOL

The University High School will be in session during the first term of the Summer Session. Instruction will be offered in English, mathematics, general science, chemistry, physics, biology, history, social studies, typing, art, music, home economics, Latin, and Spanish. The school is a six-year high school comprising grades seven to twelve, with courses organized to provide individual attention to the needs and capacities of the pupils.

Admission to the Summer Session is open to any pupil of normal high school age. Children of teachers or other professional workers who are attending the Summer Session of the University are especially welcomed in the summer term of the University High School. For information regarding fees and registration procedure, address the Director's Office, University High School, Minneapolis 14, Minnesota.

Students registered in Ed.T. 52 will be assigned to observation and directed teaching in the classes of the high school. The facilities of the school are available to the college classes in special methods and in other courses for demonstration purposes. (MTWThF I,II,III, MTWF IV.)

SUMMER DEMONSTRATION ELEMENTARY SCHOOL

An elementary school, grades one to six inclusive, will be in operation during the first term of the Summer Session. This school will be staffed by the principal and teachers of the Tuttle School which is used as the demonstration elementary school of the College of Education by a co-operative agreement with the Board of Education of the city of Minneapolis. The school, conducted on an activity basis, may be observed by students of elementary school methods and supervision. A laboratory course in elementary school practices is available. (See Ed.C.I. 186su.) (MTWThF I, II, III, MTWF IV; Tuttle School, Talmage Avenue and Eighteenth Avenue Southeast.)

NURSERY SCHOOL AND KINDERGARTEN

The Institute of Child Welfare maintains a nursery school and kindergarten in the first term of the Summer Session which is open to children under the conditions described on page 107. These schools are also available for demonstration and observation. Courses, offered by the institute and listed on page 107, are given for teachers who wish nursery school and kindergarten training or who are interested in child development.

MINIMUM FEE FOR GRADUATE STUDENTS

Graduate students who have completed all their graduate work with the exception of the thesis will be allowed to register for the Summer Session for thesis work only, upon the payment of a fee of \$5 plus a \$2 deposit.

SPECIAL FEES

By action of the Board of Regents, a fee of \$1 per credit is charged for all courses concerned with methods or problems of teaching. These fees are used in the provision of demonstration and practice facilities, and are charged for any course in this classification, whether or not observation is required for that particular course. The curriculum laboratory, the demonstration schools, and radio and visual materials are partially provided through these fees.

DETAILED DESCRIPTION OF COURSES

For detailed description of courses and curricula in education see the Bulletin of the College of Education.

NOTICE CONCERNING STARRED COURSES

Graduate students who wish to work on individual problems to count toward the nine credits in problems courses required for the Master's degree under Plan B, may register for this credit in any course starred in the following list. Other students taking these courses will not be held to the same quality of individual problems work, nor will written reports always be required of them. (See page 25.)

GENERAL COURSES

FIRST TERM

- Ed.51Asu.‡ Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. Ed. 51C or consent of instructor; MTWThF VI; 109UHS.) Mr. Gjerde.
- Ed.51Bsu.‡ Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. Ed. 51A or consent of instructor; MTWThF V; 109UHS.) Ar.
- Ed.51Csu.‡ Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF VII; 210UHS.) Ar.
- Ed.61Asu.†† Introduction to Elementary School Teaching. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF VI; 109UHS.) Mr. Gjerde.

SECOND TERM

- Ed.51Asu.‡ Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. Ed. 51C or consent of instructor; MTWThF V; 210UHS.) Mr. Van Wagenen.
- Ed.51Bsu.‡ Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. Ed. 51A or consent of instructor; MTWThF VI; 206UHS.) Mr. Mork.
- Ed.51Csu.‡ Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF VII; 210UHS.) Mr. Kenneth E. Anderson.
- Ed.61Asu.†† Introduction to Elementary School Teaching. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF V; 210UHS.) Mr. Van Wagenen.

AGRICULTURAL EDUCATION

FIRST TERM

- Agr.Ed.201su. Workshop in Agricultural Education. Professional improvement for agriculture teachers through individual and group projects on the preparation of study materials and the planning of programs for agriculture in the all-day classes, in part-time classes, and in evening schools. Special consultants from the College of Agriculture, the Experiment Station, and other groups. Students may register for the full six weeks for a maximum of nine credits, or for the first three weeks for a maximum of four credits. (3 to 9 cred.; grad.; hrs. ar.; 301Hort(UF).) Mr. Field, Mr. Ekstrom, and consultants.
- Agr.Ed.221su. Field Problems. Making investigations, gathering data, and formulating plans in regard to vocational agriculture. (3 cred.; grad.; prereq. 15 hrs. in ed.; ar.; 205Hort(UF).) Mr. Field.
- Agr.Ed.232su.* Research in Agricultural Education. Introduction to investigational work in problems of teaching agriculture in the high schools. Experience in selecting programs, preparation of bibliographies, analyzing and interpreting data, and preparing manuscripts. (Cred. ar.; grad.; prereq. 15 hrs. in ed.; lect. hrs. and individual work ar.; 205Hort(UF).) Mr. Field.

† Ed.61A should not be taken by graduates of normal schools.

‡ A fee of \$1 per credit is charged for this course.

ART EDUCATION

Registrants should consult the following advisers for assistance:

Elementary school curriculum registrants, freshmen and sophomores in other fields—
Mr. Gayne.

Juniors and seniors—Miss Lutz.

Students majoring in art education who wish to substitute any of the following courses for their major requirements in order to accelerate progress toward graduation should consult Miss Alexander, chairman of the Students' Work Committee.

In the studio practice courses listed below, the course number should be selected on the basis of the student's background, after consultation with the instructor.

FIRST TERM

ArtEd.1,2, or 3su. (Group A) Fundamental Experiences in Design. Selected problems from pictorial subject matter used in relation to handcraft material for recreation and rehabilitation. (3 cred.; prereq. high school art or evidence of fitness; MWF III and laboratory hrs. ar. during MTWF II, IV, and V, and Th II and V; 207bJ.) Miss Lutz.

ArtEd.4,6, or 8su. (Group C) Drawing from Still Life and Pose. (2 cred.; hrs. ar. during MTWThF II and V, TTh III, and MTWF IV; 207J.) Miss Lutz.

ArtEd.17su. (Group A) Art for Elementary Teachers. (3 cred.; no prereq.; MTWThF I-II; 203J.) Mr. Gayne.

ArtEd.24,26, or 28su. (Group C) Drawing and Painting from Still Life and Pose. (2 cred.; hrs. ar. during MTWThF II and V, TTh III, and MTWF IV; 207J.) Miss Lutz.

ArtEd.32su. (Group B) Orientation in Handcraft Processes. Emphasizes ceramics and woodcrafts. (3 cred.; prereq. consent of instructor; MTWThF VI and laboratory hrs. ar. during MTWThF VII and VIII; 10-11J.) Mr. Rood.

Art Ed.61,62, or 63su. (Group C) Painting. (2 cred.; hrs. ar. during MTWThF II and V, TTh III, and MTWF IV; 207J.) Miss Lutz.

ArtEd.70,71, or 72su. (Group B) Wood Sculpture. (3 cred.; prereq. consent of instructor; MTWThF VII and laboratory hrs. ar. during MTWThF VI and VIII; 10-11J.) Mr. Rood.

ArtEd.84su.‡ (Group E) Teaching of Art in the Elementary Grades. Problems and methods of using art in elementary school teaching. (3 cred.; jr., sr.; prereq. consult instructor; MTWF IV and 1 hr. ar.; 203J.) Mr. Gayne.

CURRICULUM AND INSTRUCTION

FIRST TERM

General Courses

Ed.C.I.104su.‡ Adult Education. (3 cred.; jr., sr., grad.; MTWF IV and 1 hr. ar.; 301Lib.) Mr. Dickerman.

Ed.C.I.105su.‡ Visual Aids in Teaching. (3 cred.; jr., sr., grad.; MTWThF III; 101WeH.) Mr. Wendt.

Ed.C.I.107su.‡ Radio in Education. (3 cred.; jr., sr., grad.; prereq. 9 cred. in ed.; MTWThF I; 302MurH.) Mr. Tyler.

Ed.C.I.114su.‡ The School Health Education Program. Study of various health organizations in city and state in relation to the school health program; organization of the health education programs with the school; construction of the curriculum in school health; evaluation of the school health program; preparation and requirements for teaching school health education; health supervision and guidance. (3 cred.; sr., grad.; prereq. Ed.T. 83, P.H. 50 or equiv., or consent of instructor; MTWThF VI; 201NGW.) Miss Starr.

‡ A fee of \$1 per credit is charged for this course.

