

A high-contrast, black and white photograph of various leaves, possibly from a tree, with some leaves showing signs of being eaten or damaged. The leaves are silhouetted against a bright white background. The text is overlaid on the image in a clean, sans-serif font.

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1952

Bulletin  
of the

MINNESOTA

preliminary announcement

Volume LV, Number 1

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**UNIVERSITY OF MINNESOTA**

**Minneapolis Minnesota**

**1952**

**SUMMER SESSION**

**First Term**

**June 16-July 26**

**Second Term**

**July 28-August 30**

## FOREWORD

This preliminary bulletin goes forth as a cordial invitation to graduates of high schools, students in this or other colleges and universities, teachers in service preparing for advancement, and other qualified adults to spend a summer at the University of Minnesota making new friends, taking part in wholesome entertainment, recreation, and profitable study leading toward a chosen goal in education, in culture, or in research, with opportunity for credit toward a degree.

There are two terms—the first from June 16 to July 26 and the second from July 28 to August 30. Students may register for subjects of their choice in either or both terms at their discretion.

Because the University of Minnesota is on the quarter system, summer is not a “fill-in” period but a time when you can have all the advantages offered during the other three quarters. Most of the University’s regular staff of scholars, in addition to visiting professors, outstanding in many fields, are present.

As educational demands are ever changing, a more complete Summer Session bulletin is issued annually in March. Copies of that bulletin or additional copies of this preliminary bulletin may be obtained by addressing your request to Dean of Summer Session, 775 Johnston Hall, University of Minnesota, Minneapolis 14.



## **Special Programs**

**Modern Language Institute**

**Intensive Russian**

**Greek**

**Renaissance Seminar**

**American Studies Program**

**Scandinavian Area Studies**

**Business History**

**Dramatics Workshop**

**Language Arts**

**Efficient Reading**

**Education in the Mass Media**

**Printed Media**

**MODERN  
LANGUAGE  
INSTITUTE**

During the first term of the Summer Session, the Modern Language Institute will sponsor residence houses, located near the campus, for graduate and undergraduate students of French, Spanish, and German. All activities will be carried on in the language elected by the student. The Maison Française will be directed by Professor Guy Desgranges; the Casa Hispánica, by Professor James A. Cuneo; the Deutsches Haus, by Professor Herman Ramras. In each house there will be native assistants.

**PROGRAMS**

The program will consist of regular departmental courses conducted in the morning; practical conversation sections at the residence houses in the afternoon; and lectures, round-table discussions, plays, films, music, and dances in the evening. Thus, each house will constitute a milieu for training in the language and culture of the country and will provide a unique opportunity for improvement in the spoken language. This type of instruction also contributes to a better understanding of present-day problems in the countries involved.

The Institute training has proved valuable to students and others who desire training in speaking a foreign language . . . those planning to apply for Fulbright or SPAN scholarships, or to join other foreign study groups . . . teachers or potential teachers of French, Spanish, or German whether or not they are working for graduate degrees . . . men and women training for positions with the government, international organizations, or private business.

**FEES AND  
SCHOLARSHIPS**

Each language program carries 10 quarter credits for the elementary group and 9 for advanced and graduate students. A special fee of \$40, in addition to regular Summer Session fees, is charged for the program offered in a language residence house. Room and board are additional. Several scholarships are available for the French and German houses. The French scholarships are donated by the French government.

**INTENSIVE  
RUSSIAN**

A unique opportunity for intensive study of the Russian language is offered for the first time in the Summer Session. Students, with no knowledge of Russian, may register for Russian 1a-2a in the first term and devote twenty hours weekly to the mastery of this important language. This course is so designed that the student can then proceed to Intensive Advanced Russian in the second term.

**BEGINNING**

Russian 1a-2a will present a balanced approach to the language, with the first two hours of each morning devoted to reading and composition while the second two hours will be occupied by actual conversation between students and native speakers in small drill sections.

**ADVANCED**

Intensive Advanced Russian, which may serve as a second term sequel to Russian 1a-2a or which may be taken by students who have completed one year's study of Russian, will place major emphasis on spoken Russian. Students will participate in debates, give speeches, prepared and spontaneous, and converse with native speakers.

The new Phonetics Center in Folwell Hall with its extensive sound-recording equipment and short-wave set for Russian language broadcasts will be at the disposal of students during both terms.

**GREEK**

An elementary Greek course emphasizing the Hellenistic or Koine phase of the language which is of most immediate use in reading the New Testament will be offered through both terms of the 1952 Summer Session. This course is designed essentially for pretheological students and will be limited to a necessary minimum of twenty students. No credit will be allowed until the student satisfactorily completes both the first and second terms of the course.

**RENAISSANCE  
SEMINAR**

The history, art, literature, and music of the sixteenth and early seventeenth centuries will be examined in as many differing perspectives as possible in the Renaissance Seminar, an interdepartmental project of the first term of the Summer Session. Special Renaissance courses will be offered in Art (57—Renaissance, Baroque Art), English (172—Renaissance Romance and Pastoral), History (66a or 104a—The Italian Renaissance: Fifteenth Century), and Romance Languages (181—Movement of Ideas in French Literature: Sixteenth and Seventeenth Centuries), and, during the period between July 7 and July 18, these courses will be supplemented by public lectures, an art exhibit, a concert, and a symposium. The cooperating departments include, in addition to the four already named, History of Education, Music, Political Science, and Sociology.

The Renaissance Seminar is expected not merely to focus attention upon one of the epochal periods in the intellectual history of the western world but also to provide both the student body and the public with an opportunity to observe the interrelationships of the arts, literature, and the history of ideas.

A brochure describing the program of the Renaissance Seminar will be available early in 1952.

**AMERICAN  
STUDIES  
PROGRAM**

The graduate program prepares its students for public and social service, library work, creative writing, editing, and teaching in high schools and colleges in these fields: American civilization . . . American history . . . American literature . . . and other American courses.

On the undergraduate level the program is planned to guide students to a broad knowledge of their own nation as preparation for enlightened citizenship.

Candidates for all degrees enroll in American courses conducted by the participating departments and in American studies seminars designed to integrate these courses. Knowledge of some foreign civilization is also required.

**SCANDINAVIAN  
AREA STUDIES**

The cooperative Minnesota-Wisconsin Summer Session program in Scandinavian area studies will be offered again during 1952 at the University of Minnesota.

With a faculty of distinguished lecturers drawn from the Scandinavian departmental staffs at the Universities of Minnesota and Wisconsin, and supplemented by lecturers from Scandinavian countries, a variety of courses will be offered on both undergraduate and graduate levels.

These courses will provide training in the Scandinavian languages and literatures, Scandinavian history, social and political conditions of twentieth-century Scandinavia, and Scandinavian art and philosophy.

The work will be open both to students specializing in Scandinavian studies and to those who may be interested only in some special aspect of Scandinavian life and culture.

**BUSINESS  
HISTORY**

In the first term, the Department of History will offer a course in business history (149a—History of American Business), which will analyze, largely from the inside, the chief developments of modern business organization, administration and policy, together with the problems of production, finance, marketing, price, competition, combination, public relations, and government regulation. This course will be taught by Professor Ralph W. Hidy of the New York University, who is secretary of the Economic History Association. Professor Hidy is the author of an important study of business problems as they were dealt with by the House of Baring in the first half of the nineteenth century and is now completing a history of one of the larger American business firms.

The Center for Continuation Study is planning an institute that will supplement this course.

**WORKSHOP IN  
HIGH SCHOOL  
DRAMATICS**

During the first term of Summer Session the University Theatre in cooperation with the University High School will offer a special workshop for those interested in high school dramatics. The workshop will consist of two groups, regular Summer Session students who look forward to teaching dramatics and a special group of 25 outstanding high school students.

**PROGRAM**

The program for high school students includes lectures by the director and staff of the University Theatre, reading and acting of scenes from great plays, improvisation of scenes and skits, a technical workshop, and rehearsal of one-act plays. Students will also work on University Theatre productions.

**COURSES  
OFFERED**

Regular Summer Session students will select courses from the University Theatre curriculum and other related fields.

High school students interested in the workshop who are not from the Twin Cities area must be able to make satisfactory arrangements regarding living quarters; the Theatre can assume no responsibility for them outside of workshop hours.

**LANGUAGE ARTS**

An outstanding program in the Language Arts . . . reading, speaking, writing, listening, children's theater, and children's literature . . . in the College of Education during the first term will include the most complete offering of courses in this area ever available at the University.

Supplementing these courses will be an Institute in the Center for Continuation Study from June 30 through July 3, with such national leaders as Miss Lou LaBrant and Miss Helen Sullivan added to the regular staff.

**EFFICIENT  
READING**

Adult reading needs are a matter of real concern, judging from present interest in the course *Efficient Reading* (Rhetoric 47, page 67). Designed for the average and above-average adult reader, the course provides a unique combination of activities for improving reading speed, comprehension and vocabulary.

Extensive use is made of such recently developed aids as the Tachistoslides and Harvard Films. Teachers interested in laboratory-type experience in adult reading techniques will find the course of special value.

**SCHOOL OF  
JOURNALISM**

Mass communications and their significant role in American life have been given increasing emphasis by the University, through its School of Journalism, in recent years. Courses analyzing and evaluating the mass media are directed by trained specialists who combine years of press, radio, and other communications experience with the skills of the communications researcher.

Summer Session, 1952 offers two specially-designed courses in the School of Journalism for two groups of students who want to broaden their knowledge of mass media.

**EDUCATION AND  
THE MASS MEDIA**

Journalism 122, *Education and the Mass Media*, has been developed to serve the particular needs of those who use mass media in the classroom and who need systematic knowledge of media communication processes to understand the influences that determine the character, quantity, and quality of public information.

*Education and the Mass Media* will also hold special value for those who direct adult study groups, for advanced social studies students, and for those in professional communications work who have not had recent School of Journalism training.

**ADVANCED  
RESEARCH IN  
PRINTED MEDIA**

For Summer Session students with thorough training on communications and some knowledge of the tools of research, the School of Journalism will offer Journalism 202, *Advanced Research in Printed Media*.

This is a seminar for college and university journalism teachers and research workers from newspapers, magazines, press associations, and advertising organizations. It will also be open to qualified graduate students in journalism, psychology, sociology, business administration, and political science, whose professional objectives may be served by its content. It will provide training in the Research Division of the School of Journalism in designing, conducting and analyzing printed media research.

Both courses will emphasize recent research in the interrelations of the communicator, media content, mass audiences, and the effects of communicated symbols.

**A SHORT COURSE  
FOR HIGH SCHOOL  
TEACHERS OF  
JOURNALISM**

A Short Course for high school newspaper and yearbook advisers and for teachers of high school journalism is scheduled by the General Extension Division for June 18-27. This program is so arranged that Summer Session students may take advantage of it and still have free hours for Summer Session courses. The National Scholastic Press Association and the National Association of Journalism Directors are in joint charge of the Short Course program in conjunction with the School of Journalism and the Extension Division of the University. Interested students should contact the Extension Division or School of Journalism offices for information.





## **General Information**

**University Facilities**

**Summer Session Dates**

**Faculty**

**Housing and Food Service**

**Admission and Registration**

**GENERAL  
INFORMATION**

For bulletins or information concerning any Summer Session programs, write to Dean of Summer Session, 775 Johnston Hall, University of Minnesota, Minneapolis 14.

**UNIVERSITY  
FACILITIES**

The Summer Session student has the facilities of a great educational institution: its faculty . . . libraries . . . laboratories . . . observatories . . . and museums. These are supported by an expanding physical plant consisting of 676 buildings with a book value of \$47,322,963.86, and equipment valued at \$20,584,239.16.

**SEVERAL  
CAMPUSES**

The Minneapolis Campus is located on the banks of the Mississippi River, overlooking the heart of the Minneapolis business district. It is readily accessible to St. Paul, offering the recreational and cultural advantages of two large metropolitan centers.

The St. Paul Campus houses the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine with its own laboratories and recreational facilities. The Minneapolis and St. Paul Campuses are joined by an intercampus trolley line which gives regular service free to students enrolled for classes on both campuses.

The Lake Itasca Forestry and Biological Station, located on historically famous Lake Itasca in Itasca State Park, offers courses in various fields of biology during the second Summer Session. (See pages 41 and 67.)

The Duluth Branch Campus is discussed on pages 46-48.



*The Summer Session offices  
are in Johnston Hall.*

Sidewalk bookstalls near the campus offer interesting browsing.



#### LIBRARIES

Full library privileges are available during the summer. One of the finest university libraries in existence, the University of Minnesota Library contains more than one and one-half million volumes and a wide variety of periodicals and pamphlets.

Large, comfortable reading rooms provide an excellent atmosphere for study. Seminars and discussion groups for graduate students and faculty have the use of a separate floor of seminar rooms.

Departmental libraries on both campuses contain special collections of value to students.

Other available library facilities include the Minneapolis Public Library, the St. Paul Public Library, the Minnesota Historical Society, and the James Jerome Hill Reference Library of St. Paul.

#### STUDENTS' HEALTH SERVICE

The Students' Health Service, in new, enlarged quarters across from the Church Street entrance of the University Hospitals, maintains a dispensary and hospital exclusively for students. The students' hospital provides hospitalization for students whenever necessary and home calls are made in case of emergency.

The same staff of physicians, dentists, and nurses is on duty throughout the year.

**DATES OF  
SUMMER  
SESSION**

The Summer Session consists of two terms: June 16 to July 26 and July 28 to August 30. Registration and payment of fees for the first six-week term close on Tuesday, June 17. First term classes on the Minneapolis Campus will begin Wednesday, June 18, at 8 a.m. while classes on the St. Paul Campus will begin at 7:45 a.m.

Registration and payment of fees for the second term close at 4 p.m. on Monday, July 28; classes for this term will open Tuesday, July 29.

Most individual courses are planned for completion in a single term.

**FACULTY**

The 1952 Summer Session will have a faculty numbering more than 800. The University of Minnesota realizes Summer Session students expect to become acquainted with, and study under, the regular faculty. Therefore, most of the University's outstanding scholars will be present to teach and to direct research.

In addition, the Summer Session specializes in visiting professors who are eminent in their fields.

**HOUSING AND  
FOOD SERVICE  
COMSTOCK HALL**

Ada Comstock Hall, a modern residence hall for women, faces the Mississippi River and is next to the Coffman Memorial Union. It has excellent living accommodations for 378 students. Applications for reservations, which should be sent in as early as possible, will be filled in order of the date received.

Applications should be sent directly to Comstock Hall accompanied by a \$5 deposit. This deposit will be refunded only if cancellation is received before June 1. Write for additional information to: Director of Women's Residences, Comstock Hall, University of Minnesota, Minneapolis 14.

**SANFORD HALL**

During the first term only, Sanford Hall, a university dormitory for women, will be open for both undergraduates and graduate students. Sanford, situated on University Avenue near the entrance to the campus, offers comfortable and gracious living.

Early applications will assure a better choice of rooms, which include single, double, and two-bed single rooms.

Applications should be sent directly to Sanford Hall accompanied by a \$5 deposit. This deposit will be refunded only if cancellation is received before June 1. Write for additional information to: Director of Sanford Hall, University of Minnesota, Minneapolis 14.

Spacious lawns surround the women's dormitory, Comstock Hall.



**WINCHELL  
COTTAGES**

The Winchell Cottages for Women offer attractive, low-cost housing for the first Summer Session term and may be open the second term if there is sufficient demand. They are located on University Avenue near Sanford Hall.

Residents must furnish their bedding, towels, rugs, and curtains as desired. Students cut expenses by sharing the work in each house. At the time the room is assigned, a deposit of \$5 is required.

**MEREDITH HALL,  
ST. PAUL CAMPUS**

If there is a sufficient number of requests, Meredith Hall on the St. Paul Campus will be open to women during the first term. Inquiries should be made to the Director of Dormitories, School of Agriculture, University Farm, St. Paul 1.

**MEN'S RESIDENCE  
HALLS**

Centennial Hall, a new ultra modern men's dormitory with a large number of single rooms will be available for the 1952 Summer Session. This hall is located on campus close to the Mississippi River. A room and board contract will be offered unless there are an insufficient number of residents, in which case contracts will be for room only. Early application is suggested. For application forms and additional information, write to: Director of Centennial Hall, University of Minnesota, Minneapolis 14.

**ACCOMMODATIONS  
FOR MARRIED  
STUDENTS**

More units of housing are going to be available in University Village for the Summer Session. Conveniently located between the Minneapolis Campus and the St. Paul Campus, the Village is the housing center for students who have their families with them. For applications, prices, and other details, write: Director of Men's Residences, Room 11, Administration Building, University of Minnesota, Minneapolis 14.

**PRIVATE  
RESIDENCES**

There is available a considerable number of rooms in private homes and rooming houses. These facilities are university-inspected and approved and are listed with the Student Housing Bureau, 204 Eddy Hall.

All students are required to live in university-approved residences and those taking rooms elsewhere must apply to the director of the Student Housing Bureau for approval. The Housing Bureau also helps married students obtain housekeeping facilities.

**FOOD  
SERVICE**

In addition to dining halls in the dormitories and residence halls, Coffman Memorial Union offers a variety of accommodations.

Well-prepared food at moderate prices and quick, efficient service are featured in the Cafeteria and Fountain Grille.

The Commuters' Lunch Room will be open for those carrying lunches. Party and banquet dining facilities will be available for both lunch and dinner to all campus organizations and groups.

**ADMISSION AND  
REGISTRATION**

**ADMISSION**

The courses of the Summer Session are open to all qualified high school graduates, regularly admitted students of the University including those attending regular session, and those with previous college work. Recent high school graduates must be regularly admitted before enrolling in the Summer Session.

**SPECIAL  
STUDENTS**

Students with previous college work who wish only to attend the Summer Session may do so without filing credentials, provided they are in good standing and are not candidates for a degree. Such students will be classified as "special" for the Summer Session only.

Mature persons (those about 24 years of age or older) who are not candidates for a degree but wish to complete certain specific college subjects may be considered for admission as adult special students.

Attendance during the Summer Session in no way guarantees special students admission to the regular academic year. Special students who wish to be considered for admission to a subsequent term must file regular admission applications early in the summer. Nonresidents whose previous records at Minnesota were above "C" may ordinarily re-enter as regular students.

**GRADUATE  
STUDENTS**

The procedure for admission of graduate students is discussed on pages 30 and 31.

**CANDIDATE  
FOR DEGREE**

Those who expect to become *candidates for a degree* at the University during the Summer Session must have filed an application for admission and have been regularly admitted to a college of the University.

All students should consult the *General Information Bulletin* for detailed requirements governing admission and the granting of degrees. The *General Information Bulletin* and specific college bulletins may be obtained by writing to: Office of Admissions and Records, University of Minnesota, Minneapolis 14.

**REGISTRATION**

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

- First term      Monday, June 16, 8:00 a.m. to 4:00 p.m.
- Tuesday, June 17, 8:00 a.m. to 4:00 p.m.
- Second term    Monday, July 28, 8:00 a.m. to 4:00 p.m.

**LATE  
REGISTRATION**

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

Wednesday, June 18 .....	\$2.00
Thursday, June 19 .....	3.00
Friday, June 20 .....	4.00
Monday, June 23 .....	5.00

No registrations are allowed for the first term after Monday, June 23, without special permission of the dean of the school or college concerned, and payment of the late registration fee of \$5.