- Ed.C.I.129su.‡ Principles and Problems of Teaching Social Hygiene. Emphasis will be placed on methods of teaching social hygiene in the public schools and materials for instructional use in the elementary and secondary schools. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed.; MTWThF III; 360SBH.) Miss Biester, Dr. Pearce.
- Ed.C.I.145su.‡ Remedial Reading. (3 cred.; prereq. Ed.C.I. 143 or 144 or 159; MTWThF II; 106Pt.) Miss Edman.
- Ed.C.I.271su.*‡ Problems in Curriculum Construction. (Cred. ar.; prereq. cred. or current enrolment in Ed.C.I. 113, 119, 170, or equiv., and consent of instructor; ar.) Mr. Bossing, Mr. Cook.
- Ed.C.I.273su.*‡ Problems in Reading. (Cred. ar.; prereq. consent of instructor; ar.) Miss Edman.

Elementary Education

- Ed.C.I.63su.‡ Children's Literature. (3 cred.; sr.; prereq. Ed. 61A-B or teaching experience; MTWF IV and 1 hr. ar.; 210Bu.) Miss Smith.
- Ed.C.I.102su.‡ Teaching the Social Studies in the Elementary School (3 cred.; prereq. Ed. 61A-B-C or equiv.; MTWThF II; 100Pt.) Mrs. Merideth.
- Ed.C.I.103su.‡ Teaching of Science in the Elementary School. Emphasis on resources and materials, and their application in elementary grades. (3 cred.; sr., grad.; prereq. Ed. 61A-B or teaching experience; MTWThF III; 106Pt.) Mr. Mork.
- Ed.C.I.119su.‡ Elementary School Curriculum. (3 cred.; sr., grad.; prereq. Ed. 61C or equiv.; MTWF IV and Th VII; 106Pt.) Mr. Archer.
- Ed.C.I.130su.‡ Problems in Childhood Education. (See Child Welfare 150su.) (3 cred.; sr., grad.; prereq. 12 cred. in ed.; MTWF IV and 1 hr. ar.; 5Pt.) Mrs. Fuller.
- Ed.C.I.131su.‡ Laboratory in Childhood Education and Child Development—Workshop. Credit will be allowed toward kindergarten or elementary education major. Also listed as C.W. 186. For details see p. 107. (9 cred.; sr., grad.; prereq. permission of director of Institute of Child Welfare; hrs. ar.; 5Pt.) Mrs. Fuller, Miss Headley, Miss Peterson.
- Ed.C.I.143su.‡ Teaching of Reading in the Elementary School. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed. including Ed. 61A or equiv.; MTWF IV and observation and individual work ar.; 100Pt.) Miss Edman.
- Ed.C.I.149su.‡ The Teaching and Supervision of Arithmetic in the Elementary School. (3 cred.; MTWThF II; 210Bu.) Mr. Brueckner.
- Ed.C.I.150su.‡ Supervision and Improvement of Instruction. (3 cred.; sr., grad.; prereq. Ed. 61C or equiv.; MTWThF III; 210Bu.) Mr. Brueckner.
- Ed.C.I.186su.‡ Laboratory in Elementary Instructional Practices. Daily observation of elementary classes, with discussion of techniques, emphasis on activity units, visual aids, enriched materials, individual differences, and socialized situations. Students enrolling in this course must carry at least one other course in the College of Education. (2 cred.; experienced teachers only; observation 4 hrs. weekly, MTWThF ar., Tuttle School; lecture TTh VI; 200Pt.) Mr. Staudenmaier.
- Ed.C.I.261su.*‡ Special Problems in School Supervision. (Cred. ar.; prereq. 10 cred. in ed. including Ed. 51A or 61A; ar.) Mr. Brueckner.

Secondary Education

- Ed.C.I.113su.‡ High School Curriculum. (3 cred.; sr., grad.; prereq. 10 hrs. in ed. including Ed. 51A-B-C or equiv.; MTWThF II; 105UHS.) Mr. Bossing.
- Ed.C.I.122su.‡ Literature for Adolescents. (3 cred.; jr., sr., grad.; prereq. Ed. 51C or junior-senior high school teaching experience; MTWThF I; 206UHS.) Miss Handlan.

‡ A fee of \$1 per credit is charged for this course.

- Ed.C.I.140su.‡ Teaching of Speech. (Also listed as Speech 151su.) Orientation in problems of speech education. Review of studies of teaching methods and special devices, voice recordings, tests. Direction of extra-curricular activities. (3 cred.; jr., sr., grad.; prereq. Speech 1-2-3 or Speech 5-6 or equiv. or permission of instructor; MTWThF III; 301F.) Mr. Gilkinson.
- Ed.C.I.168su.‡ Current Developments in the Social Studies. (3 cred.; grad. only; MTWThF III; 100Pt.) Mrs. Merideth.
- Ed.C.I.170Bs.‡ Curriculum and Course of Study Construction. A study of the principles and methods for the selection and organization of units, courses of study, and curricula at the secondary school level. (3 cred.; sr., grad.; prereq. 113 or 119 and 170, or consent of instructor; MTWThF I; 106UHS.) Mr. Bossing.
- Ed.C.I.171su.‡ Curriculum Laboratory Practice. (2 to 6 cred.; sr., grad.; prereq. 170 or consent of instructor; ar.) Mr. Bossing.
- Ed.C.I.191su.‡ Advanced Course in the Teaching and Supervision of Secondary School Mathematics. (3 cred.; prereq. Ed. 51B or permission of instructor; MTWThF V; 105UHS.) Mr. Donovan Johnson.
- Ed.C.I.201su.*‡ Problems in Teaching the Social Studies. (Cred. ar.; grad.; prereq. consent of instructor; ar.) Mrs. Merideth.
- Ed.C.I.266su.‡ Supervision of High School Instruction. (3 cred.; grad.; MTWF IV and additional hours ar.; 210UHS.) Mr. Boardman.
- Ed.C.I.287su.‡ Advanced Course in the Teaching of Science. (3 cred.; grad.; prereq. Ed. 51B; MTWThF II; 7UHS.) Mr. Palmer O. Johnson.
- Ed.C.I.294su.*‡ Advanced Course in Methods of Teaching English. (3 cred.; prereq. Ed.T. 66A-B-C or equiv.; MTWThF III; 106UHS.) Miss Smith.
- Ed.C.I.296su.*‡ Special Problems in Teaching English. (Cred. ar.; grad.; ar.) Miss Smith.

Higher Education

- Ed.C.I.228su.*‡ Workshop: Problems of Higher Education and Teacher Training. (9 cred.; grad.; MTWThF ar.; ar.) Mr. Peik, Miss Eckert, Mr. Cooper, and others.

SECOND TERM

General Courses

- Ed.C.I.107su.‡ Radio Education. (3 cred.; jr., sr., grad.; MTWThF I; 302MurH.) Mr. Tyler.
- Ed.C.I.110su.‡ Workshop in Intercultural Education. Study of minority problems and of the development of intercultural understanding through the schools; individual and group projects for planning materials in intercultural education for elementary and secondary schools. (9 cred.; sr., grad., and others on consent of instructor; MTWThF ar.; ar.) Mr. Brameld, Miss Edman, Miss Lien, Mrs. Mudgett, and others.
- Ed.C.I.129su.‡ Principles and Problems of Teaching Social Hygiene. Emphasis will be placed on methods of teaching social hygiene in the public schools and materials for instructional use in the elementary and secondary schools. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed.; MTWThF III; 360SBH.) Miss Biester, Dr. Pearce.
- Ed.C.I.1291su.*‡ Problems in Curriculum Construction. (Cred. ar.; prereq. completion or current enrolment in one of the following: Ed.C.I. 113, 119, 170, or consent of instructor; ar.) Mr. Vernon C. Anderson, Mr. Cook.
- Ed.C.I.273su.*‡ Problems in Reading. (Cred. ar.; prereq. consent of instructor; ar.) Miss Clark.

‡ A fee of \$1 per credit is charged for this course.

Elementary Education

- Ed.C.I.102su.‡ Contents and Activities of the Social Studies in the Elementary Grades. (3 cred.; prereq. Ed. 61A-B-C or equiv.; MTWThF III; 210UHS.) Mr. Wesley.
- Ed.C.I.103su.‡ Teaching of Science in the Elementary School. (3 cred.; sr., grad.; prereq. Ed. 61A-B or teaching experience; MTWThF II; 210UHS.) Mr. Mork.
- Ed.C.I.119su.‡ Elementary School Curriculum. (3 cred.; sr., grad.; prereq. Ed. 61C or equiv.; MTWF IV and Th VII; 209EdH.) Mr. Cook.
- Ed.C.I.143su.‡ Teaching of Reading in the Elementary School. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed. including Ed. 61A or equiv.; MTWThF I; 106Pt.) Miss Clark.
- Ed.C.I.150su.‡ Supervision and Improvement of Instruction. (3 cred.; sr., grad.; prereq. Ed. 61C or equiv.; MTWThF II; 106Pt.) Miss Clark.

Secondary Education

- Ed.C.I.113su.‡ High School Curriculum. (3 cred.; sr., grad.; prereq. 10 hrs. in ed. including Ed. 51A-B-C or equiv.; MTWThF I; 106UHS.) Mr. Vernon C. Anderson.
- Ed.C.I.168su.‡ Current Developments in the Social Studies. (3 cred.; MTWThF II; 209UHS.) Mr. Wesley.
- Ed.C.I.169su.‡ Extracurricular Activities. (3 cred.; prereq. 10 hrs. in ed. including Ed. 51A; MTWThF II; 106UHS.) Mr. Vernon C. Anderson.
- Ed.C.I.201su.*‡ Problems in Teaching the Social Studies. (3 cred.; grad.; prereq. consent of instructor; ar.) Mr. Wesley.
- Ed.C.I.266su.‡ Supervision of High School Instruction. (3 cred.; grad.; MTWThF III; 210Bu.) Mr. Rufi.

EDUCATIONAL ADMINISTRATION

FIRST TERM

General Courses

- Ed.Ad.124su. Public School Administration. The organization, administration, and general support of public schools in state and local school districts. (3 cred.; sr., grad.; prereq. 10 hrs. in ed.; MTWThF I; 210Bu.) Mr. Neale.
- Ed.Ad.127su. Teacher and Employee Administration. Employment practices, salary schedules, personnel records and reports, welfare procedures, improvement in service, and legal aspects of instructional and non-instructional school employee administration. (3 cred.; sr., grad.; prereq. 15 hrs. in ed. including Ed.Ad. 124; MTWThF I; 200Pt.) Mr. Thompson.
- Ed.Ad.210su.* Financial Aspects of School Business Administration. Financial program planning, budgeting, accounting, cost finding, income and expenditure control, and the preparation and analysis of financial reports. (3 cred.; grad.; prereq. Ed.Ad. 124, 125; MTWThF II; 210UHS.) Mr. von Borgersrode.
- Ed.Ad.226su. School Plant Planning and Management. Plant program planning and financing, including operation and maintenance of public school buildings. (3 cred.; grad.; prereq. Ed.Ad. 124, 125; MTWThF III; 206WeH.) Mr. Neale.
- Ed.Ad.228su.* Special Problems in Educational Administration. For the summer of 1945 this course will deal with recent research in the field of school administration. Superintendents may work on research problems in connection with their own school systems. (1-6 cred.; grad.; prereq. Ed.Ad. 124, 125; MWF IV; 206WeH.) Mr. Neale.
- Ed.Ad.230su.* Public Relations for Schools. Theory and practice of educational interpretation. Principles involved; machinery and personnel; the teacher's contacts with the community; the role of the pupil; professional and lay organization; techniques and

‡ A fee of \$1 per credit is charged for this course.

mediums of educational interpretation. Layout; news and feature writing; radio broadcasting; bulletins and reports; exhibits; special occasions. (3 cred.; grad.; MTWThF III; 200Pt.) Mr. Thompson.

Elementary Education

Ed.Ad.115su. Organization of the Elementary School. Problems relating to the organization for instruction and classification of pupils in elementary schools with critical examination of current practices. (3 cred.; jr., sr., grad.; prereq. 10 hrs. in ed.; MTWThF I; 106Pt.) Mr. von Borgrersrode.

Secondary Education

Ed.Ad.133su. Guidance in Secondary Schools. (Also listed as Ed.Psy. 133.) (3 cred.; sr., grad.; prereq. 9 cred. in ed.; MTWThF I; 210UHS.) Miss Wright.

Ed.Ad.167su. Junior High School. (Not offered.) Elementary education majors who need this course for junior high school endorsement should substitute Ed. 51C. (See page 87.)

Ed.Ad.263su. The Organization of the Secondary School. (3 cred.; grad.; MTWThF III; 210UHS.) Mr. Boardman.

Ed.Ad.264su. The Administration of the Instructional Activities of the Secondary School. (3 cred.; grad.; MTWThF II; 206WeH.) Mr. Morley.

Ed.Ad.265su. The Administration of the Non-instructional Activities of the Secondary School. (3 cred.; grad.; MTWThF I; 206WeH.) Mr. Morley.

Ed.Ad.270su.* Special Problems in Secondary Education. (Cred. ar.; prereq. consent of instructor; ar.) Mr. Boardman, Mr. Bossing.

SECOND TERM

General Courses

Ed.Ad.124su. Public School Administration. (3 cred.; sr., grad.; prereq. 10 hrs. in ed.; MTWThF I; 210Bu.) Mr. Neale.

Ed.Ad.125su. Pupil Personnel Administration. Child accounting records and reports, the work of the attendance department, the school census, compulsory school attendance and child labor, pupil adjustment and progress, pupil health and safety, legal aspects of pupil personnel administration. (3 cred.; sr., grad.; prereq. 15 hrs. in ed.; including Ed.Ad. 124; MTWThF I; 105UHS.) Mr. Thompson.

Ed.Ad.210su.* Financial Aspects of School Business Administration. (3 cred.; grad.; prereq. Ed.Ad. 124, 125; MTWThF II; 105UHS.) Mr. von Borgrersrode.

Ed.Ad.226su. School Plant Planning and Management. (3 cred.; grad.; prereq. Ed.Ad. 124, 125; MTWThF III; 105UHS.) Mr. Neale.

Ed.Ad.228su.* Special Problems in Educational Administration. (1 to 6 cred.; grad.; prereq. Ed.Ad. 124, 125; MWF IV; 105UHS.) Mr. Neale.

Ed.Ad.230su.* Public Relations for Schools. Theory and practice of educational interpretation. Principles involved; machinery and personnel; the teacher's contacts with the community; the role of the pupil; professional and lay organization; techniques and mediums of educational interpretation. Layout; news and feature writing; radio broadcasting; bulletins and reports; exhibits; special occasions. (3 cred.; grad.; MTWF IV and 1 hr. ar.; 200Pt.) Mr. Thompson.

Elementary Education

Ed.Ad.115su. Organization of the Elementary School. (3 cred.; jr., sr., grad.; prereq. 10 hrs. in ed.; MTWThF I; 210UHS.) Mr. von Borgrersrode.

Secondary Education

- Ed.Ad.133su. Guidance in Secondary Schools. (Also listed as Ed.Psy. 133su and Ind. 110su.) (3 cred.; sr., grad.; prereq. 9 cred. in ed.; MTWThF III; 209EdH.) Mr. Smith.
- Ed.Ad.264su. The Administration of the Instructional Activities of the Secondary School. (3 cred.; grad.; MTW IV and individual work ar.; 210Bu.) Mr. Rufi.
- Ed.Ad.270su.* Special Problems in Secondary Education. (Cred. ar.; prereq. consent of instructor; ar.) Mr. Rufi.

EDUCATIONAL PSYCHOLOGY

FIRST TERM

General Courses

- Ed.Psy.120su. Basic Principles of Measurement. (3 cred.; sr., grad.; prereq. Ed.Psy. 60 or equiv.; MTWThF II; 209EdH.) Mr. Cook.
- Ed.Psy.140su. Instruments and Techniques of Measurement. (3 cred.; sr., grad.; prereq. 120 or equiv.; MTW IV and Th VI-VII; 209EdH.) Mr. Cook.
- Ed.Psy.158su. Psychology of Adolescence. (3 cred.; jr., sr., grad.; prereq. Ed. 51A or equiv.; MTWThF III; 209EdH.) Miss Wright.
- Ed.Psy.216su. Statistical Methods in Education. (3 cred.; grad.; MTWF IV and 1 hr. ar.; 110UHS.) Mr. Palmer O. Johnson.
- Ed.Psy.233su.* Problems in Guidance and Personnel Work. (Cred. ar.; grad.; prereq. consent of instructor; individual work ar.) Mr. Cook.
- Ed.Psy.253su.* Research Problems. (Cred. ar.; grad.; prereq. consent of instructor; individual work ar.) Mr. Cook, Mr. Palmer O. Johnson.
- Ed.Psy.281su. Practice in Personnel Work: Guidance Clinic. (3 cred.; grad.; limited enrolment, admission by consent of instructor only; ar.; 101EdH.) Mr. Gordon Anderson.
- Ed.Psy.290-291su. Individual Differences. Graduate students may substitute Psy. 125-126su, Psychology of Individual Differences. (See page 41.)
- Ed.Psy.293su.* Psychology of Learning. (3 cred.; grad.; prereq. 12 cred. in psy. and ed. psy.; MTWThF VI; 210UHS.) Mr. G. Lester Anderson, Mr. Mork.