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

Tuesday, July 29 .....	\$2.00
Wednesday, July 30 .....	3.00
Thursday, July 31 .....	4.00
Friday, August 1 .....	5.00

No registrations will be accepted for the second term later than Friday, August 1, without 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 late registration fees to those who are unable to reach the University during regular registration days.*

**PLACE OF  
REGISTRATION**

At the beginning of the first term, candidates for admission to all colleges except the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine will register in Norris Gymnasium for Women. Candidates for admission to the College



of Agriculture, Forestry, Home Economics, and Veterinary Medicine will register at 203d, Coffey Hall, St. Paul Campus.

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

**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 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 (whether resident or nonresident) at time of registration and must be paid before registration is complete:

Tuition fee (per term) .....	\$42.00
Incidental fee (per term) .....	9.00
Total fee (per term) .....	<u>\$51.00</u>
General deposit .....	2.00

**PART-TIME  
FEES**

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

Part-time tuition fee (4 credits or less) (per term) .....	\$32.00
Incidental fee (per term) .....	9.00
Total fee (per term) .....	<u>\$41.00</u>
General deposit .....	2.00

**INCIDENTAL  
FEE**

The incidental fee of \$9 per term mentioned above entitles each student to use the privileges of Coffman Memorial Union, Health Service, Library, Counseling Bureau, Speech and Hearing Clinic, recreation, Minnesota Daily, and university post-office service.

**SPECIAL  
FEES**

Regular tuition fees as provided during the academic year will be charged all students in Nursing. In Medicine, Dentistry, Law and Veterinary Medicine, residents pay regular Summer Session tuition fees; nonresidents pay tuition as provided during the academic year. Special fees are collected in the Division of Library Instruction and the Biological Station.

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 thesis may register for thesis work only upon payment of \$9.50 tuition and \$2 deposit, per term.

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.*

**CREDIT**

Credit is administered on the following basis: one quarter credit usually requires not less than 10 lectures 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.

**AMOUNT  
OF WORK**

A maximum of 9 quarter 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.



## **Summer Recreation**

**Excursions**

**Sports**

**Concerts and Lectures**

**University Theatre**

**Films**

**Coffman Memorial Union**

**Art Craft Workshop**

**St. Paul Campus Union**

**Museum of Natural History**

**University Gallery**



*The University has 25 tennis courts for student use.*

**SUMMER  
RECREATION**

The summer visitor not only has the parks, lakes, art and music centers, libraries and museums of the Twin Cities for recreational enjoyment but a planned program of activities offered by the University of Minnesota Summer Session.

**EXCURSIONS**

Conducted excursions may be taken to points of historical, industrial, educational, and recreational interest. The transportation fee is the only cost of these tours.

**SPORTS  
FACILITIES**

Facilities for healthful exercise are offered by the University's physical education plants. These include recreation fields . . . an 18-hole golf course . . . three gymnasiums containing five swimming pools (Cooke Hall for men, Norris Gymnasium for Women, and the Gymnasium on the St. Paul Campus) . . . Northrop Field containing facilities for baseball, track, and diamond ball . . . 25 tennis courts . . . space for other sports such as badminton, horseshoes, handball, squash, table tennis, and archery.

**SPORTS  
PROGRAM**

A program of tennis and golf tournaments as well as other competitive sports is arranged each summer. A daily sports hour for women including such activities as aerial darts, badminton, and table tennis is planned at the Norris Gymnasium. At scheduled hours, swimming pools with attendants and instructors in charge are available for men in Cooke Hall and for women in

Norris Gymnasium. Most of these activities have no extra charge except for towel service.

Tennis and golf tickets will be issued to regularly enrolled Summer Session students upon presentation of the bursar's receipt for fees and payment of a small fee. A greens fee is also charged for use of the golf course. Without tickets, a slightly larger charge per session of play is made for use of the tennis courts.

*Minneapolis climate suits the  
golf enthusiasts.*



#### **CONCERTS AND LECTURES**

Through the Department of Concerts and Lectures, the Summer Session provides a program covering a wide field of musical features . . . symphonies . . . chamber music . . . piano and vocal soloists. Convocations and numerous lectures are also featured in this program. Addresses are by outstanding scientists, literary figures, artists, and observers of national and international affairs.

**UNIVERSITY  
THEATRE**

Performances of legitimate drama have become an outstanding feature of the Summer Session. The University Theatre, recognized as one of the leading off-Broadway playhouses, will present a summer season featuring *Hamlet* and three or four other outstanding plays.



*The University Theatre produced Twelfth Night.*

**FILMS**

A feature film, either foreign or domestic, is shown one night a week in Northrop Memorial Auditorium. Another weekly feature is the Newsreel Theater which shows motion pictures of current events, travel pictures, and various educational films. A program of educational films of a type which can be used in the classroom is of special interest to teachers. These film programs are shown with the cooperation of the Department of Audio-Visual Education.

**COFFMAN  
MEMORIAL  
UNION**

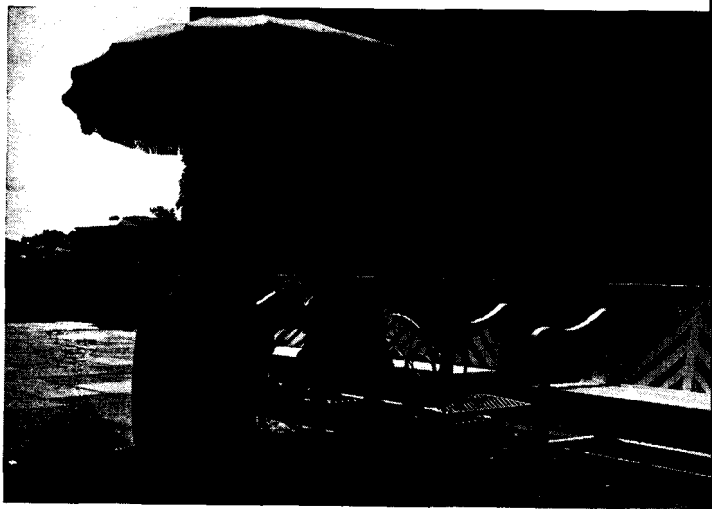
Summer Session students will find an informal, friendly spirit in the Coffman Memorial Union which offers a pleasant respite from the rigors of classroom activities. Quiet and comfortable lounges, efficient dining rooms and varied recreation rooms give

the Union a pleasant setting for informal, social, and recreational activities.

#### FACILITIES

Facilities include billiards, table tennis, and a coeducational game room for recreation . . . the large cafeteria and fountain grille for dining . . . men's, women's, and coeducational lounges for resting and studying . . . the outdoor terrace overlooking the Mississippi for lounging or dining . . . the Terrace Reading Room for recreational reading . . . a modern ballroom for informal dancing parties and dance instruction sessions . . . the University Post Office and Union Bookstore . . . and barber and beauty shops.

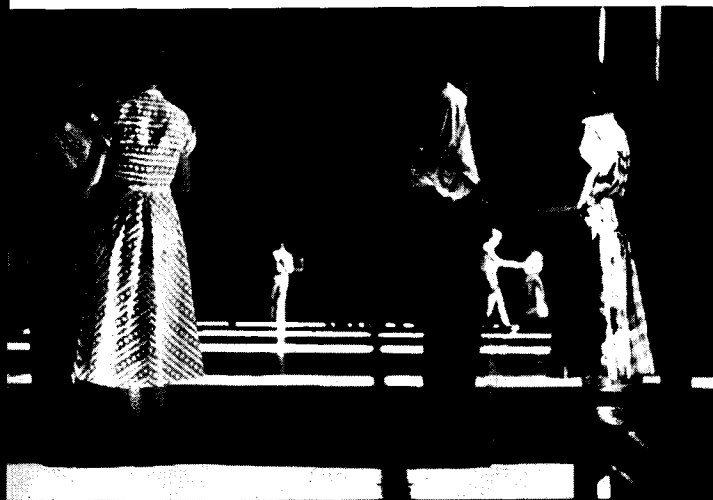
*The outdoor terrace overlooking the Mississippi for lounging or dining . . .*



#### UNION PROGRAM

The Union provides a diversified program during the summer which includes instruction in folk and modern dancing, instruction classes in bridge, crafts and personal grooming, and social hours, parties, musical programs, and art exhibits. These are all

available to students without charge. Some of the dancing and social hour programs are conducted on the outdoor terrace.



*Students learn new dance steps during summer dance instruction.*

#### **ART CRAFT WORKSHOP**

In the Art Craft Workshop, the Union features informal recreational opportunities for developing new skills in the arts and crafts. Instruction, tools and materials for oil and water-color painting, ceramics, metal, leather, wood, and other crafts are available without formal registration or fees.

#### **ST. PAUL CAMPUS UNION**

The St. Paul Campus Union, located in Old Dairy Hall, will be open throughout the Summer Session for students on the St. Paul Campus.

Facilities include a coeducational lounge, game room lounge, game room, photography dark room, and a kitchenette for use of social group gatherings.

A well-equipped fountain grille provides light lunches and snacks.



**MUSEUM OF  
NATURAL  
HISTORY**

The Minnesota Museum of Natural History, located on the campus at Seventeenth and University avenues contains a series of lifelike exhibits of animal and plant life selected from various parts of the state.

In addition to public exhibits, extensive scientific series of birds, mammals, and other natural history materials are housed here for those interested in more careful study in these fields.

The exhibition corridors are open to the public from 9 to 5 o'clock daily and from 2 to 5 o'clock on Saturdays, Sundays, and most holidays during both summer terms.

The museum's modern auditorium is widely used by many campus departments.

*The Union Art Craft Shop is a popular place for those with hobbies.*



**UNIVERSITY  
GALLERY**

During the Summer Session, special study exhibits are displayed in the east corridor of Northrop Memorial Auditorium which relate specifically to various art subjects being taught. These exhibits are considered invaluable as a supplement to textbooks

and lectures and are derived from the University Gallery's large collection of color reproductions and study prints.

#### EXHIBITS

The third and fourth floor galleries will house the International Ceramics Show from Syracuse, New York, and coincident with the Renaissance Seminar, the gallery is holding an exhibit of Renaissance paintings.



*The University Gallery has current exhibits attractively displayed.*

#### RENTAL SERVICE

The gallery offers a rental service during the first term only but prints may be rented for both terms. Framed color reproductions are rented for 15 cents for one term; 25 cents for two terms. They are due on Monday the last week of the term for which they are rented. The rental service will be open from 10 to 1 o'clock Wednesday through Friday of the first week and Monday and Tuesday of the second week of the first Summer Session term.

#### ART LIBRARY

A library for art students is in Room 307 of Northrop Memorial Auditorium where reference books are available and pictorial material for class assignments may be studied.



## Schools and Colleges

Graduate School

College of Science, Literature, and  
the Arts

College of Agriculture, Forestry,  
Home Economics, and Veterinary  
Medicine

Institute of Technology

School of Business Administration

School of Dentistry

College of Education

Institute of Child Welfare

Library Instruction

Physical Education for Women

Physical Education for Men

Biological Station

General College

Medical School

## GRADUATE SCHOOL

The Graduate School of the University of Minnesota brings together in a single organization all programs and offerings of the University which lead to the higher degrees of master of arts, master of science, and doctor of philosophy.

The University's libraries, laboratories, and clinics, supplemented by libraries, hospitals, and other institutions in the Twin Cities, offer excellent facilities and possibilities for gradu-



*The Graduate School facilities include excellent laboratories for research.*

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

## APPLICATIONS

Students must make application for admission at least four weeks before the opening of the term they expect to attend in order to avoid delay, last-minute disappointment and possible penalty for late registrations. Applications for admission, except for Uni-

versity of Minnesota graduates, must be accompanied by an official transcript in duplicate of all undergraduate work, including degrees earned and a single official transcript of all graduate work completed. University of Minnesota graduates must submit certified copies of their scholastic records.

Admission to the Graduate School does not necessarily imply admission to a given major department. Therefore, students, *before their arrival at the University*, should have assurance from the Graduate School that they are adequately prepared and will be accepted as majors in their chosen field. It will be necessary for students to check with the heads of certain departments concerned, such as those conducting clinical or laboratory work, before their applications for admission may be approved.

The *Bulletin of the Graduate School* contains more detailed information on requirements and work in the Graduate School. A copy may be obtained by writing to: Dean of Admissions and Records, University of Minnesota, Minneapolis 14.

**COLLEGE OF  
SCIENCE,  
LITERATURE,  
AND THE ARTS**

The College of Science, Literature, and the Arts offers courses selected from the regular curriculum with special attention to needs and interests of college and preprofessional students. The course of study leads to the degree of bachelor of arts.

General information regarding requirements for admission as regular or adult special students, general rules and regulations, requirements for degrees in different curricula offered by the college may be obtained from one of the administrative officers or the complete *Bulletin of the College of Science, Literature, and the Arts*. This bulletin may be obtained by writing to: Dean of Admissions and Records, University of Minnesota, Minneapolis 14.

**DEPARTMENT  
OF ART**

Professional training in the arts, including professional studio work and industrial art, as well as graduate work, is offered by the Department of Art. Historical and creative research is also available.

Basic design and painting courses for elementary and secondary school teachers, architects, and others will be offered this summer. American painters will be available for courses in oil and water color painting and for individual criticism and advice to advanced students.

Professional students and teachers of art, as well as those interested in history and the humanities, may obtain introductory courses in art appreciation and history of art for a general cultural and historical background. Extended offerings will include studio practice in crafts, ceramics, and sculpture. There are also specialized studies in Renaissance art, Scandinavian art, European and American modern art for students of more advanced standing.

During the first Summer Session, the Department of Art will participate with other departments in a symposium on the Renaissance. Details may be found on page 6.

In the School of Home Economics, courses in related arts are planned to integrate art with home economics training.

Further information may be obtained by writing directly to: Dean of Summer Session, 775 Johnston Hall, University of Minnesota, Minneapolis 14.

#### DEPARTMENT OF MUSIC

Regular courses in all phases of music and music education will be offered this summer for both graduates and undergraduates. In addition to resident staff members, artists from the Minneapolis Symphony Orchestra will give instruction in piano, organ, voice, violin, and all orchestra and band instruments.



*A corner of the art studio in  
Jones Hall.*

During the first term of the Summer Session the Department of Music is offering a graduate course in chorus production . . . *The Realization and Interpretation of Choral Masterpieces through the Ages*. Class members will participate in the Summer Session chorus and thus will have an opportunity to observe and work with the technical aspects of chorus production. A graduate course in music of the Renaissance and a special program of Renaissance music will be offered to correlate with the special interdepartmental seminar of this period in art, English, history, and Romance languages.

Applied music, music literature, music history, and music theory may be studied by students interested in obtaining a cultural background as well as by those preparing to become teachers of music and professional musicians. Nationally-known musicians will teach courses in American music, music theory, orchestration and composition.

There are extra fees for applied music courses (Nos. 11-27). These are \$30 per term for 2 credits and \$60 per term for 4 credits. Students paying \$30 or more in music fees may take other courses for additional tuition of \$32, incidental fee of \$9, and special course fees.

A wide range of symphonies, chamber music, instrumental and vocal recitals is available on campus and in the Twin Cities area during the summer.

**COLLEGE OF  
AGRICULTURE,  
FORESTRY, HOME  
ECONOMICS, AND  
VETERINARY  
MEDICINE**

The College of Agriculture, Forestry, Home Economics, and Veterinary Medicine offers a limited number of courses during the Summer Session for undergraduates.

However, a large number of courses is offered for graduate students by most of the agricultural divisions. High school teachers of agriculture may take advanced courses in many agricultural fields which are supplementary to courses offered by the Department of Agricultural Education (see College of Education, page 73).



*Identical twin cows on the University's St. Paul Campus.*

Opportunity is offered in the divisions of Agriculture and in the School of Forestry for graduate study either for the first six-week term or for the entire session of eleven weeks. In other divisions, thesis or course work is available only through the first term. Thesis and problem work are correlated in most divisions with work in the Agricultural Experiment Station.

#### **HOME ECONOMICS**

Courses for undergraduate students and qualified graduate students are offered by the School of Home Economics during the first term only.

Information concerning graduate work during the summer in any division should be obtained from the head of the division.

#### **INSTITUTE OF TECHNOLOGY**

The Institute of Technology includes the College of Engineering, the School of Architecture, the School of Chemistry, and the School of Mines and Metallurgy.

A limited number of courses in aeronautical, civil, electrical, and mechanical engineering; drawing and descriptive geometry; and mathematics and mechanics will be offered the Summer Session student by the College of Engineering. In the School of Chemistry, inorganic, analytical, organic, and physical chemistry, in addition to chemical engineering, will be given this summer. Students are able to acquire a Master's degree in chemistry by attendance at Summer Session only.



**SCHOOL OF  
BUSINESS  
ADMINISTRATION  
(INCLUDING  
ECONOMICS)**

The School of Business Administration offers a broad foundation in economics and in the several aspects of management of a business organization, in addition to specialized courses. The University's location in a metropolitan area presents opportunities for close observation of business in action.

Admission to the School of Business Administration follows completion of a two-year prebusiness course in the College of Science, Literature, and the Arts; the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine; the Institute of Technology; or equivalent transfer of credits from other schools and colleges.

Opportunities for graduate work in both economics and business administration are provided in each of the Summer Sessions. Graduate course offerings have been planned to meet the needs of (1) high school and college faculty members and others whose graduate work is limited largely to Summer Sessions, and (2) graduate students at Minnesota and elsewhere who wish to accelerate their progress toward advanced degrees. Graduate work should be arranged through the Graduate School.

A course, "Current Economic Problems and Their Analysis" (Econ. 125) will be given particularly for members of the three past workshops in Economic Education and for high school teachers and others in the social sciences who wish to have a quick survey of present-day economic problems.

High school graduates, aged 24 or over, who can furnish evidence that they have had business experience in an executive capacity may be admitted as special students. World War II veterans with special objectives in business, may also be admitted as special students.

**SCHOOL OF  
DENTISTRY**

The School of Dentistry will offer clinical instruction in operative dentistry, prosthesis, crown and bridge, oral surgery, pedodontia, periodontia, and oral diagnosis. These courses are open to eligible dental students.

Dentistry fees during the Summer Session are: full-time tuition, resident \$84, nonresident \$145; half-time tuition, resident \$42, nonresident \$72.50; incidental fee \$18, deposit \$2.

**COLLEGE OF  
EDUCATION**

The College of Education will offer extensive programs in all departments during the Summer Session, emphasizing problems of teachers, school administrators, counselors, and other educational workers. This year, special offerings have been arranged for school administrators who hold the Master's degree, with four three-week workshop courses available in the first term.

In addition to courses in curriculum and instruction, philosophy of education, educational psychology and administration for both elementary and secondary school staff members, there will be courses in the vocational fields of business and distributive education, agricultural education, industrial education, and home economics education. University High School and the Tuttle Demonstration Elementary School will be open for observation during the first term, and in both terms, the Psycho-Educational Clinic will provide opportunity for observation and practice.

An outstanding program in the language arts (reading, speaking, writing, listening, children's theater, and children's literature) has been planned for the first term. See Special Programs, page 8.