Secondary Education

- Ed.Psy.133su. Guidance in Secondary Schools. (3 cred.; sr., grad.; prereq. 9 cred. in ed.; MTWThF I; 210UHS.) Miss Wright.

SECOND TERM

General Courses

- Ed.Psy.60su. Introduction to Statistical Methods. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF III; 209UHS.) Mr. Palmer O. Johnson.
- Ed.Psy.120su. Basic Principles of Measurement. (3 cred.; sr., grad.; prereq. Ed.Psy. 60 or equiv.; MTWThF II; 209EdH.) Mr. Cook.
- Ed.Psy.183su. Education of Gifted Children. (3 cred.; jr., sr., grad.; prereq. Ed. 51A or equiv.; MTWF IV and 1 hr. ar.; 206UHS.) Mr. Van Wagenen.
- Ed.Psy.217su. Statistical Methods in Education. (3 cred.; grad.; MTWF IV and 1 hr. ar.; 209UHS.) Mr. Palmer O. Johnson.
- Ed.Psy.225su. Diagnosis and Counseling in a Student Personnel Program. (3 cred.; grad.; prereq. Ed.Psy. 133 and 140 or consent of instructor; MTWThF VII; 210Bu.) Miss Edwards.

- Ed.Psy.233su.* Problems in Guidance and Personnel Work. (Cred. ar.; grad.; prereq. consent of instructor; individual work ar.) Mr. Cook, Miss Edwards.
- Ed.Psy.253su.* Research Problems. (Cred. ar.; grad.; prereq. consent of instructor; individual work ar.) Mr. Cook, Mr. Palmer O. Johnson, Mr. Van Wagenen.

Secondary Education

- Ed.Psy.133su. Guidance in Secondary Schools. (Also listed as Ed.Ad. 133su and Ind. 110su.) (3 cred.; sr., grad.; prereq. 9 cred. in ed.; MTWThF III; 209EdH.) Mr. Smith.

HISTORY AND PHILOSOPHY OF EDUCATION

FIRST TERM

General Courses

- H.Ed.101su. Historical Foundations of Modern Education. (3 cred.; jr., sr., grad.; prereq. 6 cred. in psy.; MTWThF III; 109UHS.) Miss Alexander.
- H.Ed.155su. History of Education in the United States. Emphasis on the development of elementary and secondary education in the nineteenth century; special movements; rise of state school systems. (3 cred.; jr., sr., grad.; MTWF IV and 1 hr. ar.; 109UHS.) Miss Alexander.

SECOND TERM

- See Ed.C.I.110su.† Workshop in Intercultural Education. Mr. Brameld, Miss Edman, Miss Lien, Mrs. Mudgett, and others.

HOME ECONOMICS EDUCATION

FIRST TERM

- H.E.Ed.94su.†† Supervised Teaching in Home Economics. Observation and teaching experience under supervision. (3 cred.; ar.; prereq. H.E.Ed. 91, 93 or consent of the instructor; limited to twelve students; hrs. ar. including three consecutive hours daily for four days a week; 114HE(UF).) Miss Rose.
- H.E.Ed.191su. Advanced Course in the Teaching of Home Economics. A study of improved methods of teaching in the light of (1) the social and economic pressures on the American family, (2) recent investigations. This course offers the experienced teacher an opportunity to study problems related to her own situation at the secondary or higher education level. (3 cred.; sr., grad.; prereq. H.E.Ed. 91, 93 or consent of instructor; MTWThF I; 114HE(UF).) Miss Rose.
- H.E.Ed.293su. Problems in Home Economics Education: Workshop. Opportunity will be offered for a limited group of teachers and supervisors to study ways of improving the home economics program in the secondary schools. Emphasis will be placed on present-day problems in relation to the desired outcomes of education, and definite plans for action in individual schools will be developed. The workshop will be scheduled for four weeks, June 18 to July 13, and provision will be made for those who wish to do further work on their special projects to spend an additional two weeks with additional credit. (6 cred. for workshop, June 18-July 13, or 9 cred. for workshop and special project, June 18-July 28; grad.; prereq. consent of instructor; hrs. ar.; GH(UF).) Miss Brown and assistants.

† Students registering for this course must make out the application required for methods courses and directed teaching. Forms are available in the office of the director of student teaching, 102 University High School.

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

INDUSTRIAL EDUCATION

FIRST TERM

- Ind.105su. Administration of Industrial Education. (3 cred.; jr., sr., grad.; MTWThF I; 202EdH.) Mr. Smith.
- Ind.107su. Coordination. (3 cred.; jr., sr., grad.; prereq. Ind. 60, 61, or 105 or consent of instructor; MTWF IV and 1 hr. ar.; 202EdH.) Mr. Hill.
- Ind.109su. Conference Leading for Industry. (3 cred.; prereq. consent of instructor; MTWThF II; 202EdH.) Mr. Hill.
- Ind.200su.* Research Problems. Individual conferences only. (3, 6, or 9 cred.; grad. only; ar.) Mr. Smith.
- Ind.250su. Industrial Education Literature. (3 cred.; grad. only; MTWThF III; 202EdH.) Mr. Smith.

SECOND TERM

- Ind.110su. Guidance in the Schools. (Also listed as Ed.Ad. 133 and Ed.Psy. 133.) (3 cred.; jr., sr., grad.; prereq. Ed. 51A or equiv. or consent of instructor; MTWThF III; 209EdH.) Mr. Smith.
- Ind.200su.* Research Problems. Individual conferences only. (3, 6, or 9 cred.; grad. only; ar.) Mr. Smith.
- Ind.251su. Industrial Education Literature. (3 cred.; grad. only; prereq. Ind. 250; MTWThF I; 202EdH.) Mr. Smith.

Shop and Drawing Courses

First degree candidates should keep in mind the maximum of 45 quarter credits in shopwork and drawing combined. More such credits may be earned and recorded but they will not be counted toward the degree. Shop and drawing courses may be pursued by graduate students, with credits recorded but without usefulness for advanced degree purposes. See other parts of this bulletin—Art Education, Agricultural Engineering, Drawing and Descriptive Geometry, Mechanical Engineering, and various other schedules of the Institute of Technology. The long-time co-operative arrangement, whereby courses may be taken at Dunwoody Institute, continues in effect.

Notes

Copies of the four-year curriculum, leading to the B.S. degree will be mailed upon request. Similarly, revised pages will be sent which announce entrance qualifications and completion requirements for the M.A. degree in the Graduate School and the more professional M.Ed. degree in the College of Education. Those who desire more advanced work are invited to open correspondence concerning their backgrounds and professional intentions. The Department of Industrial Education is federally-aided, many of its courses leading to certification for positions under Smith-Hughes, George-Deen, and War Production Training acts and regulations. Consideration will be given to the serving of special needs through institutes or workshops, particularly during the second term of the Summer Session. Please address any suggestions or requests of this nature to Department of Industrial Education, 200 Eddy Hall, University of Minnesota, Minneapolis 14, Minnesota.

METHODS AND DIRECTED TEACHING

FIRST TERM

General Courses

- Ed.T.52su.†† Practice Teaching. Open to students who wish to register for a limited number of credits in practice teaching to qualify for the secondary school certificate through the College of Education. (Cred. ar.; prereq. consent of instructor; ar.; UHS.) Mr. G. Lester Anderson, Mr. Mork.

† Students registering for this course must make out the application required for methods courses and directed teaching. Forms are available in the office of the director of student teaching, 102 University High School.

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

Elementary Education

- Ed.T.55su.† Principles of Early Childhood Education. (3 cred.; jr., sr.; prereq. Psy. 1-2; MTWThF I and 1 hr. ar.; 100Pt.) Miss Peterson.
- Ed.T.56su.† Permanent Play Materials. (3 cred.; jr., sr.; prereq. Ed.T. 55; MTWThF VII and 1 hr. ar.; 202Pt.) Miss Peterson.
- Ed.T.59su.† Story Telling for Young Children. (3 cred.; jr., sr.; prereq. Ed.T. 55 or equiv.; MTWThF VI; 202Pt.) Miss Headley.
- Ed.T.76Asu.† Methods and Observation in the Nursery School. (2 cred.; jr., sr.; prereq. Ed.T. 55 or simultaneously; F IV and observation hrs. ar.; 204E Pt.) Miss Peterson.
- Ed.T.76Csu.† Methods and Observation in the Kindergarten. (2 cred.; jr., sr.; prereq. Ed.T. 55 or simultaneously; F IV and observation hrs. ar.; 204E Pt.) Miss Headley.
- Ed.T.77A, or B, or Csu.†† Directed Teaching. (4 cred.; sr.; prereq. Ed.T. 55, 56, 57, 59, and 76A, B, C. Offered by special arrangement on advance application to a limited number of students.) Mrs. Fuller.

Secondary Education

- Ed.T.66Amsu.†† The Teaching of Composition in the Senior High School. (2 cred.; sr.; MTWTh V; 206UHS.) Miss Handlan.
- Ed.T.66Bmsu.†† The Teaching of Literature in the Senior High School. (2 cred.; sr.; MTWTh VI; 206UHS.) Miss Handlan.
- Ed.T.67Am,Bmsu.†† The Teaching of Secondary School Mathematics. (4 cred.; sr.; MTWThF V and individual work ar.; 105UHS.) Mr. Donovan Johnson.
- Ed.T.68Am,Bmsu.†† Methods of Teaching Secondary School Science. (2 or 3 cred.; sr.; consult instructor; MTWThF II; 7UHS.) Mr. Palmer O. Johnson.
- Ed.T.69Am,Bmsu.†† Methods of Teaching History and Social Studies. (4 cred.; sr.; MTWThF VI-VII; 211UHS.) Mr. Cartwright.

SECOND TERM

- Ed.T.83su.† Methods and Materials of School Health Education. Study of principles, materials, and problems of health education in preparation for health teaching. Observation in techniques of school health instruction. Allocation and gradation of health subject matter, study of health needs of school children. Evaluation of school health instruction. (3 cred.; prereq. permission of instructor; MTWThF VI; 201NGW.) Miss Starr.

MUSIC EDUCATION

FIRST TERM

- Mu.Ed.4†,5†, or 6su.† Applied Instrumental Technique. (2 cred. each; no prereq.; MTWThF I; 4NMA.) Mr. Martino.
- Mu.Ed.50Asu.† Primary Methods. (2 cred.; jr.; no prereq.; MTWF II; 3Mu.) Mrs. Nohavec.
- Mu.Ed.50Bsu.† Intermediate Methods. (2 cred.; prereq. Mu.Ed. 50A or equiv.; MTWTh III; 3Mu.) Mrs. Nohavec.
- Mu.Ed.59su.† Choral Literature and Conducting. (1 or 2 cred.; MTW IV; 3Mu.) Mrs. Nohavec.
- Mu.Ed.68su. Conducting of Instrumental Music and Survey of Materials. (4 cred.; sr.; prereq. Mu.Ed. 65; MTWThF V-VI; 4NMA.) Mr. Martino.

† Students registering for this course must make out the application required for methods courses and directed teaching. Forms are available in the office of the director of student teaching, 102 University High School.

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

Mu.Ed.153Esu.† Advanced Course in Secondary School Music Teaching. Recent trends and practices in school music teaching, grades seven through twelve, vocal and instrumental. Administration, evaluation, classroom procedure, materials, individual problems. (3 cred.; sr., grad.; prereq. experience in high school music teaching or consent of instructor; June 18 to July 7 *only* MTWThF I and II; 4Mu) Mr. Morgan.

Mu.Ed.220Esu.§ Survey and Application of Research in Music Education. (3 cred.; prereq. Mu.Ed. 101; open to candidates for the M.Ed. degree in music education and others with consent of instructor; ar.) Mrs. Nohavec.

Mu.Ed.224Esu.§ Seminar and Individual Research Problems in Music Education (Cred. ar.; prereq. consent of instructor; ar.) Mrs. Nohavec.

Mu.Ed.225Esu.††§ Advanced Applied Music. (Cred. ar.; prereq. entrance examination; ar.) Ar.

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

†† Two lessons a week, fee \$25; four lessons a week, fee \$50.

§ Courses marked "E" carry credit toward the master of education degree.

PHYSICAL EDUCATION AND ATHLETICS

PHYSICAL EDUCATION FOR MEN

Credit for courses taken in the Summer Session will be given toward a regular teacher's certificate in physical education where the courses are included in the physical education major.

The gymnasium, tennis courts, baseball diamonds, running track, and handball and squash courts will be available to students in the Summer Session.

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

FIRST TERM

- 1,2,3su.† Sports Education. Physical fitness activities plus a variety of individual and team sports. (1 cred.; no prereq.; MTWThF VI, VII, VIII; CH.) Mr. Beise.
- 5Bsu. Physical Education Activities. Apparatus work. Buck, horse, low horizontal bar, parallel bars. (1 cred.; MTWThF VI; CH.) Ar.
- 7Asu. Recreational Games and Sports. Low organized games, relays, noon-hour activities. (1 cred.; MTWThF VI; CH.) Mr. Beise.
- 50su. Human Anatomy. A study of the structure of the human body with emphasis upon bones, nerves, and muscles and their significance in physical education. (3 cred.; MTWThF I; 206CH.) Dr. Hauser, Mr. Osell.
- 51su. Mechanics of Movement. A discussion of the principles and mechanics of body movements; the effect of various exercises upon the tissues and organs of the body. (3 cred.; MTWThF II; 206CH.) Mr. Osell.
- 101Esu.§ Principles of Physical Education. A study of the aims, scope, and biological aspects of physical education with special treatment of its place in education. (3 cred.; MTWThF I; 214CH.) Mr. Keller.
- 103Esu.§ Physical Examination and Adaptation of Activities. The physical educator's responsibility in diagnosis, amelioration, and correction of physical abnormalities. (3 cred.; MTWThF IV; 206CH.) Dr. Hauser, Mr. Osell.
- 133Esu.§ Special Administrative Problems in Physical Education in Secondary Schools. Survey of staff organizations in typical situations such as small towns, cities, states, and schools; construction, maintenance, and policies for use of facilities; purchase, care, and use of equipment; legal aspects of physical education and athletic activities. (3 cred.; sr., grad.; prereq. 63 or equiv.; MTWThF III; 214CH.) Mr. Nordly.
- 135Esu.§ Tests and Measurements in Physical Education. Critical analysis of existing research studies in physical education with special emphasis upon tests and measurements. Study of current tests from both practical and theoretical standpoints. Use of tests in the administration of physical activity programs. Application of the principles of test construction in specific problems. (3 cred.; sr., grad.; prereq. Ed.Psy. 60 or equiv.; MTWThF II; 214CH.) Mr. Keller.
- 137Esu.§ Recent Literature and Research in Physical Education. Directed readings and class discussions of recent literature; critical analysis of research in physical education; selection and presentation of an outline for the solution of a problem. (3 cred.; grad.; prereq. permission of instructor; MTWThF IV; 214CH.) Mr. Nordly.
- 237Esu.§ Problems in Physical Education. Individual study for those who are interested in solving a problem in physical education. (Cred. ar. (2 to 6 cred.); hrs. ar.; 216CH.) Mr. Nordly.

† This course will take the place of one quarter of physical education as required in General College, College of Education, and College of Science, Literature, and the Arts.

§ Courses marked "E" carry credit toward the degree of master of education.

PHYSICAL EDUCATION FOR WOMEN

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

In both terms of the Summer Session of 1945, the department will stress fitness procedures in all courses as well as interpretation and adaptation of the various manuals issued recently by the U. S. Office of Education for the secondary and college levels.

Those interested in teaching physical education in the state of Minnesota must qualify in one of the following professional programs:

1. Courses applying to the nine-credit endorsement for teaching in the state of Minnesota are: Phys.Ed. 4, 5, 10, 13, 16, 18, 37, 52, 53, and 84.
2. Courses applying to the state minor in physical education are: Phys.Ed. 4, 5, 10, 13, 16, 18, 37, 51, 52, 53, 63, 64, 65, 73, 84, 90, 116, and Ed.T. 83.
3. Courses applying to the undergraduate major in physical education are: Phys.Ed. 5, 10, 13, 18, 37, 63, 64, 65, 84, Ed.T. 83, and Ed.C.I. 114.
- 4.† Courses applying to the degree of master of education with a major in physical education are: Phys.Ed. 111E, 112E, 113E, 116E, and Ed.C.I. 114.

STUDENT TEACHING

The opportunity of teaching in the University Demonstration School is presented to those who can satisfy the one-credit student teaching requirement of the minor, only in the Summer Session. Integration of the physical education program with the regular classroom program is featured wherever possible. Student teaching in the form of directed observation, assistance, and substitution for the regular teacher is carefully supervised.

FACILITIES FOR RECREATION

The swimming pool is open for recreational use from 3:00 to 5:00 p.m. Monday through Friday during both the first and second terms.

The university tennis courts and the university golf course are open to students.

FEES

The rental fee for suits and towels for swimming is 10 cents apiece. The charges for tennis are \$1 for each term and for golf 50 cents for 18 holes (45 cents if one buys a coupon book of ten tickets). Towels for shower bath may be procured from the matron for 5 cents apiece.

The maximum course fee for students taking two or more courses in physical education is \$3.50 per term.

PHYSICAL EXAMINATION

It is recommended that every woman student avail herself of the opportunity offered by the Students' Health Service for a physical examination. Everyone, but especially a teacher, should learn her health status at this time. The Department of Physical Education for Women strongly urges every person who is taking one or more activity courses to make an appointment at once for a physical examination at the Health Service. Health Service approval must be secured for participation in swimming classes and recreational swimming.