Summer planning for teachers includes the important offerings of the College of Science, Literature, and the Arts, as well as the professional courses in education. Such offerings as the General Studies courses in the social and natural sciences, high school dramatics and creative dramatics under the Speech Department, the second term course on the Geography of Minnesota, and many other courses in the liberal arts departments will be of particular value to elementary and secondary school teachers.

## WORKSHOPS

Workshops for the 1952 Summer Session will include two three-week workshops in home economics education and a workshop course in the area of marriage and family living, all offered in the first term. A workshop for rural teachers and administrators is scheduled for the second term. Two workshops have been planned for representatives of colleges in the North Central area, one being held during the first term for staff members from liberal arts colleges, and a second scheduled for the second term for members of teacher-education institutions.

In the second term, a special two-week project in economic education is tentatively planning for twenty to thirty participants, selected from those attending one of the three previous Economic Education Workshops, to work on materials and plans for improving economic education in Minnesota schools and communities. Those admitted to this project will receive scholarships including board, room, and tuition.

Additional information may be obtained from the College of Education office.

## INSTITUTE OF CHILD WELFARE

Summer Session courses offered by the Institute of Child Welfare are planned not only to meet the needs of graduate and undergraduate students, but of experienced teachers and other professional workers who wish to add to their knowledge and skill in working with children.

There are beginning and advanced courses in child training, child psychology, child development, childhood education, and parent education. Facilities for observation and participation are available in the nursery school, kindergarten, and elementary grades. Special attention is called to courses listed under the

*The nursery school and kindergarten offers opportunities for observation.*



Institute of Child Welfare and under Curriculum and Instruction and Methods and Student Teaching in the College of Education.

Graduate courses are available to meet some of the requirements for a Master's degree under either Plan A or Plan B. These may be taken either as majors or minors or as electives with majors or minors in other areas.

#### **LIBRARY INSTRUCTION**

The Summer Session student may complete the full library course in four summers through a series of integrated eight-week terms offered by the Division of Library Instruction. To provide courses that will meet the new state requirements for teacher-librarian, we are offering this summer special courses for those teachers who wish to obtain the library science minor. During the eight-week session, basic courses for beginners and advanced courses for students who have partially completed the program will be offered jointly.

#### **DEGREES**

Students training for librarianship as a career may work toward the degrees of bachelor of science (B.S.) with a major in library science, 27-36 credits; bachelor of science in library science (B.S. in L.S.), 45 credits; or a Master's degree with a major in library science. The B.S. in L.S. degree prepares the student for full-time library positions in school, public, college, and university libraries. The B.S. in the College of Education with a minor in library science, 23 credits, is offered to enable students to take positions as teacher-librarians (part-time teaching, part-time library work) in schools.

In order to receive any degree, a student must complete 45 quarter credits in residence.

#### **ADMISSION REQUIREMENTS**

Juniors, seniors, and postgraduate students may enroll for courses in the Division of Library Instruction, in the College of Science, Literature, and the Arts, in the University College, in the Col-

lege of Education, or in the Graduate School. Students should meet admission requirements for the respective college in which they enroll. Under certain conditions, students not meeting admission requirements may enroll as special students upon recommendation of the director of Division of Library Instruction.

For further information consult the *Division of Library Instruction Announcement for the Years 1951-1953*.

*Modern dance helps students gain grace and poise.*



**PHYSICAL  
EDUCATION  
FOR WOMEN  
PROFESSIONAL  
PROGRAMS FOR  
TEACHERS**

Regular professional courses will be offered leading to the following degrees: bachelor of science with major in physical education; master of education with major in physical education offered in the College of Education; master of arts with major in physical education offered in the Graduate School; doctor of philosophy with major in education and emphasizing physical education and school health education.

The Summer Session student may also take courses toward an undergraduate minor in physical education, an undergraduate

minor in school health education, and the nine-quarter-hour endorsement required by the State Department of Education for those wishing to teach physical education part time in Minnesota.

The department presents a regular program of teaching demonstrations in physical education during the first term at the Tuttle Elementary Demonstration School. Since the various colleges of the University either require physical education or give elective credit in this field, certain courses are open to students who wish to satisfy this need or interest.

**SPECIAL  
FEATURE IN  
SCHOOL HEALTH  
EDUCATION**

A practical approach short course in school health education, *Health Needs of Elementary School Children*, will be conducted by the Department of Physical Education for Women and the Extension Division. This short course will be of special interest to supervisors as well as to classroom teachers. Laboratory experiences in screening procedures will be offered. National, state, and local leaders will present current information on the determination of children's health needs.

**RECREATIONAL  
OPPORTUNITIES**

The facilities of Norris Gymnasium for Women are available to all women students for leisure recreation. Specific activities offered are recreational swimming . . . tournaments and individual practice in golf, archery, tennis . . . sport and dance demonstrations . . . movies . . . and clinics.

**PHYSICAL  
EDUCATION  
FOR MEN**

A full program of professional courses for teachers will be offered during the Summer Session. Students may work toward the following degrees: bachelor of science degree with either a major or minor in physical education or in recreation; master of education degree with a major in physical education or in recreation; master of arts degree with a major in physical education; doctor of philosophy degree in education with major emphasis in physical education.

Students may also work toward endorsement for teaching physical education part time (nine quarter hours required by the Minnesota State Department of Education).

**BIOLOGICAL  
STATION**

The Biological Station at Itasca Park will have an extensive graduate and undergraduate curriculum in the several fields of biology during the second term of Summer Session. This well-equipped station has the necessary laboratories for instruction and adequate living accommodations for students. Unusual opportunities exist for independent graduate work. Students desiring graduate credit must consult the Graduate School concerning admission and registration.

Courses in botany, wildlife, vertebrate zoology, entomology, mycology, parasitology, and limnology will be offered. As enrollment is limited to 100 students, early registration is recommended.

*Class in Aquatic Botany.*



More detailed information is furnished in a special bulletin. To obtain copies address the College Office, University Farm, St. Paul 1. Applications for registration must be filed with that office not later than July 15, 1952. (See page 67.)

## GENERAL COLLEGE

The General College offers a two-year program in higher education leading to the degree of associate in arts. The aim of this program is to give the student a general education which will prepare him for everyday living in our present complex society.

Courses are planned to be as complete as possible in themselves to give an understanding of basic principles. They are not merely introductions to more specialized courses in the same field.

However, students who do not qualify for admission to other colleges of the University because of inadequate preparation or poor high school records may remedy these deficiencies through a careful selection of General College courses.

Courses successfully completed in the Summer Session may be applied toward fulfilling the requirements leading to the degree. For general information about the college program, requirements for the associate in arts degree, and requirements for transfer to other colleges, students should consult one of the administrative or counseling officials or the *Bulletin of the General College*.

## 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 Upper Midwest, provide the Summer Session student with unusual opportunities for study.

In 1952, all medical students except members of the present fourth-year class will attend required courses during the first term. These courses are continued from the spring quarter and are not open to registrants from other medical schools.

However, certain other required courses as well as elective courses in both preclinical and clinical departments will be given during both summer terms for medical students at the University of Minnesota, accredited students from other medical schools and graduate physicians. These courses lead to training programs for: physicians, nurses, physical therapists, occupa-



tional therapists, medical and X-ray technologists, medical officers of health, public health nurses, public health engineers, and health educators.

#### **EXTERNSHIPS**

The clinical departments of Medicine, Neurology and Psychiatry, Obstetrics, Pediatrics, Radiology, and Surgery will offer elective externships at the University Hospitals and in the Minneapolis Veterans Hospital. These externships are open to sophomore and junior medical students at the University of Minnesota who have completed the required first Summer Session term, and to physicians and qualified medical students from other institutions during both terms. For a special folder outlining clinical opportunities in the Medical School during the Summer Session, write to: Assistant Dean, University of Minnesota Medical School, Minneapolis 14.

#### **REGISTRATION AND GRADUATE CREDIT**

Registration of students from other medical schools will be on June 16 and 17. Students who wish to earn graduate credit must register through the Graduate School office. Final approval of registration in any course in the Medical School must be obtained from the Medical School office. For more detailed information regarding courses, fees, etc., consult the regular *Bulletin of the Summer Session*.

#### **SCHOOL OF NURSING**

The School of Nursing offers basic professional programs leading to the degree of bachelor of science with a major in professional nursing. It also offers to graduate nurses a program leading to the bachelor of science degree in nursing education. A four-quarter certificate program in practical nursing is offered beginning in the fall quarter. Programs leading to the degree of master of education in nursing education and master of nursing administration in nursing service administration are available for qualified professional nurses. Courses are also offered for qualified graduate nurses in the Summer Session. These include ward administration, personnel work, testing, methods of teaching, the

survey in nursing education, nursing school administration and nursing service administration, cancer nursing, gerontological nursing and the nurse's role in emotional health.

Students in the School of Nursing working toward the bachelor of science degree in professional nursing and students registered in the practical nursing curriculum will pay the same fees as charged during the academic year; graduate nurses will register in the College of Education or the School of Nursing and pay Summer Session fees.

**SCHOOL OF  
PUBLIC HEALTH**

During both terms of the 1952 Summer Session, the School of Public Health will offer a broad program of study for professional personnel at both the undergraduate and graduate levels.

A special offering during the first two weeks of the first term of the Summer Session will be a workshop for public health nurses who are responsible for health programs for the school-age child in school, home and community. The workshop will provide an opportunity for discussion of the specific responsibilities and activities of the public health nurse in this area. Registration will be limited.

Courses will be available for public health nurses and other personnel studying toward a special professional degree in public health. The basic course for public health nurses will be divided between the two summer terms. Therefore, those who have had less than six months of public health nursing experience should plan to attend both terms.

Courses will also be offered in personal and community health and in school health for students seeking to meet health requirements of the College of Education.

## **Duluth Branch**

**General Information**

**Recreation**

**Graduate Program**

**Institute in Economics and  
American Democracy**

**Painting Workshop**

**Studies in Rural Education**

**Home Economics Education**

**Creative Writing Workshop**



Olcott Hall accommodates the UMD Music Department.

**DULUTH BRANCH  
GENERAL  
INFORMATION**

As a coordinate college of the University of Minnesota, the Duluth Branch is essentially an undergraduate school. Its summer offerings include, however, a selected group of graduate courses.

Overlooking majestic Lake Superior, the Duluth Branch enjoys both the summer coolness and the ever changing panorama afforded by this, the largest of fresh-water bodies in the world. For the new as well as the present campus, Lake Superior provides a dramatic spectacle of natural beauty and vigorous inter-lake commerce.

An average summer temperature of about 70 degrees attracts visitors to Duluth in search of relief from warmer temperatures. A consistently low pollen count, assured by constant vigilance against ragweed, is a special attraction for hay fever sufferers.

Trout streams twist and tumble through Duluth's hills and slopes, emptying into Lake Superior. The famed North Shore stretches out from Duluth's eastern outskirts. The Shore has many trout streams as well as scenic falls, inland lakes and other features that have made it a nationally-known tourist attraction.

**RECREATION**

Duluth thus provides an ideal atmosphere not only for study but also for a wide variety of recreational activities—boating, fishing, golfing, tennis, hiking, picnics, and other organized amusements. A new tradition is the annual UMD Theater outdoor drama in Leif Ericson Park's natural bowl. Six thousand persons last summer saw the first production, *Macbeth*.

For complete preliminary course listings, refer to page 83. For complete Duluth summer bulletin address the News Service, University of Minnesota, Duluth Branch, Duluth 5.

**GRADUATE  
PROGRAM**

Teachers with degrees interested in professional advancement will find a number of excellent graduate offerings in the UMD Summer Session. Accredited by the University Graduate School, the courses are mainly in elementary and secondary education. They may be taken with the intention of transferring them to some other institution or using them as part of a master of arts program at the Minneapolis Campus. Students planning to work toward the advanced degree at Minneapolis may enroll for one or more summers of work at UMD, taking up to a total of approximately 30 hours at Duluth before transferring. For details write: Coordinator of Graduate Program, University of Minnesota, Duluth Branch, Duluth 5.

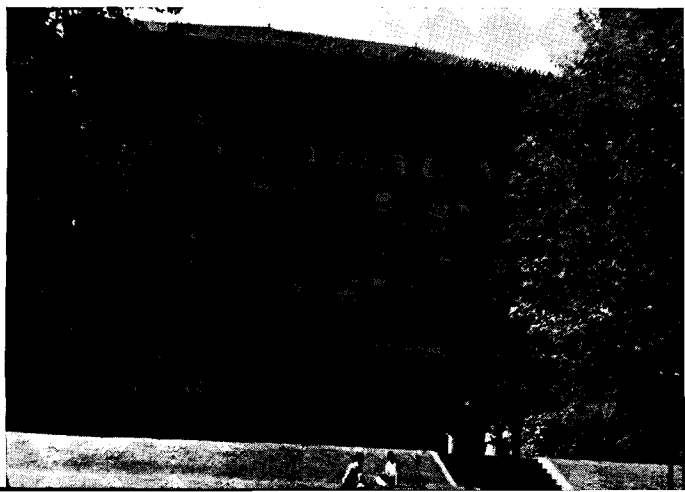
**INSTITUTE IN  
ECONOMICS AND  
AMERICAN  
DEMOCRACY**

An opportunity to study and discuss current national economic and political problems will be provided in the UMD Institute in Economics and American Democracy. The Institute will offer six credits per term of the Summer Session. It is designed to be of special value to teachers of social studies. Recent problems and developments will be emphasized. For details write: Chairman, Division of Social Studies, University of Minnesota, Duluth Branch, Duluth 5.

**PAINTING  
WORKSHOP**

An outstanding feature of the Duluth Summer Session will be the fourth annual Painting Workshop. Talented students may work under the guidance of a widely recognized American painter in an informal program of creative work in oil or watercolor. Artists who have contributed to the successful establishment of the UMD Painting Workshop are Charles Burchfield, Yasuo

*Old Main on the Duluth  
Branch Campus.*



Kuniyoshi, and Max Weber. Another painter of comparable prestige in American art is being invited to conduct the 1952 summer class. Inquiries may be addressed to: Art Department, University of Minnesota, Duluth Branch, Duluth 5.

**STUDIES IN  
RURAL EDUCATION**

Mr. Howard A. Dawson, Washington, D.C., one of America's foremost leaders in rural education, will be a member of the Duluth Summer Session faculty during the first term. He is executive secretary of the Department of Rural Education, National Education Association. Students will have an opportunity to work on problems of curriculum development and the general improvement of education and rural life. Individual attention will be paid to the specific problems faced by each student. Resource personnel will be brought in to assist with such problems. For details: Division of Education and Psychology, University of Minnesota, Duluth Branch, Duluth 5.

**HOME ECONOMICS  
EDUCATION**

Teachers of home economics may be interested in several courses designed especially for the 1952 Summer Session. Planned to fulfill the current needs of home economics teachers at the secondary level, the courses serve to meet vocational certification of secondary teachers under the Minnesota State Plan. Courses will deal directly with space and curriculum problems. Offerings will embrace such areas as planning, arranging, and using unit kitchen food-nutrition laboratories; the use of laundry equipment; newer methods and materials in clothing construction; consumer problems in household buying, and special methods for adult programs.

**CREATIVE  
WRITING  
WORKSHOP**

For the professional as well as the student writer, a Creative Writing Workshop conducted by an eminent American author will provide unusual opportunity for practice and guidance. Offering six credits, the Workshop is designed for the advanced student and the professional writer. Critical analysis and discussion will be workshop features. For details write to: English Department, University of Minnesota, Duluth Branch, Duluth 5.



## List of Courses

## LIST OF COURSES

THE FOLLOWING LIST of courses may be somewhat revised and amplified in the complete bulletin to meet the changing trend in enrolment. The University of Minnesota reserves the right to cancel courses when competent teaching staff is unavailable.

The number of credits given for each course follows the title of the course in parentheses. 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

#### AMERICAN STUDIES

First Term 200 Introduction to American Studies (3).....McDowell

#### ANTHROPOLOGY

First Term 2 Introduction to World Ethnology (3).....Spier  
 122 Problems in Anthropology (ar.).....Spier  
 129 Economic Activities in Primitive Culture (3).....Spier

Second Term 1 Introduction to Anthropology (3).....Wallis  
 54 Social Organization (3).....Wallis  
 123 Problems in Anthropology (ar.).....Wallis

#### ART

##### First Term

#### HISTORY AND CRITICISM

1 Introduction to Art (3).....Eitner  
 57 Renaissance, Baroque Art (3).....Eitner  
 117 Development of Renaissance Art (3).....Eitner  
 178 Modern Scandinavian Art (3).....Liljegen

#### DESIGN

23-25 Drawing, Design I (5).....Collins  
 53-54 Design II (3).....Morton  
 73-74-75 Presentation Techniques (3).....Collins

#### PAINTING AND PRINTS

30-31 Drawing and Painting I (2).....Doseff, Quirt  
 60-61-62 Drawing and Painting II (3).....Doseff  
 70-71-72 Drawing and Painting III (3).....Quirt, Myers  
 90-91-92 Print Processes (3).....Myers  
 150-151-152 Problems in Painting and Prints (ar.).....Quirt, Myers  
 190-191-192 Problems in Printmaking (ar.).....Myers  
 200-201-202 Advanced Problems in Studio Work (ar.).....Quirt

#### PHOTOGRAPHY

10 Photography (3).....Ar.

#### SCULPTURE AND CERAMICS

140-141-142 Metal Sculpture and Jewelry (3).....Morton



<b>Second Term</b>	<b>HISTORY AND CRITICISM</b>	
	1	Introduction to Art (3)..... Torbert
	68	Modern Art, Contemporary Art in Europe and America (3)..... Torbert
	156a	Twentieth-Century European, American Painting (3)..... Torbert
	<b>DESIGN</b>	
	93-94-95	Ceramic Design (3)..... Frazier
	<b>PAINTING AND PRINTS</b>	
	30-31	Drawing and Painting I (2)..... Arnest, Booth
	60-61-62	Drawing and Painting II (3)..... Arnest, Booth
	70-71-72	Drawing and Painting III (3)..... Arnest, Booth
	150-151-152	Problems in Painting and Prints (ar.)..... Arnest, Booth
	200-201-202	Advanced Problems in Studio Work (ar.)..... Arnest, Booth
	<b>SCULPTURE AND CERAMICS</b>	
	40-41-42	Sculpture I (3)..... Frazier
	80-81-82	Sculpture II (3)..... Frazier
	101-102	Ceramic Sculpture (3)..... Frazier
	180-181-182	Problems in Sculpture (ar.)..... Frazier
<b>ASTRONOMY</b>		
<b>First Term</b>	11	Descriptive Astronomy (5)..... Luyten
	13	Stellar and Practical Astronomy (3)..... Luyten
<b>BOTANY</b>		
<b>First Term</b>	4	General Botany (5)..... Ar.
	194	Problems (1-5)..... Ar.
<b>Second Term*</b>	5	General Botany (5)..... Hall
	195	Problems (1-5)..... Ar.
<b>CLASSICS</b>		
<b>First Term</b>	<b>GREEK</b>	
	1-2	Beginning Greek (5)..... Anderson
	171	Independent Reading (3)..... McDonald
	<b>LATIN</b>	
	171	Independent Reading (3)..... McDonald
	<b>CLASSICS</b>	
	24	Technical Terms (3)..... McDonald
<b>Second Term</b>	<b>GREEK</b>	
	1-2	Beginning Greek (5)..... Anderson
	171	Independent Reading (3)..... Swanson
	<b>LATIN</b>	
	171	Independent Reading (3)..... Swanson
	<b>CLASSICS</b>	
	24	Technical Terms (3)..... Swanson

\* See page 67 for additional courses given at Lake Itasca Biological Station; also page 41.

## COMMUNICATION

(See page 62.)

## ECONOMICS

For courses in economics, see School of Business Administration and Department of Economics offerings listed on pages 80, 81, and 82; also page 65.

## ENGLISH

### First Term

#### COURSES IN LITERATURE

22	Introduction to Literature (6)	Buckley
39	Twentieth-Century Literature—Novels (3)	Blum
55	Shakespeare—Comedies (3)	del Plaine
56	Shakespeare—Tragedies and Histories (3)	Erdman
74	American Literature (3)	Marx
75	Chaucer (3)	Armstrong
100	Old English (6)	Clark
104	Emerson and Thoreau (3)	Marx
110	Romantic Poets—Byron, Shelley, Keats (3)	Erdman
143	Twentieth-Century Literature—American (3)	O'Connor
157	Spenser and Milton (3)	Tuve
165	Introduction to Modern English (3)	Allen
172	Renaissance Romance and Pastoral (3)	Tuve
174	American English (3)	Allen
182	The Far West in Literature (3)	Smith

#### COURSES IN COMPOSITION

4	Freshman Composition (3)	Armstrong
5	Freshman Composition (3)	Ar.
6	Freshman Composition (3)	Ar.
27	Advanced Writing: Exposition (3)	del Plaine
101	The Writing of Fiction (3)	Blum

### Second Term

#### COURSES IN LITERATURE

23	Introduction to Literature (6)	Montgomery
37	Twentieth-Century Literature: Short Fiction (3)	Steinmann
55	Shakespeare: Comedies (3)	Christie
56	Shakespeare: Tragedies and Histories (3)	Christie
73	American Literature (3)	Kwiat
105	Hawthorne and Melville (3)	Ar.
109	Romantic Poets: Coleridge, Wordsworth, Scott (3)	Jackson
113	American Short Story (3)	Ar.
121	Interpretation of Poetry (3)	Unger
129	Modern Drama (3)	Hillhouse
134	Origins of American Naturalism (3)	Bowron
155	American Novel (3)	Ar.
162	Milton (3)	Unger
189a	Dominant Ideas of Eighteenth-Century Literature (3)	Steinmann

#### COURSES IN COMPOSITION

6	Freshman Composition (3)	Ar.
28	Advanced Writing (3)	Ross
102	Writing of Fiction (3)	Ross

## FAMILY LIFE

See General Studies, page 53.

**FAMILY LIFE EDUCATION, MARRIAGE AND**

See pages 37 and 74.

**FOREIGN STUDY SEMINAR**

(See below.)

**GENERAL STUDIES**

**First Term**

**FAMILY LIFE**

- 1 Preparation for Marriage (3) ..... Neubeck, Dyer
- 15 The Home and Its Furnishings (3) ..... Ludwig
- 25 Child Development and Adjustment (3) ..... Brieland

**FOREIGN STUDY**

- 161 Seminar for Foreign Study (6) ..... Ar.

**HUMANITIES**

- 1 Humanities in the Modern World I (3) ..... Ames
- 4 Humanities in the Modern World IV (3) ..... Livingston
- 22 American Life II (3) ..... Bowron
- 51 Humanities in the Modern World (3) ..... Livingston
- 61 The Greek Heritage (3) ..... Ames

**NATURAL SCIENCE**

- 165 Science in World Affairs (3) ..... Graubard
- 175 Survey of Science History (3) ..... Graubard

**PERSONAL ORIENTATION**

- 1 How to Study (2) ..... Harrell

**SOCIAL SCIENCE**

- 1 Introduction to Social Science (3) ..... Nelson
- 3 Introduction to Social Science (3) ..... Nelson
- 11 International Relations (3) ..... Turner

**Second Term**

**FAMILY LIFE**

- 1 Preparation for Marriage (3) ..... Neubeck
- 15 The Home and Its Furnishings (3) ..... Ludwig

**FOREIGN STUDY**

- 162 Seminar for Foreign Study (6) ..... Ar.

**HUMANITIES**

- 1 Humanities in the Modern World I (3) ..... Bryan
- 2 Humanities in the Modern World II (3) ..... Shaw
- 23 American Life III (3) ..... Kwiat
- 52 Humanities in the Modern World (3) ..... Bryan
- 62 The Roman and Medieval Heritage (3) ..... Shaw

**PERSONAL ORIENTATION**

- 1 How to Study (2) ..... Ar.

**SOCIAL SCIENCE**

- 2 Introduction to Social Science (3) ..... Naftalin

## GEOGRAPHY

<b>First Term</b>	4	Human Geography (5) .....	Broek
	80	The Teaching of Geography (3) .....	Meyer
	109	Geography of Middle America (3) .....	Hewes
	114	Historical Geography of North America (3) .....	Hewes
	144	Political Geography (3) .....	Meyer
301	Research Problems (ar.) .....	Staff	
<b>Second Term</b>	1	Geography of Physical Resources (5) .....	Hammond
	67	Geography of Minnesota (3) .....	Borchert
	107	Geography of the Soviet Union (3) .....	Borchert
	301	Research Problems (ar.) .....	Staff

## GEOLOGY AND MINERALOGY

<b>First Term</b>	1	General Geology (5) .....	Wright
	100	Field Work in Northern Minnesota (3) .....	Thiel
	150	Black Hills Field Course (6) .....	Goldich, Swain
	170	Geologic Problems (3) .....	Wright
<b>Second Term</b>	2	Historical Geology (5) .....	Bell
	170	Geologic Problems (3) .....	Bell

## GERMAN

<b>First Term</b>	1	Beginning A (5) .....	Downs
	3-4	Beginning C or Intermediate (5) .....	Ar.
	130	The Age of Luther (3) .....	Downs
	143a	Eighteenth-Century "Sturm und Drang" (3) .....	Ramras
	A Deutsches Haus is being planned. (See page 4.)		
<b>Second Term</b>	2	Beginning B (5) .....	Wangness

## GREEK

See Classics, page 51.

## HISTORY

<b>First Term</b>	1	Civilization of the Modern World (3) .....	Ar.
	2	Civilization of the Modern World (3) .....	Ar.
	20	American History, Part I (3) .....	Osgood
	22	American History, Part III (3) .....	Beatty
	66a	Renaissance in Italy, Fifteenth Century (3) .....	Krey
	89	Economic History of Modern War (3) .....	Bowditch
	92a	American History, The National Period (1789-1840) (3) .....	Beatty
	104a	Renaissance in Italy, Fifteenth Century (3) .....	Krey
	106a	Nineteenth-Century Europe, 1815-1848 (3) .....	Bowditch
	111	Europe in the Twentieth Century, Part III (3) .....	Deutsch
	123	Scandinavian History from the Reformation to 1809 (3) .....	Hovde
	131	Economic Developments in the Scandinavian Countries during the Last Half Century (3) .....	Liljegen
	143	American Folklore, Part I (3) .....	Jordan
	149a	History of American Business (3) .....	Hidy
	176c	Readings in Recent European History, Part I (3) .....	Deutsch
	185	Readings in American History, Part I (3) .....	Osgood
	185d	Readings in Nineteenth-Century American History, Part I (3) .....	Jordan

<b>Second Term</b>	3	Civilization of the Modern World, Part III (3) .....	Ar.
	14	Ancient Civilization, Part I (3) .....	Jones
	21	American History, Part II (3) .....	Chambers
	50	Ancient Civilization, Part I (Sr. College section) (3) .....	Jones
	69	American History since 1900, Part II (3) .....	Chambers
	87	American Colonies, Part II (3) .....	Tyler
	101	Greek History, the Periclean Age (3) .....	Jones
	107a	Nineteenth-Century Europe, 1849-1870 (3) .....	Wolf
	150	Social and Intellectual History of the U.S., Part II (3) .....	Tyler
	152	The Immigrant in American History and Life (3) .....	Kolehmainen
	176	Readings in the Seventeenth-Century Europe (3) .....	Wolf

## HOW TO STUDY

See General Studies, Personal Orientation, page 53.

## HUMANITIES

See General Studies, page 53.

## JOURNALISM

<b>First Term</b>	10	Photography (3) .....	Ar.
	13	Introduction to Reporting (3) .....	Herington
	101	Reporting of Public Affairs (3) .....	Herington
	103	Literary Aspects of Journalism (3) .....	Ford
	109	History of Journalism (3) .....	Ford
	111	International Communications (3) .....	Park
	121	The Press in a Dynamic Society (3) .....	Gerald
	122	Education and the Mass Media of Communication (3) .....	Gerald
	130	Communication Agencies, Propaganda and Public Opinion (3) .....	Casey
	140	Interpretation of Contemporary Affairs (3) .....	Park
	202	Advanced Research in Printed Media (3) .....	Swanson, visitor
<b>Second Term</b>	55	Advertising and Newspaper Typography (3) .....	Wilson
	65	Graphic Arts: Processes (3) .....	Wilson
	73	Magazine Writing and Editing (3) .....	Charnley
	106	Critical Writing (3) .....	Hage
	110	History of Journalism (3) .....	Ar.

## LATIN

See Classics, page 51.

## MARRIAGE AND FAMILY LIFE EDUCATION

See pages 37 and 74.

## MATHEMATICS

<b>First Term</b>	1	Higher Algebra (5) .....	Wells
	6	Trigonometry (5) .....	Hatfield
	15	Elementary Mathematical Analysis I (5) .....	Hafstrom
	30	Analytic Geometry (5) .....	Nering
	50	Calculus I—Differential Calculus (5) .....	Gibbens
	107	Advanced Calculus I (3) .....	Gelbaum
	109	Theory of Numbers (3) .....	Loud
	126	Calculus of Finite Differences (3) .....	Loud
	144	Fourier Series and Orthogonal Functions (3) .....	Gelbaum

<b>Second Term</b>	1	Higher Algebra (5)	Zink
	7	College Algebra (5)	Lewis
	16	Elementary Mathematical Analysis II (5)	Hafstrom
	51	Calculus II—Integral Calculus (5)	Olmsted
	108	Advanced Calculus II (3)	Gelbaum
	131	Advanced Algebraic Theory (3)	Hatfield
	136	Solid Analytic Geometry (3)	Hatfield
	179	Special Functions (3)	Gelbaum

## MUSIC

<b>First Term</b>	1T-2T-3T	Music Theory (3)	Fetler
	4T-5T-6T	Music Theory (4)	Fetler
	A	Piano (0)	Ar.
	D	Voice (0)	Ar.
	11	Piano (2)	Stephens, Rymer
	12	Voice (2)	Hull, Schuessler
	13	Vio'lin (2)	Cullen
	13B	Violin (2-4)	Druian
	14	Viola (2)	Barton
	15	Violoncello (2)	Meltzer
	16	Double Bass (2)	Fitch
	17	Flute (2)	Arnegard, Winkler
	18	Oboe (2)	Angelucci
	19	Clarinet or Saxophone (2)	Fitch, Handlon
	20	Bassoon (2)	Santucci
	21	Trumpet (2)	MacKay
	22	French Horn (2)	Linder
	23	Trombone (2)	MacKay
	24	Tuba (2)	MacKay
	25	Percussion (2)	Denecke
	26	Harp (2)	Ar.
	27	Organ (2)	Jennings
	31	Music Literature (2)	Ivory
	43	University Chorus (1)	Aliferis
	60B-61B-62B	Instrumental Ensemble (2)	Druian
	76	Form and Analysis (3)	Stephens
	97-98-99	Counterpoint (2)	Fetler
	101	American Music (3)	Oberg
	127-128-129	Advanced Composition (2)	Aliferis
	140	Chorus Production (3)	Aliferis
141-142-143	Orchestration (2)	Aliferis	
197-198-199	Advanced Counterpoint (2)	Fetler	
204	Graduate Applied Music (3)	Staff	
209-210-211	Advanced Topics in Musical Analysis (3)	Oberg	
212	Special Problems in Music (3-9)	Oberg	
227-228-229	Seminar in Composition (3)	Aliferis	
<b>Second Term</b>	1	Fundamentals of Music (2)	Kendall
	4T-5T-6T	Music Theory (4)	George
	A	Piano (0)	Ar.
	D	Voice (0)	Ar.
	11	Piano (2)	Kendall, McConkie
	12	Voice (2)	Birnbach
	13	Violin (2)	Cullen
	13B	Violin (2-4)	Druian

14	Viola (2)	Barton
15	Violoncello (2)	Meltzer
16	Double Bass (2)	Fitch
17	Flute (2)	Winkler
18	Oboe (2)	Angelucci
19	Clarinet or Saxophone (2)	Fitch, Handlon
20	Bassoon (2)	Santucci
21	Trumpet (2)	MacKay
22	French Horn (2)	Linder
23	Trombone (2)	MacKay
24	Tuba (2)	MacKay
25	Percussion (2)	Denecke
26	Harp (2)	Ar.
27	Organ (2)	Berryman
60B-61B	Instrumental Ensemble (2)	Druian
101	American Music (3)	McConkie
127-128-129	Composition (2)	George
141-142-143	Orchestration (2)	George
164-165-166	Music in Baroque Era (2)	McConkie
204	Graduate Applied Music (3)	Staff
212	Special Problems in Music (3-9)	McConkie
227-228-229	Seminar in Composition (3)	George

## NATURAL SCIENCE

See General Studies, page 53.

## PERSONAL ORIENTATION

See General Studies, page 53.

## PHILOSOPHY

First Term	1	Problems of Philosophy (3)	Feigl
	2	Logic (3)	Holmer
	3	Ethics (3)	Hospers
	113	Kierkegaard and Scandinavian Philosophy (3)	Holmer
	153	Philosophy of Science (3)	Feigl
	159	Esthetics (3)	Hospers
191	Seminar (ar.)	Ar.	
Second Term	1	Problems of Philosophy (3)	Sellars
	2	Logic (3)	Brodbeck
	3	Ethics (3)	Terrell
	50	History of Philosophy (3)	Sellars
	114A	American Philosophy since James (3)	Brodbeck
	135	Philosophy of Modern Literature (3)	Terrell
192	Seminar (ar.)	Ar.	

## PHYSICS

First Term	1	Introduction to Physical Sciences (Mechanics) (3)	Valasek
	1a	Introduction to Physical Sciences (Mechanics—with lab.) (4)	Valasek
	8	General Physics, Part I (Mech., Heat, Electricity) (2½)	Freier
	107	Modern Physics (3)	Freier
	134	Experimental Optics (3)	Valasek
	136	Spectrum Analysis (3)	Valasek

<b>Second Term</b>	3	Introduction to Physical Sciences (Sound and Light) (3)	Rassweiler
	3a	Introduction to Physical Sciences (Sound and Light—with lab.) (4)	Rassweiler
	8	General Physics, Part II (Mech., Heat, Electricity) (2½)	Wall
	144	Electrical Measurements (3)	Wall

## POLITICAL SCIENCE

<b>First Term</b>	A	The State in the Modern World (3)	Turner
	1	American Government and Politics (3)	Christensen
	25	World Politics (3)	Mills
	80	National Government in the United States (3)	Taylor
	120	Municipal Functions (3)	Ludwig
	121	Municipal Administration (3)	Ludwig
	131	Public Administration (3)	Short
	155	Government and International Relations in Latin America (3)	Christensen
	161	Problems of Democracy (3)	Taylor
	178	Foreign Relations Agencies and Methods (3)	McLaughlin
	183	Recent Problems of International Law (3)	McLaughlin
	197	The Mediterranean Area in World Affairs (3)	Mills
<b>Second Term</b>	B	The State in the Modern World (3)	Rourke
	1	American Government and Politics (3)	Warp
	2	American Government and Politics (3)	Hein
	25	World Politics (3)	Levi
	126	Government and the Economic Order (3)	Warp
	143	Government of the USSR and Adjacent States (3)	McClosky
	171	Scandinavian Foreign Policy (3)	Kolehmainen
	187	Problems of European Reconstruction (3)	Levi

## PSYCHOLOGY

<b>First Term</b>	1-2	General Psychology (6)	Hotchkiss
	4-5	Introduction to Laboratory Psychology (4)	Soar
	90	Readings in Psychology (ar.)	Rosen
	125-126	Psychology of Individual Differences (6)	Jenkins
	127	Projects in Psychology of Individual Differences (3)	Rosen
	144-145	Abnormal Psychology (6)	Bird
	171-172	Clinical Psychology (6)	Meehl
	210	Research in Psychology (ar.)	Rosen
	250	Topics in Psychology (ar.)	Rosen
	290	Theory of Projective Methods (3)	Rosen
<b>Second Term</b>	1-2	General Psychology (6)	Peterson
	4-5	Introduction to Laboratory Psychology (4)	Russell
	56	Psychology of Advertising (3)	Longstaff
	90	Readings in Psychology (ar.)	Longstaff
	111	Frontiers of Psychology (3)	Heron
	127	Projects in Psychology of Individual Differences (3)	Longstaff
	128	Psychology of Learning (3)	Heron
	210	Research in Psychology (ar.)	Longstaff
	250	Topics in Psychology (ar.)	Longstaff



**ROMANCE LANGUAGES**

**First Term**

**FRENCH**

1	Beginning French (5)	Ar.
3-4	Intermediate French (5)	Ar.
54	French Conversation (2)	Nahas
77	French Culture: Modern Period (2)	Blinoff
156	Realistic French Novel: Balzac and Flaubert (2)	Desgranges
159	Contemporary French Novel II: Camus, Malraux, St. Exupéry (2)	Blinoff
181	Movement of Ideas in French Literature: Sixteenth and Seventeenth Centuries (2)	Desgranges

A Maison Française is being planned. (See page 4.)

**SPANISH**

1	Beginning Spanish (5)	Ar.
3-4	Intermediate Spanish (5)	Grismer
73	Latin-American Culture (2)	Cunco
83	La Novela Hispanoamericana y los Problemas Sociales (2)	Cunco
165	Great Figures in Spanish Literature (2)	Grismer
259	Directed Reading (ar.)	Grismer

A Casa Hispanica is being planned. (See page 4.)

**Second Term**

**FRENCH**

2	Beginning French (5)	Cleifton
3-4	Intermediate French (5)	Ar.
130	Nineteenth-Century French Literature: Victor Hugo (2)	Cleifton
259	Directed Readings (ar.)	Cleifton

**RUSSIAN**

**First Term**

1	Beginning Russian (5)	Niemi
1a-2a*	Intensive Beginning Russian (10)	Magner and assistants

**Second Term**

51-52-53	Advanced Russian (9)	Magner
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**SCANDINAVIAN AREA STUDIES**

**First Term**

Hist.123	Scandinavian History from the Reformation to 1809 (3)	Hovde
Hist.131	Economic Developments in Scandinavian Countries during the Last Half Century (3)	Hovde
Scand.161	The Late Nineteenth-Century Scandinavian Novel (3)	Gustafson
Scand.171	Ibsen and the Beginnings of the Modern Drama (3)	Gustafson
Art178	Modern Scandinavian Art (3)	Liljegren

**Second Term**

Hist.152	The Immigrant in American History and Life (3)	Kolehmainen
Pol.Sci.171	Scandinavian Foreign Policy (3)	Kolehmainen

**SCHOOL OF SOCIAL WORK**

**First Term**

Soc.91	Case Method Applied to the Study of Human Problems (3)	Saloshin
C.W.140	Behavior Problems in Younger Children (3)	Blodgett
213	Field Work (3-6)	Konopka
282A	Principles of Group Work (3)	Konopka
293	Special Studies in Social Work (1-9)	Konopka

\* A passing grade in Russian 1a-2a will qualify for Russian 51-52-53 which will be offered in the second term.