FIRST TERM

4su.‡ Fundamentals of All Rhythmic Work. (1 cred.) (Not offered in 1945.)

‡ A fee of \$1.75 is charged for this course.

† See Physical Education for Men for additional physical education courses at M.Ed. level.

- 5su.‡ Methods of Coaching and Conducting Organized Games for the Junior and Senior High School. Special techniques for team games such as fieldball, speedball, soccer, volleyball, basketball, and softball. Organization of extracurricular activities, e.g., athletic associations, after-school programs, tournaments suited to various games, play days, methods of teaching. (2 cred.; MTWTh II and 1 hr. ar.; 153NGW.) Miss Snell.
- 7su.‡ Tennis for Beginners. This course is open to those with little or no experience in tennis. Instruction will include the service, forehand drive, backhand drive, rules and etiquette of the game. Individual coaching will be stressed. Students are required to furnish own rackets and balls. (½ cred.; no prereq.; MWF V; 151NGW.) Miss Jaeger.
- 8su.‡ Golf for Beginners. Limited to 20. This course is open to those with little or no experience in golf. The fundamental strokes and individual analysis of the player's game are stressed along with the rules and etiquette of the game. (½ cred.; no prereq.; TTh V and 1 hr. ar.; 60NGW.) Miss Jaeger.
- 9su.‡ Elementary-Intermediate Golf. (½ cred.) (Not offered in 1945.)
- 10su.‡ Teachers' Course in Fundamentals of Physical Education. (1 cred.) (Not offered in 1945.)
- 11su.‡ Modern Dance. (1 cred.) (Not offered in 1945.)
- 12su. Social Recreation. (1 cred.) (Not offered in 1945.)
- 13su.‡ Tumbling, Stunts, and Pyramids for Junior and Senior High Schools. Instruction and practice in technique of individual, companion, and group tumbling and stunts with progression from elementary to more advanced. Discussion and application of principles underlying pyramid building. (Self-testing activities and track and field events for girls of junior and senior high school age.) (1 cred.; no prereq.; MTWTh I and 1 hr. ar.; 153NGW.) Miss Snell.
- 16su.‡ Elementary Tap and Social Dancing. (1 cred.) (Not offered in 1945.)
- 18su.‡ Elementary Folk Dancing and Games. (1 cred.) (Not offered in 1945.)
- 32su.‡† Elementary Swimming. This course is for those who are unable to swim in deep water. Instruction is given in the following aquatic skills: orientation activities, water safety skills, crawl, side stroke and backstroke, and diving for those who desire it. (1 cred.; no prereq.; MTWThF VI; 58NGW.) Miss Jaeger.
- 33su.‡† Intermediate and Advanced Swimming. This is a course for those who can swim in deep water. Instruction in the following is included: the crawl, side stroke and back crawl, personal water safety skills, diving. The class will be divided into groups according to the ability, interests, and experience of the swimmers. (1 cred.; prereq. permission of instructor; MTWThF VII; 58NGW.) Ar.
- 37su.‡ Individual and Dual Games. This course deals with the various methods and techniques suitable for the teaching of the following sports: table tennis, archery, badminton, deck tennis, tether ball, shuffleboard. Consideration of group methods adaptable to the organization and teaching of these activities on the junior and senior high school level. This course consists of lectures and laboratory work. (1 cred.; no prereq.; MTWF IV and 1 hr. ar.; 153NGW.) Ar.
- 41su.‡ Team Sports—Fieldball, Soccer, Speedball, Volleyball, Basketball, Softball. (1 cred.) (Not offered in 1945.)
- 51su. School Health and Safety Education. (2 cred.) (Not offered in 1945.)
- 52su. Principles and Curriculum of Physical Education. (2 cred.) (Not offered first term.)
- 53su. Organization and Administration of Physical Education. Study of care and use of facilities and equipment; organization of the physical education program from the

† Health Service approval must be secured for participation in this course.

‡ A fee of \$1.75 is charged for this course.

- standpoint of classification of the students, appraisal of activities, management of class. Relationship of physical education program to community. (2 cred.; prereq. permission of instructor; MTWTh VI; 201NGW.) Miss Baker.
- 63su.†† Technique of Folk Dancing. The racial characteristics and folk arts of people are studied as background for folk dances. Student teaching within the group. (1 cred.; no prereq.; MTWTh V and 1 hr. ar.; 153NGW.) Ar.
- 64su.†† Technique of Teaching Group Gymnastics. A study is made of the principles of progression and methods of teaching gymnastics. Student teaching is done within the group. (1 cred.; prereq. permission of instructor; MTWTh VII and 1 hr. ar.; 153NGW.) Ar.
- 65su.†† Technique of Teaching Individual and Dual Games. (2 cred.) (Not offered in 1945.)
- 73su.†† Technique of Teaching Rhythm. A study of the methods of teaching all types of rhythmic activities. Opportunity will be given to class members to apply the methods to different types of dance as well as to rhythmic exercises for conditioning or for sport activity. (1 cred.; MTWTh IV and 1 hr. ar.; 151NGW.) Ar.
- 83su.†† Methods and Materials for School Health Education. (See Ed.T. 83, page 96.) (Not offered first term.)
- 84su. Problems in Physical Education. A study of curricular problems in the field of physical education carried on by individuals or groups. Discussion of fitness problems. The emphasis is on the elementary and high school levels. (2 cred.; prereq. experience on elementary or secondary levels; MTWTh III; 3NGW.) Miss Snell.
- 90su.†† Student Teaching. An opportunity of teaching elementary school children and assisting in college classes will be provided for those who must meet a student teaching requirement in the summer. (1 cred.; prereq. permission of instructor; hrs. ar.) Miss Starr.
- 112Esu.§ Supervision of Physical Education. (3 cred.) (Not offered in 1945.)
- 113Esu.§ Physical Education in the Elementary Schools. The course deals primarily with the elementary school curriculum, with adaptations of instructional procedures necessary in the elementary grades, with problems of classification and evaluation, and with the influences of modern educational thinking upon problems commonly met at this level. (3 cred.; MTWThF III; 201NGW.) Miss Baker.
- 114Esu.§ The School Health Education Program. (3 cred.; MTWThF VI.) (See Ed.C.I. 114 on page 88.)
- 116Esu.§ Problems in Physical Fitness. Analysis of current physical fitness problems on the elementary, secondary, and college levels in relation to health, physical education, and recreation. Undergraduates with sufficient background in physical education may register for the course. The number of credits allowed will depend upon the type of individual problems studied. (1 to 3 cred.; prereq. permission of instructor; MTWF IV and 1-2 hrs. ar.; 3NGW.) Miss Starr.

SECOND TERM

- 32su.†† Elementary Swimming. Class instructions given. This course is for those who are unable to swim in deep water. Instruction is given in the following aquatic skills: orientation activities, water safety skills, crawl, side stroke and backstroke, and diving for those who desire it. (1 cred.; no prereq.; MTWThF VI; 58NGW.) Miss Starr.

† Health Service approval must be secured for participation in this course.

‡ A fee of \$1.75 is charged for this course.

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

§ Courses marked "E" carry credit toward the degree of master of education.

- 37su.‡ Individual and Dual Games. This course deals with the various methods and techniques suitable for the teaching of the following sports: archery, table tennis, badminton, deck tennis, tether ball, shuffleboard. Consideration of group methods adaptable to the organization and teaching of these activities on the junior and senior high school level. The course consists of lectures and laboratory work. (1 cred.; no prereq.; MTWTh VII and 1 hr. ar.; 153NGW.) Ar.
- 52su. Principles and Curriculum of Physical Education. In this course principles of philosophy, curriculum, method and evaluation are studied in the light of their psychological, biological and social significance. (2 cred.; prereq. permission of instructor; MTWF IV and 1 hr. ar.; 201NGW.) Miss Baker.
- 53su. Organization and Administration of Physical Education. (2 cred.) (Not offered second term.)
- 64su.‡‡ Techniques of Teaching Group Gymnastics. A study is made of the principles of progression and methods of teaching gymnastics. Student teaching is done within the group. (1 cred.; prereq. permission of instructor; MTWTh II and 1 hr. ar.; 153NGW.) Ar.
- 65su.‡‡ Technique of Teaching Individual Sports. (2 cred.) (Not offered in 1945.)
- 83su.‡‡ Methods and Materials of School Health Education. (3 cred.; MTWThF VI.) (See Ed.T.83, page 96.) Miss Starr.
- 84su. Problems in Physical Education. (2 cred.) (Not offered second term.)
- 111Esu.§ An Advanced Course in Methods of Teaching Physical Education. The purpose of this course is to give an overview of the activity program in reference to instructional procedures. Outstanding results of the course should be increased perspective of the common method problems in the various activities as well as those peculiar to each activity and possible solutions for conspicuous instructional problems today. (3 cred.; MTWThF III; 201NGW.) Miss Baker.
- 112Esu.§ Supervision of Physical Education. (3 cred.) (Not offered in 1945.)
- 113Esu.§ Physical Education in the Elementary Schools. (3 cred.) (Not offered second term.)
- 114Esu.§ The School Health Education Program. (3 cred.) (See Ed.C.I. 114, page 88.) (Not offered second session.)