<b>Second Term</b>	C.W.141	Behavior Problems in Older Children (3)	Deno
	206	Special Topics—Social Work Practice Problems (3)	Stinson
	214	Field Work (3-6)	Stinson
	275	Principles of Administration Applied to Social Work (3)	Kidneigh
	293	Special Studies in Social Work (1-9)	Stinson
	300	General Seminar in Social Work (3)	Stinson

**SOCIAL SCIENCE**

See General Studies, page 53.

**SOCIOLOGY**

<b>First Term</b>	1	Introduction to Sociology (3)	Johnson
	49	Social Problems (3)	Johnson
	120	Social Psychology (3)	Taves
	140	Social Organization (3)	Taves
	145	Urban Sociology (3)	Caplow
	146	Industrial and Occupational Sociology (3)	Caplow
	240	General Seminar (2)	Staff
<b>Second Term</b>	1	Introduction to Sociology (3)	Mouratides
	49	Social Problems (3)	Martindale
	111	Population Trends (3)	Marshall
	161	Rural Community Analysis (3)	Marshall
	171	Social Life and Cultural Change (3)	Martindale
	240	General Seminar (2)	Staff

**SPEECH**

<b>First Term</b>	1	Fundamentals of Speech (3)	Gilkinson and staff
	2	Fundamentals of Speech (3)	Gilkinson and staff
	3	Fundamentals of Speech (3)	Gilkinson and staff
	32	Beginning Acting (3)	Ar.
	61	Personal Development Through Speech (3)	Bryngelson
	66	Radio Drama (3)	Morgan
	72	Play Production (3)	Walker
	78	Advanced Acting (3)	Morgan
	82	Interpretative Reading (3)	Thompson
	92	Stage Lighting (3)	Walker
	102	Argumentation and Persuasion (3)	Howell
	106	Discussion (3)	Howell
	112	Stage Direction (3)	Thompson
	115	Playwriting and Production (3)	Thompson
	122	Introduction to Research (3)	Gilkinson
	126	History and Criticism of Public Address (3)	Gilkinson
	163	Speech Pathology (3)	Bryngelson
	164-165-166	Clinical Methods and Practice in Speech Pathology (3)	Bryngelson
	Scand.171	Ibsen and the Beginning of the Modern Drama (3)	Gustafson
	203	Debate Coaching (2)	Howell
<b>Second Term</b>	1	Fundamentals of Speech (3)	Ziebarth, Smith, and staff
	2	Fundamentals of Speech (3)	Ziebarth, Smith, and staff
	3	Fundamentals of Speech (3)	Ziebarth, Smith, and staff
	33	Beginning Acting (3)	Moulton
	34	Stagecraft (3)	Ar.
	65	Radio and Television Speech (3)	Ziebarth

67	Phonetics (3)	Fletcher
91	Stage Design (3)	Ar.
93	Stage Costuming (3)	Moulton
106	Discussion (3)	Smith
131	Creative Dramatics (3)	Graham
141	Anatomy and Physiology of the Voice Mechanism (3)	Fletcher

## ZOOLOGY

First Term	1	General Zoology (5)	Ar.
	83	Introduction to Genetics and Eugenics (3)	Ar.
	100	Zoological Techniques (ar.)	Ar.
	197	Problems (ar.)	Ar.
Second Term**	2	General Zoology (5)	Olson
	21	Histology (5)	Olson
	101	Zoological Techniques (ar.)	Ar.
	198	Problems (ar.)	Ar.

## INSTITUTE OF TECHNOLOGY

### COLLEGE OF ENGINEERING

#### AERONAUTICAL ENGINEERING

First Term	1	Aeronautics (3)	Ar.
	83	Stresses in Simple Structures (4)	Ar.
	190-191	Seminar (1)	Ar.
	193-194-195	Advanced Problems in Aeronautical Engineering (2-5)	Ar.
Second Term	193-194-195	Advanced Problems in Aeronautical Engineering (2-5)	Ar.
	272-273-274	Research in Aeronautical Engineering (2-6)	Ar.

#### CIVIL ENGINEERING

First Term	23	Summer Camp (9)	Fant, Cornell, Whittington, Young	
	31	Stresses in Structures (3)	Andersen	
	32	Design in Steel (3)	Andersen	
HYDRAULICS-HYDROMECHANICS				
Second Term	103	Fluid Mechanics (5)	Barbarossa	
	104	Hydraulics Laboratory (1)	Barbarossa	
	33	Design in Timber (3)	Andersen	
	147	Foundations (3)	Andersen	
	HYDRAULICS-HYDROMECHANICS			
	103	Fluid Mechanics (5)	Barbarossa	
104	Hydraulics Laboratory (1)	Barbarossa		

#### DRAWING AND DESCRIPTIVE GEOMETRY

First Term	1	Engineering Drawing (3)	Bullen
	3	Descriptive Geometry (3)	Eggers
	8	Engineering Drawing (chemical engineers) (3)	Bullen
	10	Solid Geometry (3)	Eggers
	22	Structural Detailing (civil engineers) (2)	Bullen
	28	Drafting (aeronautical engineers) (2)	Bullen
	34	Lettering (1)	Bullen

\* See page 67 for additional courses given at Lake Itasca Biological Station; also page 41.

<b>Second Term</b>	2	Engineering Drawing (3) .....	Quaid
	3	Descriptive Geometry (3) .....	Springer
	7	Engineering Drawing (chemists and chemical engineers) (3) .....	Quaid
	21	Drafting (civil engineers) (2) .....	Springer
	23	Structural Detailing (civil engineers) (2) .....	Springer
	34	Lettering (1) .....	Quaid

### ELECTRICAL ENGINEERING

<b>First Term</b>	15	Elements of Electrical Engineering (3) .....	Cartwright
	16	Elements of Electrical Engineering Laboratory (2) .....	Cartwright
	36	Electrical Engineering Survey (3) .....	Caverley

### ENGLISH (ENGINEERING)

<b>First Term</b>	6	Oral and Written Communication (3) .....	Guthrie
	85	Advanced Technical Communication (3) .....	Guthrie
<b>Second Term</b>	6	Oral and Written Communication (3) .....	Ar.
	86	Advanced Technical Communication (3) .....	Haga

### GENERAL ENGINEERING

<b>First Term</b>	70	Slide Rule (1) .....	Bullen
<b>Second Term</b>	70	Slide Rule (1) .....	Springer

### INDUSTRIAL ENGINEERING

<b>First Term</b>	90*	Industrial Assignment (1½) .....	Algren
	92*	Industrial Assignment (1½) .....	Algren
<b>Second Term</b>	90*	Industrial Assignment (1½) .....	Algren
	92*	Industrial Assignment (1½) .....	Algren

### MATHEMATICS AND MECHANICS

<b>First Term</b>	12	Trigonometry (5) .....	Thompson	
	13	Analytic Geometry (5) .....	McElrath	
	24	Calculus I: Differential (5) .....	Braden	
	25	Calculus II: Integral (5) .....	Priester	
	26	Technical Mechanics: Statics (5) .....	Turritin	
	80	Elementary Differential Equations (3) .....	Loye	
	127	Technical Mechanics: Dynamics (5) .....	Doeringsfeld	
	128	Strength of Materials (5) .....	Miller	
	141	Materials Testing Laboratory (1) .....	Doeringsfeld	
	141	Materials Testing Laboratory (1) .....	Miller	
	150	Calculus III: Intermediate (3) .....	Loye	
	154	Vector Analysis (3) .....	Munro	
	168	Elementary Theory of Complex Variables (3) .....	Munro	
	<b>Second Term</b>	13	Analytic Geometry (5) .....	Indritz
		25	Calculus II: Integral (5) .....	Koehler
26		Technical Mechanics: Statics (5) .....	Ito	
80		Elementary Differential Equations (3) .....	Zeitlin	
85		Strength of Materials (3) .....	Zeitlin	
127		Technical Mechanics: Dynamics (5) .....	Wilcox	
128	Strength of Materials (5) .....	Scott		

\* These courses carry 3 credits and will be given on quarter basis. Credit not given for first term unless course is completed second term.

141	Materials Testing Laboratory (1)	Scott
141	Materials Testing Laboratory (1)	Ito
152	Calculus IV: Advanced (3)	Polansky
155	Vector Analysis and Dyadics with Applications (3)	Polansky

### MECHANICAL ENGINEERING

<b>First Term</b>		
13	Metal Processing (2)	Hughes
14	Machine Tool Operation (2)	Crowder
22	Mechanisms (2)	Ryan
90*	Industrial Assignment (1½)	Algren
92*	Industrial Assignment (1½)	Algren
94*	Industrial Assignment (1½)	Algren
121	Machine Design (2)	Ryan
131	Thermodynamics (3)	Andeen
190	Seminar (1)	Andeen
<b>Second Term</b>		
23	Dynamics of Machinery (3)	Lajoy
33	Mechanical Engineering Laboratory I (2)	Lajoy
90*	Industrial Assignment (1½)	Algren
92*	Industrial Assignment (1½)	Algren
94*	Industrial Assignment (1½)	Algren
132	Thermodynamics (3)	Andeen
141	Heat Power Engineering (3)	Andeen

### SCHOOL OF CHEMISTRY

#### INORGANIC CHEMISTRY

<b>First Term</b>		
1	General Inorganic Chemistry (4)	Johnson
4	General Inorganic Chemistry (4)	Maynard
6	General Inorganic Chemistry (5)	Johnson
9	General Inorganic Chemistry (5)	Maynard
11	Semimicro Qualitative (4)	Heisig
12	Semimicro Qualitative (5)	Heisig
105	Coordination Compounds (3)	Maynard
109	Advanced Synthetic Inorganic (3-5)	Heisig
111	Elements of Group IV A (3)	Johnson
301	Research in Inorganic Chemistry (ar.)	Johnson, Maynard, Heisig
<b>Second Term</b>		
2	General Inorganic Chemistry (4)	Barber
5	General Inorganic Chemistry (4)	Pervier
7	General Inorganic Chemistry (5)	Barber
10	General Inorganic Chemistry (5)	Pervier
102	Advanced Semimicro Qualitative (3)	Barber
302	Research in Inorganic Chemistry (ar.)	Barber, Pervier

#### ANALYTICAL CHEMISTRY

<b>First Term</b>		
1	Quantitative Analysis (5)	Herr
7	Quantitative Analysis (4)	Herr
123	Advanced Analytical Chemistry (3)	Herr
301	Research in Quantitative Analysis (ar.)	Ar.
<b>Second Term</b>		
2	Quantitative Analysis (5)	Herr
7	Quantitative Analysis (4)	Herr
123	Advanced Analytical Chemistry (3)	Herr
301	Research in Quantitative Analysis (ar.)	Ar.

\* These courses carry 3 credits and will be given on quarter basis. Credit not given for first term unless course is completed second term.

## ORGANIC CHEMISTRY

First Term	61	Elementary Organic Chemistry (4)	Fenton
	101	Intermediate Organic Chemistry (3)	Lauer
	102	Organic Qualitative Analysis (elementary course) (3)	Lauer
	301	Research in Organic Chemistry (ar.)	Lauer, Fenton
Second Term	62	Elementary Organic Chemistry (4)	Fenton
	110	Organic Qualitative Analysis (advanced course) (3)	Parham
	116	Heterocyclic Compounds (3)	Parham
	302	Research in Organic Chemistry (ar.)	Parham, Fenton

## PHYSICAL CHEMISTRY

First Term	104	Physical Chemistry Laboratory (1-2)	Wertz
	105	Physical Chemistry Laboratory (1-2)	Wertz
	106	Physical Chemistry Laboratory (1-2)	Wertz
	107*	Elementary Physical Chemistry (premedics) (3)	Wertz
	301	Research in Physical Chemistry (ar.)	Wertz
Second Term	104	Physical Chemistry Laboratory (1-2)	Gibbs
	105	Physical Chemistry Laboratory (1-2)	Gibbs
	106	Physical Chemistry Laboratory (1-2)	Gibbs
	108*	Elementary Physical Chemistry (premedics) (3)	Gibbs
	301	Research in Physical Chemistry (ar.)	Gibbs

## CHEMICAL ENGINEERING

First Term	151	Chemical Manufacture (inorganic) (3)	Stoppel
	151	Chemical Manufacture (inorganic) (3)	Madden
	152	Chemical Manufacture (organic) (3)	Stoppel
	152	Chemical Manufacture (organic) (3)	Madden
	156	Special Problems (ar.)	Staff
	301	Research (ar.)	Staff

## SCHOOL OF MINES AND METALLURGY

### MINING

First Term	15	Surveying Field Trips (6)	Heilig, Hartman
Third Term	139	Mining Field Trip (6)	Pfleider

## COLLEGE OF AGRICULTURE, FORESTRY, HOME ECONOMICS, AND VETERINARY MEDICINE

### AGRICULTURAL BIOCHEMISTRY

First Term	118	Laboratory Problems in Biochemistry (3-5)	Staff
	203	Research Problems (2-5)	Staff
Second Term	118	Laboratory Problems in Biochemistry (3-5)	Staff
	203	Research Problems (2-5)	Staff

\* The entire course (107 and 108) must be completed before credit will be assigned (6 credits).

**AGRICULTURAL ECONOMICS**

<b>First Term</b>	1	Principles of Economics I (3) .....	Lowe
	107	Farm Work Simplification (2-3) .....	Engene
	143	Marketing Organization: Livestock and Meats (3) .....	Dowell
<b>Second Term</b>	2	Principles of Economics II (5) .....	Lowe
	240	Seminar in Grain Marketing (3) .....	Cox

**AGRICULTURAL EDUCATION**

See courses listed on page 73 under the College of Education for Agricultural Education.

**AGRICULTURAL ENGINEERING**

<b>First Term</b>	40	Mechanical Training (2-4) .....	Dent
	41	Metal Work (2-4) .....	Dent
<b>Second Term</b>	41	Metal Work (2-4) .....	Dent
	42	Art Metal Work (2-4) .....	Dent

**AGRONOMY AND PLANT GENETICS**

<b>First Term</b>	201	Research in Farm Crops (3-9) .....	Dunham, Schmid
	241	Research in Plant Genetics (3-9) .....	Burnham, Rinke, Thomas, Lambert
	244	Laboratory Methods in Plant Breeding (1½) .....	Staff
<b>Second Term</b>	201	Research in Farm Crops (3-9) .....	Dunham, Schmid
	241	Research in Plant Genetics (3-9) .....	Burnham, Rinke, Thomas, Lambert
	244	Laboratory Methods in Plant Breeding (1½) .....	Staff

**ANIMAL HUSBANDRY**

<b>First Term</b>	213	Research in Animal Husbandry (3-5) .....	Ferrin, Hanson, Harvey, Winters
<b>Second Term</b>	213	Research in Animal Husbandry (3-5) .....	Ferrin, Hanson, Harvey, Winters

**DAIRY HUSBANDRY**

<b>First Term</b>	208	Research in Dairy Production (ar.) .....	Fitch, Peterson, Gullickson, Hervey
	209	Research in Dairy Manufacturing (ar.) .....	Combs, Coulter
	215	Research in Dairy Bacteriology (ar.) .....	Olson, Jezeski
<b>Second Term</b>	210	Research in Dairy Production (ar.) .....	Fitch, Peterson, Gullickson, Hervey
	211	Research in Dairy Manufacturing (ar.) .....	Combs, Coulter
	216	Research in Dairy Bacteriology (ar.) .....	Olson, Jezeski

**ENTOMOLOGY AND ECONOMIC ZOOLOGY**

<b>First Term*</b>	197	Introduction to Research (2 or more) .....	Staff
	204	Research in Entomology (3 or more) .....	Staff
<b>Second Term†</b>	197	Introduction to Research (2 or more) .....	Staff
	204	Research in Entomology (3 or more) .....	Staff

\* See Forestry for other course offerings.

† See page 67 for additional courses given at Lake Itasca Biological Station; also page 41.

**FORESTRY**

**First Term** (Offered at Lake Itasca)  
 Open to students registered in forestry in the University or who have had one year in a junior college or other college and plan to register in forestry.

2	Important Forest Plants (1½)	Rees
5	Field Forest Ecology (2)	Hansen
6	Field Measurements (2)	Brown
Ent.13	Field Zoology (1½)	Dawson, Krogstad

**HOME ECONOMICS**

<b>First Term</b>	F.L.15	The Home and Its Furnishings (3)	Ludwig
	28	Home Furnishings: Construction and Refinishing Problems (3)	Myren
	46	Cafeteria Experience (3)	Scholl or Billings
	53	Advanced Clothing (3)	Paschall
	85	Home Management Principles (3)	Hurst
	86	Home Management Laboratory (4)	Hurst
	122	Advanced Interior Design (3)	Ludwig
	140	Recent Developments in Food Preparation (3)	Trammell
	153	Recent Developments in Clothing Construction (3)	Paschall
	174	Nutrition and the School Lunch (3)	Leichsenring
<b>Second Term</b>	F.L.15	The Home and Its Furnishings (3)	Ludwig
	86	Home Management Laboratory (4)	Ar.

**HOME ECONOMICS EDUCATION**

See Home Economics Education, College of Education, page 78.

**HORTICULTURE**

<b>First and Second Terms</b>	190-191-192	Special Problems in Horticulture (2-4)	Alderman and staff
	247	Report on Special Horticultural Topics (9 or less)	Alderman and staff
	249	Research in Horticultural Crop Breeding (9 or less)	Currence, Krantz, Hutchins, Wilcox

**PLANT PATHOLOGY AND BOTANY\***

<b>First and Second Terms</b>	206	Research in Plant Pathology (ar.)	Stakman, J. J. Christensen, Eide, Hart, C. M. Christensen, Dossdall, Kernkamp, King
	210	Special Problems in Mycology (ar.)	Stakman, C. M. Christensen, Dossdall
	257	Research Problems in Applied Plant Physiology (ar.)	Landon
	263	Research Problems in Agricultural Botany (ar.)	Larson, Stakman

**POULTRY HUSBANDRY**

<b>First and Second Terms</b>	214	Research in Poultry Husbandry (ar.)	Ar.
	215	Research in Poultry Nutrition (ar.)	Sloan
	216	Research in Poultry Breeding (ar.)	Shoffner

\* See page 67 for additional second term courses given at Lake Itasca Biological Station; also page 41.



**RHETORIC**

<b>First Term</b>	47	Efficient Reading (3)	Wright
	51	Exposition (3)	Thurston
<b>Second Term</b>	22	Public Speaking (3)	Nichols
	51	Exposition (3)	Nichols

**SOILS**

<b>First and Second Terms</b>	202†	Research Problems in Soils (2-5)	Rost, McMiller, Burson, Caldwell, MacGregor
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**VETERINARY MEDICINE**

<b>First and Second Terms</b>	104	Special Studies in Animal Anatomy (1-3)	Kitchell, Weber
	114	Special Studies in Animal Histology and Embryology (1-3)	Kitchell, Weber
	137	Problems in Animal Physiology (ar.)	Sellers
	157	Veterinary Post-mortem Pathology (1-3)	Staff
	201	Advanced Animal and Poultry Pathology (ar.)	Kernkamp, Fenstermacher, Sautter
	205	Advanced Animal Bacteriology (ar.)	Pomeroy, Fenstermacher
	209	Advanced Clinical Techniques (ar.)	Campbell, Mather
	213	Veterinary Obstetrics and Gynecology (ar.)	Boyd
	230	Research in Veterinary Medicine (ar.)	Staff
	235	Research in Animal Physiology (ar.)	Sellers
	245	Research in Veterinary Parasitology (ar.)	Griffiths

**BIOLOGICAL STATION****Second Term**

<b>BOTANY</b>	112	Aquatic Flowering Plants (4)	Morley
	116	Summer Flora (4)	Morley
	131	Field Ecology (4)	Buell
	155	Freshwater Algae (4)	Evans
	157	Bryophytes and Pteridophytes (4)	Evans
	196	Problems (1-5)	Buell, Evans, Morley
	224	Research Problems in Ecology (1-5)	Buell

**ENTOMOLOGY AND ECONOMIC ZOOLOGY**

	59	Field Entomology (4)	Spieth
	124	Biology of the Immature Insects (4)	Spieth
	162	Ecology of Terrestrial Vertebrates (4)	Marshall
	196	Special Problems in Entomology and Economic Zoology (ar.)	Spieth, Marshall

**PLANT PATHOLOGY AND BOTANY**

	56	Introduction to the Study of Fungi (4)	C. M. Christensen
	156	Advanced Study of Fungi (4)	C. M. Christensen
	210	Special Problems in Mycology (ar.)	C. M. Christensen

**ZOOLOGY**

	55	Natural History of Vertebrates and Fishes (4)	Eddy
	107	Protozoology (4)	Visitor
	115	Advanced Natural History of Vertebrates and Fishes (4)	Eddy
	119	Limnology (4)	Eddy
	198	Problems (ar.)	Ar.

† Before registering, students must have approval of instructor in charge.

## MEDICAL SCHOOL

### ANATOMY

First Term	100-101	Gross Human Anatomy (8)	Boyden
	104	Human Histology (4)	Williams, Hartmann
	111	Human Neurology (6)	Campbell
	149	Experimental Neurology (ar.)	Campbell
	150	Special Topics in Neurology (ar.)	Ar.
	156	Advanced Anatomy (ar.)	Staff
	164	Segmental Anatomy of Lungs (2)	Boyden
	204	Research in Anatomy (ar.)	Staff
Second Term	58	Anatomy of the Extremities (5)	Wells
	100-101	Gross Human Anatomy (8)	Wells
	156	Advanced Anatomy (ar.)	Wells, Sundberg
	165	Hematology (4)	Sundberg
	204	Research in Anatomy (ar.)	Wells, Sundberg

### BACTERIOLOGY AND IMMUNOLOGY

First Term	53	General Bacteriology (5)	Johansson
	122	Physiology of Bacteria Laboratory (3)	Lichstein
	201	Research (ar.)	Syverton
Second Term	102	Medical Bacteriology (5)	Syverton, Roth
	114	Medical Mycology (3)	Roth
	116	Immunology (3)	Watson
	201	Research (ar.)	Syverton, Watson

### MEDICINE

First Term	104	Introduction to Internal Medicine (6)	Spink, Flink	
	111	Junior Medicine Clerkship (6)	Evans, Spink, Flink	
	112	Senior Medicine Clerkship (6)	Spink, Flink	
	124	Dermatology Clerkship (2)	Laymon and staff	
	140	Externship in Medicine (3)	Spink, Flink	
	167	Externship in Dermatology (1)	Laymon and staff	
	201	Clinical Medicine (ar.)	Spink, Flink	
	203	Research in Medicine (ar.)	Spink, Flink	
	225	Clinical Dermatology and Syphilology (ar.)	Laymon and staff	
	226	Research in Dermatology and Syphilology (ar.)	Laymon and staff	
	235	Advanced Clinical Laboratory Medicine (ar.)	Evans and staff	
	236	Research on Clinical Laboratory Problems (ar.)	Evans and staff	
	Second Term	140	Externship in Medicine (3)	Watson, Hoffbauer, Chapman
		167	Externship in Dermatology (1)	Laymon and staff
201		Clinical Medicine (ar.)	Watson, Hoffbauer, Chapman	
203		Research in Medicine (ar.)	Watson, Hoffbauer, Chapman	
225		Clinical Dermatology and Syphilology (ar.)	Laymon and staff	
226		Research in Dermatology and Syphilology (ar.)	Laymon and staff	

### OBSTETRICS AND GYNECOLOGY

First Term	201	Advanced Obstetrics and Gynecology, Part I	McKelvey and staff
	205	Advanced Obstetrics and Gynecology, Part II	McKelvey and staff
	209	Advanced Obstetrics and Gynecology, Part III	McKelvey and staff
	216	Research	McKelvey and staff
	301	Externship (6)	McKelvey and staff

<b>Second Term</b>	204	Advanced Obstetrics and Gynecology, Part I.....	Holly, Kaiser, Seibel, and staff
	208	Advanced Obstetrics and Gynecology, Part II.....	Holly, Kaiser, Seibel, and staff
	212	Advanced Obstetrics and Gynecology, Part III.....	Holly, Kaiser, Seibel, and staff
	219	Research .....	Holly, Kaiser, Seibel, and staff
	302	Externship (6) .....	Holly, Kaiser, Seibel, and staff

**PATHOLOGY**

<b>First Term</b>	104	Autopsies (ar.) .....	Dawson, McCartney
	107	Diagnosis of Tumors (2½) .....	McCartney
	107A	Surgical Pathology (2½) .....	McCartney
	107B	Diseases of Heart (2½) .....	McCartney
	107F	Diseases of Lungs (1) .....	Dawson
	111	Conference on Autopsies (1) .....	Dawson
201	Research (ar.) .....	Dawson, McCartney	
<b>Second Term</b>	104	Autopsies (ar.) .....	Dawson, Hebbel
	107	Diagnosis of Tumors (2½) .....	Hebbel
	107A	Surgical Pathology (2½) .....	Hebbel
	107G	Diseases of Alimentary Tract (1) .....	Hebbel
	111	Conference on Autopsies (1) .....	Dawson, Hebbel
	201	Research (ar.) .....	Dawson, Hebbel

**PEDIATRICS**

<b>First Term</b>	124	Junior Clinical Clerkship (6) .....	McQuarrie, Adams, Jensen, Stoesser, May, and junior staff	
	135	Senior Clinical Clerkship (3) .....	McQuarrie, Adams, Jensen, May, and junior staff	
	152	Fundamental Principles of Nutrition and Metabolism (1) .....	McQuarrie, May, Ziegler	
	154	Endocrinology as Applied to Pediatrics (1) .....	McQuarrie	
	162	Common Behavior Disturbances in Childhood (1) .....	Jensen and staff	
	170	Rheumatic Infection and Heart Diseases in Childhood (1) .....	May, Dwan, Adams	
	174A	Dispensary Externship in Pediatrics (4) .....	McQuarrie and senior and junior staffs	
	174B	In-Patient Externship in Pediatrics (4) .....	McQuarrie and senior and junior staffs	
	200	Graduate Seminar in Pediatrics (1½) .....	McQuarrie and senior staff	
	202	Pediatric Clinic, Out-Patient Department (5) .....	McQuarrie and senior and junior staffs	
	204	Three-Month Residency in Pediatrics (7) .....	McQuarrie and senior staff	
	<b>Second Term</b>	135	Senior Clinical Clerkship (3) .....	McQuarrie, Adams, Jensen, May, and junior staff
		152	Fundamental Principles of Nutrition and Metabolism (1) .....	McQuarrie, May, Ziegler
		154	Endocrinology as Applied to Pediatrics (1) .....	McQuarrie
162		Common Behavior Disturbances in Childhood (1) .....	Jensen and staff	
170		Rheumatic Infection and Heart Diseases in Childhood (1) .....	May, Dwan, Adams	
174A		Dispensary Externship in Pediatrics (4) .....	McQuarrie and senior staff	

174B	In-Patient Externship in Pediatrics (4)	McQuarrie and senior and junior staffs
200	Graduate Seminar in Pediatrics (1½)	McQuarrie and senior staff
202	Pediatric Clinic, Out-Patient Department (5)	McQuarrie and senior and junior staffs
204	Three-Month Residency in Pediatrics (7)	McQuarrie and senior staff

### PHARMACOLOGY

<b>First Term</b>	9	Pharmacology for Nurses (1)	Cranston and assistants
	102	Pharmacology for Medical Students (3)	Bieter, Wright, and staff
	110	Toxicology (2 or 5)	Wright
	112	Spectrochemical Toxicology (4)	Wright
	203	Research in Pharmacology (ar.)	Bieter, Wright, Cranston
<b>Second Term</b>	9	Pharmacology for Nurses (1)	Ruether, Millard
	203	Research in Pharmacology (ar.)	Bieter

### PHYSIOLOGICAL CHEMISTRY

<b>First Term</b>	100	Physiological Chemistry (7)	Glick, Barnum, Cohen, Dunshee
	153	Problems in Physiological Chemistry (ar.)	Glick, Barnum, Cohen
	205	Research in Physiological Chemistry (ar.)	Glick, Barnum, Cohen
<b>Second Term</b>	101	Physiological Chemistry (6)	Glick, Barnum, Cohen, Carr
	153	Problems in Physiological Chemistry (ar.)	Glick, Barnum, Cohen
	205	Research in Physiological Chemistry (ar.)	Glick, Barnum, Cohen

### PHYSIOLOGY

<b>First Term</b>	4	Human Physiology (4)	King
	107	Human Physiology (5)	Visscher, Lifson, Brown, Johnson
	203	Research in Physiology (ar.)	Visscher, Lifson, King, Brown
<b>Second Term</b>	60	Human Physiology (6)	Ar.
	203	Research in Physiology (ar.)	Ar.

### PSYCHIATRY AND NEUROLOGY

<b>First Term</b>	103	Clinical Clerkship (6)	Baker, Hastings, Hathaway
	120	Psychosomatics (3)	Hastings
	145	Readings in Psychiatry (ar.)	Hastings
	145x	Readings in Neurology (ar.)	Baker
	208	Clinical Neurology (4)	Baker
	208x	Clinical Psychiatry (6)	Hastings, Hathaway
	208y	Clinical Child Psychiatry (6)	Jensen and staff
	209	Research in Neurology (ar.)	Baker
	212	Survey of Neuropathology (1)	Tichy
	221	Psychometric Clerkship (2)	Hathaway and staff
	226	Neurological-Neurosurgical Conference (1)	Baker and staff
	228	Research in Neuropathology (ar.)	Baker and staff
	231	Applied Electroencephalography (1)	Baker and staff
	233	Applied Neuropathology (1)	Baker and staff
	245	Case Conference for Psychologists (ar.)	Hathaway and staff
<b>Second Term</b>	145	Readings in Psychiatry (ar.)	Staff
	152	Externship in Psychiatry (6)	Schiele
	153	Externship in Neurology (6)	Staff
	208	Clinical Neurology (4)	Staff
	208x	Clinical Psychiatry (6)	Schiele, Schofield
	208y	Clinical Child Psychiatry (6)	Jensen and staff

209	Research in Neurology (ar.)	Staff
212	Survey of Neuropathology (1)	Tichy and staff
221	Psychometric Clerkship (2)	Schofield
226	Neurological-Neurosurgical Conference (1)	Staff
228	Research in Neuropathology (ar.)	Tichy and staff
231	Applied Electroencephalography (1)	Staff
233	Applied Neuropathology (1)	Tichy and staff

## SCHOOL OF PUBLIC HEALTH

<b>First Term</b>	50	Personal and Community Health (3)	Thomson
	51	Community Hygiene (3)	Thomson
	58	Maternal and Child Hygiene (3)	Sandve
	62	Principles of Public Health Nursing I (5)	Sandve, Hauser
	64	Cancer Nursing and Nursing in Other Chronic Diseases (3)	Hauser
	65	Field Work in School Nursing (ar.)	Sandve
	66	Field Work in Rural Nursing (ar.)	Sandve
	67	Field Work in Urban Nursing (ar.)	Sandve
	92	Principles of Human Function (4)	Anderson
	100	Elements of Preventive Medicine and Public Health (4)	Top
	104	Epidemiology (3)	Top
	140	Vital Statistics (3)	Erickson
		Workshop in Mental Hygiene (3)	Ar.

## BIOSTATISTICS

110	Biometric Principles (3)	Johnson
111	Biostatistics Laboratory (2)	Johnson, Erickson

<b>Second Term</b>	59	Health of the School Child (3)	Todd
	60	Tuberculosis and Its Control (2)	Myers
	63	Principles of Public Health Nursing II (5)	Field
	65	Field Work in School Nursing (ar.)	Ar.
	66	Field Work in Rural Nursing (ar.)	Ar.
	67	Field Work in Urban Nursing (ar.)	Ar.
	75	Community Sanitation (3)	Pierce
	100	Elements of Preventive Medicine and Public Health (5)	Anderson
	102	Environmental Sanitation (3)	Pierce
	106	Public Health Administration (3)	Anderson
	133	Mental Hygiene (3)	von Bergen

## RADIOLOGY AND PHYSICAL MEDICINE

<b>First Term</b>	DIVISION OF RADIOLOGY		
	111	Medical Roentgenologic Conference (1)	Rigler
	121	Roentgen Diagnosis and Radium Therapy (1)	Rigler, Stenstrom
	124	Pediatric Roentgenologic Conference (1)	Rigler
	135c	Surgical Roentgenologic Conference (1)	Rigler and staff
	163a	Neurosurgical Roentgenologic Conference (1)	Peterson
	200	Research in Roentgenology (ar.)	Rigler
	204	Research in Radiation Therapy (ar.)	Stenstrom
	206	Roentgenoscopy (3)	Rigler
	207	Roentgen and Radium Therapy (3)	Stenstrom
	209	Roentgen Diagnosis (6)	Rigler
	210	Roentgen Technique (2)	Rigler
	238	Surgical-Pathology Radiology Conference (1)	Rigler
	240	Conference in Radiation Therapy (1)	Stenstrom

DIVISION OF PHYSICAL MEDICINE

103	Physical Therapy Clinic (1)	Kottke, Kubicek
200	Physical Medicine Service (3)	Kottke and staff
203	Poliomyelitis Clinic (1)	Kottke and staff
204	Peripheral Vascular Disease Clinic (1)	Kottke and staff
210	Research in Physical Medicine (3)	Kottke, Kubicek

Second Term

DIVISION OF RADIOLOGY

109	Externship in Roentgen Diagnosis and Radiation Therapy (3)	Rigler, Stenstrom, and staff
111	Medical Roentgenologic Conference (1)	Rigler
124	Pediatric Roentgenologic Conference (1)	Rigler
135c	Surgical Roentgenologic Conference (1)	Rigler and staff
163a	Neurosurgery Roentgenologic Conference (1)	Peterson
200	Research in Roentgenology (ar.)	Rigler
204	Research in Radiation Therapy (ar.)	Stenstrom
206	Roentgenoscopy (3)	Rigler
207	Roentgen and Radiation Therapy (3)	Stenstrom
209	Roentgen Diagnosis (6)	Rigler
210	Roentgen Technique (2)	Rigler
238	Surgical-Pathology Radiology Conference (1)	Rigler
240	Conference in Radiation Therapy (1)	Stenstrom

DIVISION OF PHYSICAL MEDICINE

103	Physical Therapy Clinic (1)	Kubicek
200	Physical Medical Service (3)	Kubicek and staff
203	Poliomyelitis Clinic (1)	Kubicek and staff
204	Peripheral Vascular Disease Clinic (1)	Kubicek
210	Research in Physical Medicine (3)	Kottke, Kubicek

SURGERY

First Term

121	Principles of Surgery (3)	Creevy, Lillehei, Bernstein, Peyton, Varco, Lannin
135	Junior Clinical Clerkship (6)	Lillehei, Varco, Rice, Bernstein, Leven, Wangensteen, Lannin
135g	Applied Surgical Anatomy (3)	Rice
152	Problems in Clinical Investigation (ar.)	Cross, Kelly, Varco
167	Problems in Experimental Surgery (ar.)	Creevy, Cross, Kelly, Lillehei
250	Urological Surgery (ar.)	Creevy
252	Urological Conference (ar.)	Creevy
253	Research in Urology (ar.)	Creevy

Second Term

152	Problems in Clinical Investigation (ar.)	Wangensteen, Varco, Rice, Lillehei
167	Problems in Experimental Surgery (ar.)	Wangensteen, Varco, Rice, Lillehei
200	Out-Patient Clinic in Surgery (ar.)	Wangensteen, Varco, Lillehei
211	Operative Surgery (ar.)	Wangensteen, Varco, and staff
214	Surgical Ward Conference (ar.)	Wangensteen, Varco, Lillehei, Bernstein, Lannin
215	Roentgenological-Surgery Conference (ar.)	Wangensteen, Varco, and staff

216	Surgical Research (ar.) .....	Wangensteen, Varco, Lillehei
218	Medical-Surgical Pathology Conference (ar.).....	Wangensteen, Varco, Lillehei

### SCHOOL OF NURSING

<b>First Term</b>	Nurs.Ed.60	Ward Administration (5) .....	Grainger
	Nurs.Ed.62	Introduction to Personnel Work in Nursing (3) .....	Johnston
	Nurs.Ed.68	Construction and Use of Examinations and Other Measurements in Basic Nursing Courses (3) .....	Johnston
	Nurs.Ed.73	Principles of Economics in Nursing Service Administration (1) .....	Holmquist
	Nurs.Ed.190	The Survey in Nursing Education (3) .....	Harrington
	Nursing 103	The Role of Nursing in Cancer Care and Control (3).....	Hanson
Nursing 104	The Nurse's Role in Maintaining Emotional Health (3).....	Lediger	

<b>Second Term</b>	Nurs.Ed.75	Fundamentals of Administration in Schools of Nursing (3) .....	Densford and staff
	Nurs.Ed.85	Fundamentals of Nursing Service Administration (3).....	Goodale
	Nursing 102	The Role of Nursing in Gerontology (3) .....	Coe

NOTE: See also Ed.T. 51A, The Teaching of Nursing, College of Education, pages 78, 79, and School of Public Health, page 71.

### SCHOOL OF DENTISTRY

(See page 35.)