‡ A fee of \$1.75 is charged for this course.

‡‡ A fee of \$1 per credit is charged for this course.

§ Courses marked "E" carry credit toward the degree of master of education.

SCHOOL OF BUSINESS ADMINISTRATION

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

GENERAL INFORMATION

ADMISSION

For admission to the School of Business Administration a student must have satisfied the requirements of one of the two-year prebusiness courses, either in the College of Science, Literature, and the Arts, the College of Agriculture, Forestry, and Home Economics, or the Institute of Technology. A student must have a minimum of 90 credits, with one honor point per credit or a smaller number of credits determined as follows: For every five honor points in excess of one per credit, the number 90 is diminished by one.

SPECIAL STUDENTS

High school graduates who have reached the age of twenty-four and can furnish evidence that they have had business experience in an executive capacity may be admitted as special students. If later they decide to become candidates for a degree, they must complete the requirements for admission.

STUDENTS IN OTHER SCHOOLS OR COLLEGES OF THE UNIVERSITY

Regularly enrolled students in other schools or colleges of the University may be admitted to such courses in the School of Business Administration as are authorized by the faculties of the School of Business Administration and the school or college concerned. Such students are urged to select their business subjects in accordance with a definite plan, and as far as possible to complete a systematic course of business study.

NOTE—Special provision has been made this summer for the direction of graduate students working on theses. For further information inquire at the office of the dean of the School of Business Administration.

An *asterisk* (*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 25.)

FIRST TERM

Econ.3su. Elements of Money and Banking. The basic principles of money and a description of the various types of financial institutions, their functions and relations to the whole economic organization. (3 cred.; 2nd and 3rd qtr. fr., soph., jr., sr.; no prereq.; MTWThF V; 205VH.) Mr. Graves.

Econ.5su. Elements of Statistics. Elementary concepts in statistical method; averages, ratios, errors, sampling, index numbers, graphic representation, collection of material. (3 cred.; 3rd qtr. fr., soph., jr., sr.; no prereq.; MTWThF III; 205VH.) Mr. Graves.

- Econ.6su. Principles of Economics. A course in the fundamental principles of economics intended to serve as a foundation for advanced courses in business administration and economics. (3 cred.; soph., jr., sr.; no prereq.; MTWThF II; 6VH.) Mr. Heilman.
- B.A.54su.† Elementary Accounting: Combined Course. The financial statements; analysis of transactions; recording; special books and journals; adjusting and closing entries; worksheets; capital stock; surplus and reserves; funds. (4 cred.; jr., sr.; no prereq.; MTWF IV and MW VI-VII½; 6VH.) Mr. Reighard.
- B.A.101su. Advanced General Economics. (For the Summer Session this course is the equivalent of Econ. 103.) A detailed analysis of price determination under competitive and monopolistic conditions, with special emphasis on rigorous training in the techniques of modern economic analysis. The major topics are laws of return, demand curves, cost curves, and short and long run prices under various types of competition. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF III; 2VH.) Mr. Garver.
- B.A.135su. Auditing and Public Accounting. The application of principles and technical methods used in professional auditing practice. Typical fraud and errors in accounting records, auditors' working papers, financial exhibits, certificates, and reports are studied. (3 cred.; jr., sr., grad.; prereq. B.A. 139 or 150-151; MTWThF I; 6VH.) Mr. Reighard.
- B.A.139su.*‡ Advanced General Accounting. A course intended particularly for the general student of business. Interpretation of accounts and statements, statement preparation, and analysis. Utilization of the statements by the executive. Accounting methods and statements in a number of business fields. (3 cred.; jr., sr., grad.; prereq. Econ. 25-26; MTWThF I; 2VH.) Mr. Heilman.
- B.A.146su. Investments. A general survey of the external and internal factors influencing the prices of securities and of the principles of an investment policy for the needs of the average conservative investor. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF III; 221VH.) Mr. Stehman.
- B.A.155su. Corporation Finance: Incorporation. The various types of corporate securities and their uses. Financial plans for industrial, utility, and other types of corporation. Financial affairs of an established business. General financial problems of the holding company, consolidations, mergers, and reorganizations. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF V; 221VH.) Mr. Stehman.
- Econ.175su. Government Regulation of Business. A general course on the economic aspects of legislation affecting the pricing process and the distribution of the national income. Topics studied include economic origins of modern business limitations on free competition; regulation of public utilities, trusts and combinations, and "unfair competitive practices"; positive assistance to industrial groups. (3 cred.; jr., sr., grad.; prereq. 20 cred. in soc. sci. including Econ. 6-7 or 83; MTWF IV and 1 hr. ar.; 2VH.) Mr. Garver.
- Econ.176su. International Commercial Policies. Theory of international commerce; protective tariffs, free trade, reciprocity, subsidies, preferential treatment, the open door, international finance, commercial treaties, foreign politics, and other governmental and organized efforts to affect trade. American problems emphasized. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF I; 207VH.) Mr. Blakey.

† B.A.54-55 is a combination of Econ. 20 and 25-26.

‡ A fee of \$1 is charged for this course.

Econ.179su. Economic Problems of the Far East. A survey of recent economic developments in the Far East, especially in China and Japan. The ways in which these developments illustrate and are governed by economic principles are examined. Economic regionalism, problems of population and migration, the control of raw materials, industrial efficiency, internal economic institutions, and international commercial policies, as they occur in the Far East, are among the topics discussed. Special attention is given to the immediate postwar problems. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or equiv. Not open for credit for graduate majors in Economics or Business Administration. MTWThF II; 2VH.) Mr. Vaile.

Econ.189su. Principles of Taxation. (For the Summer Session this course may be substituted for B.A. 58.) Development of taxation; property, income, commodity, sales, inheritance, and other taxes; shifting incidence and other effects; federal, state, and local relations; special problems. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF II; 207VH.) Mr. Blakey.

NOTE—A student may not receive credit for both Econ. 189 and Econ. 191-192.

SECOND TERM

Econ.7su. Principles of Economics. A continuation of Econ. 6su. (3 cred.; soph., jr., sr.; prereq. Econ. 6; MTWThF II; 6VH.) Mr. Nightingale.

B.A.55su.† Elementary Accounting: Combined Course. Bonds and amortization, sinking funds, determination of income, depreciation, intangibles, inventories. (4 cred.; jr., sr.; prereq. B.A. 54; MTWF IV and MW VI-VII½; 6VH.) Mr. Ostlund.

B.A.71su. Transportation: Services and Charges I. A survey of rail, highway, air, and water transportation facilities, services, rates, and regulations, supplemented by lectures on current transportation problems. (3 cred.; jr., sr.; prereq. Econ. 6-7; MTWThF I; 6VH.) Mr. Nightingale.

B.A.102su. Advanced General Economics. (A continuation of B.A. 101su. For the Summer Session this course is the equivalent of Econ. 104.) Theory of the distribution of wealth and income. General distribution theory, wages, rent, and interest. (3 cred.; jr., sr., grad.; prereq. B.A. 101 or Econ. 103; MTWThF II; 2VH.) Mr. Mudgett.

B.A.112su.‡ Business Statistics. Survey and criticism of methods used in analyzing time series, with special applications to the study of cyclical fluctuations of economic phenomena. (3 cred.; jr., sr., grad.; prereq. Econ. 5 or B.A. 70; MTWThF I; 2VH.) Mr. Mudgett.

B.A.130su.‡ Cost Accounting Survey. A general survey of cost accounting from the point of view of the executive who must use cost information in the conduct of his business. (3 cred.; jr., sr., grad.; prereq. Econ. 25-26; MTWThF III; 6VH.) Mr. Ostlund.

B.A.142su. Advanced Money and Banking. (For the Summer Session this course is the equivalent of Econ. 141.) The problems of a central bank and the theory of the value of money. Includes control of reserves, providing a scientific currency, regulation of credit; fluctuations of the general price level—their causes and possible reduction. (3 cred.; jr., sr., grad.; prereq. Econ. 3 and either 6-7 or 83; MTWF IV and 1 hr. ar.; 2VH.) Mr. Myers.

† B.A.54-55 is a combination of Econ. 20 and 25-26.

‡ A fee of \$1 is charged for this course.