### COLLEGE OF EDUCATION

#### AGRICULTURAL EDUCATION

<b>First Term</b>	Agr.Ed.82	Methods in Teaching Agriculture (3) .....	Swanson
	Agr.Ed.105	Future Farmers of America Program of Work (3).....	Swanson
	Agr.Ed.165	Techniques of Instruction in Mechanized Farming (3).....	Kitts, ar.
	Agr.Ed.167	Instruction Units in Farm Machinery (3).....	Ar.
	Agr.Ed.221	Field Problems (3) .....	Peterson, Kitts
	Agr.Ed.232	Research in Agricultural Education (3-9).....	Peterson, Kitts
<b>Second Term</b>	Agr.Ed.91	Supervised Student Teaching (6) .....	Kitts, Swanson
	Agr.Ed.221	Field Problems (3) .....	Kitts
	Agr.Ed.232	Research in Agricultural Education (3-9) .....	Peterson, Kitts

#### ART EDUCATION

<b>First Term</b>	Art Ed.17	Survey of Art in Life and Education (3) .....	Bratlee
	Art Ed.18	Survey of Art in Life and Education (3) .....	Bratlee
	Art Ed.152	Curriculum Building in Art Education (3) .....	Gayne
	Art Ed.184	Advanced Course in the Teaching and Supervision of Art in the Elementary School (3) .....	Gayne
	Art Ed.295	Problems in Art Education (ar.) .....	Gayne
<b>Second Term</b>	Art Ed.18	Survey of Art in Life and Education (3) .....	Crump
	Art Ed.84	Teaching of Art in the Elementary School (3).....	Hastie
	Art Ed.295	Problems in Art Education (ar.) .....	Hastie

## CURRICULUM AND INSTRUCTION

### First Term

#### GENERAL COURSES

Ed.C.I.101	Driver Education (2)	Ar.
Ed.C.I.105	Visual Aids in Teaching (3)	Pearson
Ed.C.I.106	Coordinating of Visual Education Programs (3)	Pearson
Ed.C.I.112	Materials and Procedures in Marriage and Family Life Education (3)	Dyer
Ed.C.I.129	Principles and Problems of Teaching Social Hygiene (3)	Pearce, Dvorak, Gamelin
Ed.C.I.145	Remedial Reading (3)	Bond, Reynolds
Ed.C.I.151	Diagnosis and Treatment of Learning Difficulties (3)	Brueckner
Ed.C.I.152	Adjustment of Schools to Individual Differences (3)	Van Wageningen
Ed.C.I.174-175-176	Clinical Methods and Practice in Speech Pathology (3 each)	Bryngelson
Ed.C.I.205	Problems in Visual Education (ar.)	Pearson
Ed.C.I.271	Problems in Curriculum Construction (ar.)	Cook, Goossen
Ed.C.I.273	Problems in Reading (ar.)	Bond, Reynolds

#### ELEMENTARY EDUCATION

Ed.C.I.102	Teaching the Social Studies in the Elementary School (3)	Chase
Ed.C.I.103	Teaching of Science in the Elementary School (3)	Boeck
Ed.C.I.119	Elementary School Curriculum (3)	Goossen
Ed.C.I.121	Selecting Literature for the Elementary School (3)	Dora Smith
Ed.C.I.123	Speech in the Elementary School (3)	Henrikson
Ed.C.I.143	Teaching and Supervision of Reading in the Elementary School (3)	Bond
Ed.C.I.149	The Teaching and Supervision of Arithmetic in the Elementary School (3)	Brueckner
Ed.C.I.150	Supervision and Improvement of Instruction (3)	Goossen
Ed.C.I.153	Supervision and Teaching of English in the Elementary Schools (3)	Archer
Ed.C.I.162	Laboratory in Nursery School and Kindergarten Instructional Practices (3)	Fuller
Ed.C.I.163	Plastic Materials, Story Telling, and Social Studies for Young Children (3)	Headley
Ed.C.I.181	Foundations of Elementary School Methods (3)	Archer
Ed.C.I.186	Laboratory in Elementary Instructional Practices (2)	Staudenmaier
Ed.C.I.240	Improvement of Instruction in the Elementary School (4) (June 16-July 3)	McNally, Kramer
Ed.C.I.261	Special Problems in the Improvement of Instruction (ar.)	Brueckner, Goossen

#### SECONDARY EDUCATION

Ed.C.I.113	High School Curriculum (3)	Birkmaier
Ed.C.I.122	Literature for Adolescents (3)	Burton
Ed.C.I.125	Occupational Information Laboratory (3)	Ar.
Ed.C.I.131	Advanced Course in Teaching the Technical Business Subjects (3)	Price
Ed.C.I.135	Group Procedures in Guidance (3)	Hill
Ed.C.I.137A	Materials and Methods in Cooperative Part-Time Classes (3)	Meyer
Ed.C.I.138	Supervisory Training in Distributive Education (3)	Fairbrother, Latterell
Ed.C.I.139	Coordination Techniques in Business Education (3)	Meyer
Ed.C.I.140	Teaching of Speech (3)	Donald Smith
Ed.C.I.144	Teaching of Reading in Junior and Senior High School (3)	Burton



Ed.C.I.154	Materials and Methods in Evening Distributive Education Classes (3)	Fairbrother, Latterell
Ed.C.I.156	Trends in Business Education (3)	Price
Ed.C.I.191	Advanced Course in the Teaching of Secondary School Mathematics (3)	D. Johnson
Ed.C.I.199E	Internship (ar.)	Fitzgerald
Ed.C.I.201	Problems in Teaching the Social Studies (ar.)	McCune
Ed.C.I.204	Social Studies Curriculum (3)	McCune
Ed.C.I.225	Special Problems in Supervision of Instruction in Secondary Schools (ar.)	Keller, Stout
Ed.C.I.238	Problems in Distributive Education (ar.)	Meyer
Ed.C.I.239	Problems in Business Education (ar.)	Price
Ed.C.I.266	Supervision of High School Instruction (3)	Fisher
Ed.C.I.287	Advanced Course in the Teaching of Science (3)	Boeck
Ed.C.I.294	Advanced Course in Methods of Teaching English (3)	Dora Smith
Ed.C.I.296	Special Problems in Teaching English (ar.)	Dora Smith

#### HIGHER EDUCATION

Ed.C.I.228	Workshop: Problems of Higher Education and Teacher Training (6)	Cooper, Page, Flanders, Furrow, Pace, and consultants
Ed.C.I.250	Higher Education in the United States (3)	McCune

#### Second Term

#### GENERAL COURSES

Ed.C.I.105	Visual Aids in Teaching (3)	Pearson
Ed.C.I.107	Radio in Education (3)	Tyler
Ed.C.I.109	Audio-Visual Materials and Equipment Laboratory (3)	Pearson
Ed.C.I.117	Rural Education for Administrators and Teachers (3)	Archer
Ed.C.I.133	Consumer Education in the Schools (3)	Price
Ed.C.I.145	Remedial Reading (3)	Tinker
Ed.C.I.152	Adjustment of Schools to Individual Differences (3)	Van Wagenen
Ed.C.I.187	Workshop in Rural and Village School Problems (6)	Archer and others
Ed.C.I.205	Problems in Visual Education (ar.)	Pearson
Ed.C.I.207	Problems in Radio Education (1-3)	Tyler
Ed.C.I.227	Problems in Rural Education (ar.)	Archer
Ed.C.I.271	Problems in Curriculum Construction (ar.)	Bossing, Cook, Goossen
Ed.C.I.273	Problems in Reading (ar.)	Tinker

#### ELEMENTARY EDUCATION

Ed.C.I.102	Teaching of the Social Studies in the Elementary School (3)	Chase
Ed.C.I.103	Teaching of Science in the Elementary School (3)	Boeck
Ed.C.I.119	Elementary School Curriculum (3)	Goossen
Ed.C.I.143	Teaching and Supervision of Reading in the Elementary School (3)	Reynolds
Ed.C.I.150	Supervision and Improvement of Instruction (3)	Goossen
Ed.C.I.261	Special Problems in the Improvement of Instruction (ar.)	Goossen

#### SECONDARY EDUCATION

Ed.C.I.113	High School Curriculum (3)	Bossing
Ed.C.I.134	Materials and Methods in Consumer Education (3)	Price
Ed.C.I.135	Group Procedures in Guidance (3)	K. Hoyt
Ed.C.I.136	Introduction to Distributive Education (3)	Meyer
Ed.C.I.141	Cooperative Part-Time Distributive Education Programs (3)	Meyer

Ed.C.I.144	Teaching of Reading in Junior and Senior High Schools (3)	Tinker
Ed.C.I.168	Current Developments in the Social Studies (3)	McCune
Ed.C.I.170B	Curriculum and Course of Study Construction (3)	Bossing
Ed.C.I.199E	Internship (ar.)	Fitzgerald
Ed.C.I.225	Special Problems in Supervision of Instruction in Secondary Schools (ar.)	Boardman
Ed.C.I.238	Problems in Distributive Education (ar.)	Meyer
Ed.C.I.239	Problems in Business Education (ar.)	Price
Ed.C.I.266	Supervision of High School Instruction (3)	Boardman

**HIGHER EDUCATION**

Ed.C.I.228	Workshop: Problems of Higher Education and Teacher Training (6)	Grim, Hill, Jacobs, Mahan, Mork, Potthoff, and consultants
Ed.C.I.252	Effective College Teaching (3)	McCune

**EDUCATIONAL ADMINISTRATION**

**First Term GENERAL COURSES**

Ed.Ad.124	Public School Administration (3)	Davidson
Ed.Ad.210	Financial Aspects of School Business Administration (3)	Swenson
Ed.Ad.225	Pupil Personnel Administration (3)	Cramer
Ed.Ad.226	School Plant Planning and Management (3)	Friswold
Ed.Ad.227	Teacher and Employee Administration (3)	Swenson
Ed.Ad.228	Special Problems in Educational Administration (1-6)	Neale
Ed.Ad.229	Problems in Planning School Buildings (4) (June 16-July 3)	Friswold, Hammel
Ed.Ad.230	Public Relations for Schools (3)	Davidson
Ed.Ad.233	Administration of Reorganized School Districts (4) (July 7-25)	Williams and others
Ed.Ad.234	Problems in State School Administration (4) (July 7-25)	Schweickhard, Berning and others
Ed.Ad.235	Seminar in Educational Administration (0)	Neale

**ELEMENTARY EDUCATION**

Ed.Ad.115	Organization of the Elementary School (3)	Cramer
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**SECONDARY EDUCATION**

Ed.Ad.133	Basic Procedures in Student Personnel Work (3) Section 1 (for administrators)	Hill
	Section 2 (for counselors-teachers)	K. Hoyt
	Section 3 (for counselors-teachers)	Gerritz
Ed.Ad.218	Recent Literature in Secondary Education (0)	Keller, Stout
Ed.Ad.264	Administration of the Instructional Activities of the Secondary School (3)	Stout
Ed.Ad.265	Administration of the Noninstructional Activities of the Secondary School (3)	Fisher
Ed.Ad.270	Special Problems in Secondary Education (ar.)	Keller, Stout

**HIGHER EDUCATION**

Ed.Ad.274	The Junior College (3)	Keller
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**Second Term GENERAL COURSES**

Ed.Ad.124	Public School Administration (3)	Farley
Ed.Ad.210	Financial Aspects of School Business Administration (3)	Newell
Ed.Ad.225	Pupil Personnel Administration (3)	Cramer
Ed.Ad.226	School Plant Planning and Management (3)	Newell
Ed.Ad.227	Teacher and Employee Administration (3)	Ar

Ed.Ad.228	Special Problems in Educational Administration (1-6)	Neale
Ed.Ad.230	Public Relations for Schools (3)	Farley
Ed.Ad.235	Seminar in Educational Administration (0)	Neale

#### ELEMENTARY EDUCATION

Ed.Ad.115	Organization of the Elementary School (3)	Cramer
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#### SECONDARY EDUCATION

Ed.Ad.133	Basic Procedures in Student Personnel Work (3)	Dugan
Ed.Ad.218	Recent Literature in Secondary Education (0)	Boardman
Ed.Ad.263	Organization of the Secondary School (3)	Boardman
Ed.Ad.270	Special Problems in Secondary Education (ar.)	Boardman

### EDUCATIONAL PSYCHOLOGY

#### First Term

##### GENERAL COURSES

Ed.Psy.60	Introduction to Measurement and Statistics (3)	C. Hoyt
Ed.Psy.120	Basic Principles of Measurement (3)	C. Hoyt
Ed.Psy.140	Instruments and Techniques of Measurement (3)	Cook
Ed.Psy.150	Psycho-Educational Clinic (2-6)	Reynolds
Ed.Psy.159	Personality Adjustment and Mental Hygiene (3)	Gjerde
Ed.Psy.183	Education of Gifted Children (3)	Van Wageningen
Ed.Psy.208	Methods in Educational Research (3)	P. O. Johnson
Ed.Psy.216	Statistical Methods in Education (3)	P. O. Johnson, Moonan
Ed.Psy.216a	Statistical Methods in Education Laboratory (2)	Moonan
Ed.Psy.225	Diagnosis and Counseling in a Student Personnel Program (3)	Gjerde
Ed.Psy.233	Problems in Guidance and Personnel Work (ar.)	Dugan
Ed.Psy.253	Research Problems (ar.)	Cook, Dugan, P. O. Johnson, C. Hoyt Van Wageningen, Flanders, Mork
Ed.Psy.290	Individual Differences (3)	Flanders
Ed.Psy.293	Psychology of Learning (3)	Mork
Ed.Psy.294	Recent Theory and Research in Human Learning (3)	Mork

##### SECONDARY EDUCATION

Ed.Psy.133	Basic Procedures in Student Personnel Work (3)	
	Section 1 (for administrators)	Hill
	Section 2 (for counselors-teachers)	K. Hoyt
	Section 3 (for counselors-teachers)	Gerritz
Ed.Psy.134	School Counseling Procedures (3)	Dugan
Ed.Psy.282	Practice in High School Personnel Work (3)	Dugan, Carlson

#### Second Term

##### GENERAL COURSES

Ed.Psy.60	Introduction to Measurement and Statistics (3)	Van Wageningen
Ed.Psy.120	Basic Principles of Measurement (3)	Cook
Ed.Psy.150	Psycho-Educational Clinic (2-6)	Reynolds
Ed.Psy.159	Personality Adjustment and Mental Hygiene (3)	Mahler
Ed.Psy.182	Education of Exceptional Children (3)	Reynolds
Ed.Psy.217	Statistical Methods in Education (3)	Moonan
Ed.Psy.217a	Statistical Methods in Education Laboratory (2)	Moonan
Ed.Psy.226	Diagnosis and Counseling in a Student Personnel Program (3)	Wrenn
Ed.Psy.233	Problems in Guidance and Personnel Work (ar.)	Dugan, Wrenn
Ed.Psy.253	Research Problems (ar.)	Cook, Dugan, Wrenn, Van Wageningen, Mork
Ed.Psy.293	Psychology of Learning (3)	Mork

##### SECONDARY EDUCATION

Ed.Psy.133	Basic Procedures in Student Personnel Work (3)	Dugan
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**HISTORY AND PHILOSOPHY OF EDUCATION**

<b>First Term</b>	H.Ed.141	Critical Issues in Contemporary Education (3)	Beck
	H.Ed.155	History of Education in the United States (3)	Alexander
	H.Ed.180	The School and the Social Order (3)	Beck, Kosaki
	H.Ed.241	Problems in the History and Philosophy of Education (ar.)	Beck, Alexander
<b>Second Term</b>	H.Ed.131	Comparative Education (3)	Beck
	H.Ed.180	The School and the Social Order (3)	Beck, Kosaki
	H.Ed.241	Problems in the History and Philosophy of Education (ar.)	Beck

**HOME ECONOMICS EDUCATION**

<b>First Term</b>	H.E.Ed.196C	Workshop: Foods and Nutrition (4)	Ford and consultant
	H.E.Ed.196D	Workshop: Materials for Instruction (4)	Ford and consultant

**INDUSTRIAL EDUCATION**

<b>First Term</b>	Ind.1	Basic Woodwork (3)	Kavanaugh
	Ind.3	Shop Finishing (3)	Anderson
	Ind.21	Craftwork—B (3)	Nelson
	Ind.50A-B-C	Student Teaching (3 per letter)	Nelson
	Ind.100	Industrial Instruction (3)	Smith
	Ind.101	Tests in Industrial Subjects (3)	Karnes
	Ind.109	Conference Leading for Industry (3)	Widdowson
	Ind.115	Supervision of Industrial Education (3)	Widdowson
	Ind.200	Research Problems (3-6-9)	Smith, Nelson
	Ind.250	Literature of Industrial Education (3)	Karnes
		Shopwork and Drawing (at Dunwoody Institute) (ar.)	Smith
	<b>Second Term</b>	Ind.15	Basic Graphic Arts (3)
Ind.50A-B-C		Student Teaching (3 per letter)	Nelson
Ind.102		The General Shop (not a shop course) (3)	Nelson
Ind.135		Industrial Course Construction (3)	Micheels
Ind.150		Vocational Education Surveys (3)	Karnes
Ind.200		Research Problems (3-6-9)	Micheels, Nelson
Ind.251		Literature of Industrial Education (3)	Karnes
	Shopwork and Drawing (at Dunwoody Institute) (ar.)	Micheels	

**METHODS AND STUDENT TEACHING**

<b>First Term</b>	<b>NURSING EDUCATION</b>		
	Ed.T.51A	The Teaching of Nursing (2)	Boyle
	<b>ELEMENTARY EDUCATION</b>		
	Ed.T.77	Student Teaching in the Nursery School (3) (enrolment limited)	Fuller
	Ed.T.78	Student Teaching in the Kindergarten (3) (enrolment limited)	Headley
	<b>SECONDARY EDUCATION</b>		
	Ed.T.52	Student Teaching (ar.)	Grim
	Ed.T.67M	The Teaching of Secondary School Mathematics (3)	D. Johnson
	Ed.T.68M	The Teaching of Secondary School Science (3)	Boeck
	Ed.T.69M	The Teaching of the Social Studies in the Secondary School (3)	Knox
	Ed.T.75M	The Teaching of the Language Arts (3)	Ar.
	Ed.T.84A-B-C	Practice and Field Work in Recreation Leadership (1 or 2)	Fitzgerald
	Ed.T.85A-B-C	Practice and Field Work in Recreation Leadership (1 or 2)	Fitzgerald

<b>Second Term</b>			<b>NURSING EDUCATION</b>	
Ed.T.51A	The Teaching of Nursing (2)	.....		Boyle

**SECONDARY EDUCATION**

Ed.T.84A-	Practice and Field Work in Recreation Leadership	.....		
B-C	(1 or 2)	.....		Fitzgerald
Ed.T.85A-	Practice and Field Work in Recreation Leadership	.....		
B-C	(1 or 2)	.....		Fitzgerald

**MUSIC EDUCATION**

<b>First Term</b>				
Mu.Ed.4	Applied Instrumental Technique (2)	.....		Ivory
Mu.Ed.50A	Teaching Music in Primary Grades (2)	.....		Winslow
Mu.Ed.50B	Teaching Music in Intermediate Grades (2)	.....		Winslow
Mu.Ed.60-61-				
62	Supervision and Teaching of Music (3)	.....		Winslow
Mu.Ed.104E	Advanced Topics in Vocal Music Education (3)	.....		Winslow
Mu.Ed.105E	Advanced Topics in Instrumental Music Education (3)	.....		Ivory
Mu.Ed.224E	Seminar—Individual Research Problems in Music	.....		
	Education (2-6)	.....	Winslow, Ivory	
Mu.Ed.225E	Advanced Applied Music (2-4)	.....		Ar.