- Econ.149su.* Business Cycles. Analysis of factors involved in business fluctuations. Comparison of theories of the cause of prosperity and depression. Introduction to the statistical data and methods of business forecasting. (3 cred.; sr., grad.; prereq. Econ. 141 or B.A. 142 or consent of instructor; MTWThF II; 205VH.) Mr. Myers.
- Econ.161su. Labor Problems and Trade Unionism. A discussion of employment, hours, wages, types of unionism, policies and practices of labor organization. Special emphasis upon economic implications of modern working conditions. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF V; 2VH.) Mr. Yoder.
- B.A.167su. Personnel Administration. Evaluation of managerial policies and devices designed to secure the co-operation and efficient participation of employees in business, industry, and government. Attention is directed especially to the determination of labor needs, job analysis and classification, methods of recruiting workers, selective devices, training and safety programs, service rating, employment stabilization, collective bargaining, and compensation. (3 cred.; jr., sr., grad.; prereq. Econ. 161; MTWThF III; 2VH.) Mr. Yoder.

INSTITUTE OF CHILD WELFARE

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

The Institute of Child Welfare was organized for three purposes: research in child development; the training of future workers with children; and bringing to the people of the state information on the care and training of children by means of a parent education program. The institute offers graduate and undergraduate courses, some of which are in co-operation with the College of Education, and conducts a nursery school and kindergarten for demonstration and research purposes.

NURSERY SCHOOL AND KINDERGARTEN

The Nursery School and Kindergarten will be in session from 9:00 a.m. to 1:00 p.m. beginning June 20 and closing July 27. Applications for the enrolment of children will be received at the office of the institute. The fee will be \$20 for tuition, which includes orange juice and lunch at noon. A few additional children can be accommodated from 9:00 to 11:45 a.m., with no lunch served but including orange juice, at a tuition fee of \$15. Because of war restrictions, responsibility for transportation to and from the schools must be taken by the parents.

FIRST TERM

- 40su. Child Training. (3 cred.; soph., jr., sr.; prereq. Psy. 1-2; MTWF IV and 1 hr. ar.; 202Pt.) Mrs. Cummings.
- 130su. Motor, Linguistic, and Intellectual Development of the Child. (3 cred.; sr., grad.; prereq. 12 cred. in psy. or equiv.; MTWThF I; 202Pt.) Miss Templin.
- 140su. Behavior Problems in Younger Children. (3 cred.; sr., grad.; prereq. 12 cred. in psy., ed. psy., or soc.; MTWThF III; 202Pt.) Miss Templin.
- 150su.‡ Problems of Childhood Education. (Same as Ed.C.I. 130.) (3 cred.; sr., grad.; prereq. 12 cred. in ed.; MTWF IV and 1 hr. ar.; 5Pt.) Mrs. Fuller.
- 185su. Children in Wartime. (3 cred.; sr., grad.; prereq. 12 cred. in psy., ed., or soc.; MTWThF II, 202Pt.) Mrs. Cummings.
- 186su.‡ Laboratory in Childhood Education and Child Development. (Same as Ed.C.I. 131.) Workshop. A full program for six weeks open to 50 applicants. Each student will be required to attend C.W. 150 (Ed.C.I. 130) Problems of Childhood Education and the lectures in either Ed.T. 56su., Permanent Play Materials, or Ed.T. 59su., Story Telling for Young Children, or in special instances in another approved course. For the remainder of their work the students will be in a workshop divided into special interest groups, but also working as a whole. Independent study, conferences, observations, group work, etc., under the supervision of Mrs. Fuller, Miss Headley, and Miss Peterson. Observation in the Nursery School, Kindergarten, child care centers, and the Demonstration School. (9 cred.; sr., grad.; prereq. permission of the director of the Institute of Child Welfare to whom advance application should be made; hrs. ar.; 5Pt.) Mrs. Fuller, Miss Headley, Miss Peterson.
- 270su.* Readings in Child Development. (Cred. ar.; grad. students only; hrs. ar.) Mr. Anderson.

The following courses: Ed.T. 55su, Principles of Early Childhood Education; Ed.T. 56su, Permanent Play Materials; Ed.T. 59su, Story Telling for Young Children; Ed.T.

‡ A fee of \$1 per credit is charged for this course.

76Asu, Methods and Observation in the Nursery School; Ed.T. 76Csu, Methods and Observation in the Kindergarten; Ed.T. 77A,B, or Csu, Directed Teaching, listed under Methods and Directed Teaching on page 96; and Ed.C.I. 130su, Problems in Childhood Education, and Ed.C.I. 131su, Laboratory in Childhood Education and Child Development, listed on page 89, are also offered by the Institute of Child Welfare.

SECOND TERM

- 80su. Child Psychology. (3 cred.; jr., sr.; prereq. Psy. 1-2; MTWThF II; 202Pt.) Ar.
131su. Personality, Emotional and Social Development of the Child. (3 cred.; sr., grad.;
prereq. 12 cred. in psy. or equiv.; MTWThF III; 202Pt.) Miss Kuenne.
141su. Behavior Problems in Older Children. (3 cred.; sr., grad.; prereq. 12 cred. in
psy., ed. psy., or soc.; MTWThF I; 202Pt.) Miss Kuenne.
270su.* Readings in Child Development. (Cred. ar.; grad. students only; hrs. ar.) Miss
Kuenne.

LIBRARY INSTRUCTION

The University reserves the right to cancel any and all courses in which the registration is insufficient to warrant continuation of the course.

Academic credit is given only to students with at least two full years of approved work of collegiate grade. Candidates for a degree in library instruction must have had at least *three* years of approved work of collegiate grade in addition to a full year (45 quarter credits) in Library Instruction. "No credit" students will be admitted on presentation of a letter from the library board or director by whom the applicants are employed, or on approval of the director of the Division of Library Instruction. Admission of "no credit" students is limited to candidates under appointment or promise of appointment to definite library positions.

FIRST TERM

- Lib.Meth.51su. Bibliography. Trade and national bibliography of the United States, Great Britain, and Europe; book ordering methods. (3 cred.; no prereq.; MTWThF III and 1 hr. ar.; 5Lib.) Mr. Noggle.
- Lib.Meth.52su. Cataloging. Elements of dictionary cataloging. Lecture, problems, and practice. Required of all candidates for a degree in library methods. (3 cred.; no prereq.; MTWThF I and 1 hr. ar.; 5Lib.) Mr. Shera.
- Lib.Meth.53su. Advanced Cataloging. Continuation of Lib.Meth. 52, with special attention to difficult books and administrative aspects of a catalog department. (3 cred.; prereq. Lib. Meth. 52; MTWThF VI and 1 hr. ar.; 5Lib.) Mr. Shera.
- Lib.Meth.57su. Secondary School Libraries. Administrative methods and problems, including methods of teaching the use of the library. (3 cred.; prereq. 9 cred. in library methods; MTWThF II and 1 hr. ar.; 5Lib.) Miss Greer.
- Lib.Meth.60su. Library Binding. Economics of library binding. Materials, processes, records, book repair. (1 cred.; no prereq.; F I and 1 hr. ar.; 3Lib.) Mr. McDiarmid.
- Lib.Meth.63su. Advanced Reference. Continuation of Lib. Meth. 62. Specialized reference material, public documents, and periodicals. Reference lists and reports on special problems. (3 cred.; prereq. Lib. Meth. 62; MTWThF III and 1 hr. ar.; 3Lib.) Mr. Strout.
- Lib.Meth.64su. Selection of Books for Adolescents. Principles of selection and criticism of representative books. Study and preparation of book lists for adolescents in school and public libraries. (3 cred.; prereq. 9 cred. in library methods; MTWThF VI and 1 hr. ar.; 3Lib.) Miss Greer.
- Lib.Meth.69su. Current Library Problems. Discussion of typical problems and conditions in American libraries. (3 cred.; MTWThF II and 1 hr. ar.; 3Lib.) Mr. Strout.
- Lib.Meth.71su. Library Work with Children. Administration of children's rooms and book selection. (3 cred.; prereq. 9 cred. in library methods or 6 cred. and one 3-cred. course in library training simultaneously with 71; MTWThF IV and 1 hr. ar.; 3Lib.) Miss Brunat.
- Lib.Meth.74su. Selection of Books for Adults. Continuation of Lib. Meth. 73. Further discussion of books and aids to book selection. (2 cred.; prereq. Lib.Meth. 73; MTWTh I; 3Lib.) Ar.
- Lib.Meth.126su. Subject Bibliography. National and subject bibliographies of important countries. Special emphasis on research material and methods. (3 cred.; prereq. sr. or grad. standing, reading knowledge of French or German, and some experience in research or bibliographic study or projects; MTWThF IV; 5Lib.) Mr. Noggle.

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