<b>Second Term</b>				
Mu.Ed.4	Applied Instrumental Technique (2)	.....		Ivory
Mu.Ed.50A	Teaching Music in Primary Grades (2)	.....		Winslow
Mu.Ed.50B	Teaching Music in Intermediate Grades (2)	.....		Winslow
Mu.Ed.59	Choral Literature and Conducting (2)	.....		Winslow
Mu.Ed.65	Instrumentation (3)	.....		Ivory
Mu.Ed.224E	Seminar—Individual Research Problems in Music	.....		
	Education (2-6)	.....	Winslow, Ivory	
Mu.Ed.225E	Advanced Applied Music (2-4)	.....		Ar.

**PHYSICAL EDUCATION FOR MEN**

<b>First Term</b>				
1A	Beginning Golf (1)	.....		Bolstad
2A	Beginning and Intermediate Swimming (1)	.....		Piper
4A-B-C	Fundamentals of Football, Basketball, and Track	.....		
	(1 cred. ea.)	.....	Svendsen, Cowles, Kelly	
5A	Six-Man Football, Conditioning Drills, etc. (1)	.....		Svendsen
5C	Softball and Stunts (1)	.....		Svendsen
7C	Individual and Dual Sports (1)	.....		Piper
9B	American Country and Ballroom Dancing (1)	.....		Piper
51	Mechanics of Movement (3)	.....		Osell
63	Organization and Administration of Physical Education (3)	.....		Piper
67-68-69	Coaching of Football, Basketball, and Track	.....		
	(1 cred. ea.)	.....	Fesler, Cowles, Kelly	
73-74-75	Directed Teaching (2 cred. ea.)	.....		Piper
101	Principles of Physical Education (3)	.....		Keller
135	Tests and Measurements in Physical Education (3)	.....		Keller
233	Special Administration Problems in Physical Education in	.....		
	Secondary Schools (3)	.....		Nordly
234	Secondary School and College Curriculum in Physical	.....		
	Education (3)	.....		Nordly
241	Administration and Supervision of Public Recreation (3)	.....		Fitzgerald

<b>Second Term</b>	1C	Beginning and Intermediate Tennis (1)	Piper and staff
	2C	Beginning and Intermediate Swimming (1)	Piper and staff
	6B	Hockey, Handball, and Squash (1)	Bartelma
	7A	Active and Social Games (1)	Piper
	8	Tennis and Golf (1)	Piper, Bolstad
	9A	Folk Dancing (1)	Piper
	55	Methods in Physical Education (4)	Piper, Bartelma
	65	Adapted Physical Education (3)	Osell
	110	Recreation Surveys (2)	Fitzgerald
	121	Principles of Recreation Methods (3)	Fitzgerald
	155	Instructional Aids in Health, Physical Education, and Recreation (3)	Bartelma
	236	Recent Literature, Research in Physical Education (3)	Nordly
	247	Problems in Health Education, Physical Education, and Recreation (ar.)	Nordly

### PHYSICAL EDUCATION FOR WOMEN

<b>First Term</b>	4	Fundamentals of All Rhythmic Work and Methods (2)	Bell
	5	Methods of Coaching Organized and Team Games (2)	Hauptfuehrer
	7	Tennis for Beginners (2 sec.) (1)	Eibner, Hauptfuehrer
	8	Golf for Beginners (1)	Lampe
	11	Modern Dance and Methods (2)	Bell
	12	Social Recreation—Ballroom and American Country Dance (1)	Ar.
	13	Tumbling, Stunts, Pyramids, and Methods (2)	Hauptfuehrer
	18	Elementary Folk Dancing, Games, and Methods (2)	Bell
	32	Elementary Swimming (1)	Eibner
	33	Intermediate Swimming and Methods (2)	Eibner
	90	Student Teaching (1)	Ar.
	115	Recent Literature and Research in Mechanics of Movement (3)	Wilson
	118	Problems in Teacher Education in Health, Physical Education, and Recreation (3)	Graduate staff
	124	Supervision of Physical Education (3)	Baker
130	Contributions of Basic Sciences to Physical Education (3)	Wilson	
224	Research Problems in School Health Education and Physical Education for Women (ar.)	Graduate staff	
<b>Second Term</b>	7	Tennis for Beginners (1)	Ar.
	8	Golf for Beginners (1)	Ar.
	32	Elementary Swimming (1)	Ar.
	114	School Health Education Program (3)	Ericson
	123	Advanced Methods of Teaching Physical Education (3)	Ericson

### SCHOOL OF BUSINESS ADMINISTRATION (INCLUDING ECONOMICS)

<b>First Term</b>	Econ.3	Elements of Money and Banking (3)	Koefod
	Econ.5	Elements of Statistics (3)	Olson
	Econ.6	Principles of Economics (3)	Linse, Holloway, Durfee
	Econ.24	Principles of Accounting (3)	Lund
	Econ.25	Principles of Accounting (3)	Reighard
	Econ.32	Beginning Typewriting (1)	Ar.
	Econ.50	Insurance Principles (3)	Muirhead

B.A.51	Business Law: Contracts (3)	Wright	
B.A.56	Business Law: Property Rights and Obligations (3)	Wright	
B.A.65	(B.A.139*) Analysis of Financial Statements (3)	Reighard	
B.A.66	(B.A.130*) Cost Accounting Survey (3)	Wheeler	
Econ.73	Manpower Economics and Labor Problems (3)	Cheit	
Econ.80	Intermediate Economic Analysis (3)	Linse, Durfee	
Econ.85	Government Regulation of Business (3)	Papandreu	
Econ.103	Advanced Economic Theory (3)	Papandreu	
B.A.114	Retail Store Management (3)	Canoyer	
Econ.125	Current Economic Problems and Their Analysis (3)	Uppgren	
Econ.149	Business Cycles (3)	Uppgren	
B.A.150	Intermediate Accounting I (3)	Nelson	
B.A.152	Cost Accounting (3)	Wheeler	
Econ.155	(Econ.75*) Corporation Finance (3)	Stehman	
B.A.156	Finance Management (3)	Stehman	
B.A.159	Advanced Accounting (3)	Lund	
Econ.161	General Manpower Economics and Labor Problems (3)	Ar.	
B.A.167	Introduction to Industrial Relations (3)	Turnbull	
Econ.169	Labor Legislation: Economic Security (3)	Turnbull	
Econ.172	(B.A.71*) Economics of Transportation (3)	Nightingale	
B.A.174	Transportation: Services and Charges II (3)	Nightingale	
Econ.178	Economics of Consumption (3)	Canoyer	
Econ.185	(B.A.77*) Economics of Marketing (3)	Holloway	
Econ.200	Theory of Employment and Resources (3)	Brownlee	
Econ.252	Seminar in Industrial Relations (3)	Yoder	
B.A.264	Seminar in Accounting Theory: Income Determination and Statement Presentation (3)	Nelson	
<b>Second Term</b>	Econ.3	Elements of Money and Banking (3)	Sutton
	Econ.5	Elements of Statistics (3)	Randolph
	Econ.7	Principles of Economics (3)	Borak, Mitton
	Econ.26	Principles of Accounting (3)	Heilman
	B.A.52	Business Law: Agency, Partnership, and Corporations (3)	Larson
	B.A.53	Business Law: Sales and Negotiable Instruments (3)	Larson
	Econ.81	Intermediate Economic Analysis (3)	Benewitz
	B.A.89	Production Management (3)	Mitton
	Econ.104	Advanced Economic Theory (3)	Smith
	B.A.112	(B.A.74*) Business Statistics (3)	Randolph
	B.A.113	Sales Management (3)	Lewis
	B.A.133	Standard Costs (3)	Ostlund
	Econ.142	(Econ.64*) Monetary and Banking Policy (3)	H. Smith
	B.A.146	Investments (3)	Sutton
	B.A.151	Intermediate Accounting II (3)	Heilman
	B.A.153	Cost Accounting (3)	Ostlund
	Econ.155	(Econ.75*) Corporation Finance (3)	Borak

\* For the Summer Session the student may meet the core group requirement in this course by electing the corresponding course numbered over 100.

Econ.161		
(Econ.73*)	General Manpower Economics and Labor Problems (3)	Ulman
Econ.163	Union Organization and Administration (3)	Ulman
B.A.180D	Senior Topics: Industrial Relations (3)	Heneman
Econ.185		
(B.A.77*)	Economics of Marketing (3)	Lewis
Econ.189		
(B.A.58*)	Principles of Public Finance (3)	Heller
Econ.235	Federal Tax Policy (3)	Heller

## INSTITUTE OF CHILD WELFARE

<b>First Term</b>	80	Child Psychology (3)	Ar.
	131	Personality, Emotional, and Social Development of the Child (3)	Brieland
	140	Behavior Problems in Younger Children (3)	Blodgett
	142	Psychology of Atypical Children (3)	Blodgett
	150	Childhood Education (3)	Fuller
	270	Readings and Research in Child Development (ar.)	Staff
See also Courses Ed.C.I.162 and 163, listed under Curriculum and Instruction, page 74, and Courses Ed.T.77 and 78, under Methods and Student Teaching, page 78, College of Education.			
<b>Second Term</b>	40	Child Training (3)	Cummings
	130	Motor, Linguistic and Intellectual Development of the Child (3)	Deno
	141	Behavior Problems in Older Children (3)	Deno
	170	Parent Education (3)	Cummings
	270	Readings and Research in Child Development (ar.)	Staff

## LIBRARY INSTRUCTION

**Special Eight-Week Term: June 16-August 9, 1952**

*Tuition for 4 credits or less is \$43; for more than 4 credits, \$60. Incidental fee is \$12; deposit, \$2.*

50	Libraries and Society (3)	Shove
53	School Library Management (3-4)	Marfell
60	Sources of Information about Library Materials (3)	Ar.
61	Practice Work (3)	McIntyre
62	Reference I (2)	Kingsley
85	Special Problems (1-3)	Shove
151	Invention and Spread of Printing (2)	Shove
154	Principles of Public Library Administration (3)	Ar.
157	School Library Problems (3)	Fitch
164	Reference III (2)	Ostvolft
172	Principles and Problems in Reading Guidance for Adolescents (3)	Fitch

\* For the Summer Session the student may meet the core group requirement in this course by electing the corresponding course numbered over 100.



173	Principles and Problems in Adult Reading Guidance (3).....	Ar.
257	Seminar in Library Administration (3) .....	McElderry
260	Seminar in Advanced Bibliography (3) .....	Shove
273	Seminar in Library Work with Children and Young People (3) .....	Fitch

## GENERAL COLLEGE

First Term	3	Home Life Orientation (3) .....	Anderson
	10A	Human Biology: Fundamental Similarities in the Living World (3) .....	Cieslak
	10C	Human Biology: Healthful Living (3) .....	Cieslak
	19A	Problems of Business Transactions (4) .....	Rassweiler
	30C	Literature Today: Themes in Current Literature (3) .....	Draxten
	31A	Writing Laboratory: Descriptive Writing (3) .....	Appel
	44B	Current History (3) .....	F. Harris
Second Term	10B	Human Biology: How the Living Machinery in Man Works (3) .....	Cieslak
	31D	Writing Laboratory: Business Writing (3) .....	Kivits
	32A	Speech Laboratory: Basic Principles of Oral Communication (3) .....	Olson
	37	Social Trends and Problems (3) .....	Anderson

## DULUTH BRANCH

### DIVISION OF EDUCATION AND PSYCHOLOGY

#### EDUCATION

First Term	Ed.61A-81A	School and Society (5) .....	Plumb
	Ed.61B-81B	Educational Psychology for Elementary and Secondary Teachers (5) .....	Wheat
	Ed.Ad.115*	Elementary School Organization and Administration (3).....	Wheat
	Ed.Art52	Teaching of Art in the Elementary School (3) .....	A. Smith
	Ed.C.I.64	Teaching of Reading in the Elementary School (3) .....	Green
	Ed.C.I.67	Remedial Reading (3) .....	H. W. Johnson
	Ed.C.I.	(Course to be arranged) .....	Dawson
	Ed.C.I.117*	Rural Education for Administrators and Teachers (3).....	King
	Ed.C.I.119*	Elementary School Curriculum (3) .....	H. C. Johnson
	Ed.C.I.122*	Literature for Adolescents (3) .....	Frogner
	Ed.C.I.144*	Teaching of Reading in Junior and Senior High School (3) .....	Frogner
	Ed.C.I.150*	Supervision and Improvement of Instruction (3).....	H. C. Johnson
	Ed.Psy.120*	Basic Principles of Measurement (3) .....	H. C. Johnson
		Workshop in Kindergarten-Primary Education (5) .....	Green

\* Offered for graduate credit.

<b>Second Term</b>	Ag.Ed.154*	Rural Education and Community Leadership (3)	M. Peterson
	Ag.Ed.286*	Current Problems in Agricultural Education (3)	M. Peterson
	Ed.48	Orientation to Teaching (1)	Plumb
	Ed.61C	Methods of Teaching in Elementary Education (5)	T. Johnson
	Ed.C.I.65	Teaching of Science in the Elementary School (3)	Gerberich
	Ed.C.I.66	Audio-Visual Aids (3)	Ar.
	Ed.C.I.113*	High School Curriculum (3)	Plumb
	Ed.C.I.149*	Teaching and Supervision of Arithmetic (3)	H. C. Johnson
	Ed.Mu.51	Teaching Music in the Elementary School (3)	T. Johnson
	Ed.Psy.120*	Basic Principles of Measurement (3)	H. C. Johnson
	Ed.Psy.133*	Basic Procedures in Student Personnel Work (3)	Plumb
	Ed.Psy.293*	Psychology of Learning (3)	Ragsdale
	H.Ed.141*	Critical Issues in Contemporary Education (3)	Ehlers
	H.Ed.179*	Critical Thinking for Teachers (3)	Ehlers

### HEALTH EDUCATION

<b>First Term</b>	He.Ed.80	Principles of Health Education (1)	Abbott
<b>Second Term</b>	He.Ed.3	Personal Health (2)	Rickert
	He.Ed.83	Methods and Materials in School Health Education (3)	Graybeal

### HOME ECONOMICS

<b>First Term</b>	H.Ec.96	Adult Education in Home Economics (3)	Palmer
		Economic Conditions in Relation to the Welfare of Families (3)	Kraker
		Methods and Materials in Clothing Construction (3)	Kraker
		Programs and Policies in Home Economics Education (3)	Palmer

### INDUSTRIAL EDUCATION

<b>First Term</b>	Ind.14	Crafts (2)	Voss
	Ind.17	General Metal Work (2)	Voss
	Ind.81	Tests in Industrial Subjects (3)	Voss

### PHYSICAL EDUCATION FOR MEN

<b>First Term</b>	Phys.Ed.		
	MW1,2	Archery (1)	Wells
	Phys.Ed.		
	MW1,2	Badminton (1)	Rickert
	Phys.Ed.		
	MW1,2	Golf (1)	Wells
	Phys.Ed.		
	MW1,2	Recreational Games (1)	Wells
	Phys.Ed.		
	MW1,2	Swimming (1)	Gerlach
	Phys.Ed.		
	MW1,2	Tennis (1)	Rickert
	Phys.Ed.		
	4A-B-C	Fundamentals of Sports (3)	Wells
	Phys.Ed.6	Advanced Swimming and Life Saving Certification (2)	Gerlach
	Phys.Ed.		
	66A-B	Officiating Football and Basketball (2)	Rickert
	Phys.Ed.66C	Officiating Spring Sports (1)	L. Peterson
	Phys.Ed.67	Coaching Football (2)	L. Peterson
	Phys.Ed.68	Coaching Basketball (2)	Rickert
	Phys.Ed.91	Principles of Physical Education (3)	Rickert
	Phys.Ed.95	Tests and Measurements in Physical Education (3)	Wells

\* Offered for graduate credit.

<b>Second Term</b>	Phys.Ed. MW1,2	Badminton (1) .....	Rickert
	Phys.Ed. MW1,2	Golf (1) .....	Rickert
	Phys.Ed. MW1,2	Tennis (1) .....	Rickert
	Phys.Ed.M60	Prevention and Care of Injuries (2) .....	Rickert
	Phys.Ed. 66A-B	Officiating Football and Basketball (2) .....	Rickert
	Phys.Ed.66C	Officiating Spring Sports (1) .....	Rickert

### PHYSICAL EDUCATION FOR WOMEN

<b>First Term</b>	Phys.Ed. MW1,2	Folk and Square Dance (1) .....	Abbott
	Phys.Ed.40	Elementary and Lead-Up Games (1) .....	Abbott
	Phys.Ed.41	Gymnastics, Stunts, and Tumbling (1) .....	Abbott
	Phys.Ed.42	Folk Dance and Singing Games (1) .....	Abbott
	Phys.Ed.43	Teaching of Physical Education in the Elementary Schools (2) .....	Abbott
	Phys.Ed.56	Introduction to Camping (2) .....	Abbott
<b>Second Term</b>	Phys.Ed.101*	Principles of Physical Education (3) .....	Graybeal
	Phys.Ed.114*	School Health Education Program (3) .....	Graybeal

### PSYCHOLOGY

<b>First Term</b>	Psy.1	General Psychology (3) .....	H. W. Johnson
	Psy.84	Elementary Social Psychology (3) .....	H. W. Johnson
<b>Second Term</b>	Psy.2	General Psychology (3) .....	Ar.

### DIVISION OF HUMANITIES

#### ART

<b>First Term</b>	Art 5	Introduction to Art (3) .....	A. Smith
	Art 80	General Crafts (3) .....	A. Smith
<b>Second Term</b>	Art 4	Art Today (3) .....	St. George
	Art 6	Drawing and Painting (3) .....	St. George
	Art 23	Lettering and Coloring (3) .....	St. George
	Art 77	Painting Workshop (6) .....	Ar.

#### ENGLISH

<b>First Term</b>	Eng.23	Introduction to Literature (5) .....	Tezla
	Eng.39	Twentieth Century Novel (3) .....	Rosenthal
	Eng.53	World Literature (3) .....	Tezla
	Eng.58	Shakespeare (3) .....	Rosenthal
	Eng.74	American Literature (3) .....	Rosenthal
<b>Second Term</b>	Eng.27	Advanced Writing (3) .....	Rosenthal
	Eng.38	Twentieth Century Poetry (3) .....	Rosenthal
	Eng.63	Romantic Prose and Poetry (3) .....	Rosenthal
		Workshop in Creative Writing (6) .....	Ar.

\* Offered for graduate credit.

**FINE ARTS**

<b>First Term</b>	F.A.4	Appreciation of the Arts (3)	Miller
<b>Second Term</b>	F.A.5	Appreciation of the Arts (3)	Miller

**MUSIC**

<b>First Term</b>	Mu.13	Piano (1)	Alspach
	Mu.21	Introduction to Music (3)	Alspach

**PHILOSOPHY**

<b>Second Term</b>	Phil.2A	Logic (3)	Ehlers
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**SPEECH**

<b>First Term</b>	Sp.1	Fundamentals of Speech (3)	Hicks
	Sp.2	Fundamentals of Speech (3)	Hicks
	Sp.65	Introduction to Radio (3)	Hicks
	Sp.85	Introduction to Speech Disorders (3)	Ar.
<b>Second Term</b>	Sp.34	Stagecraft (3)	Ar.

**DIVISION OF SCIENCE AND MATHEMATICS****BIOLOGY**

<b>First Term</b>	Nat.Sci.7	General Biology (Plants) (3)	Darland
	Nat.Sci.8	General Biology (Animals) (3)	Hofslund
	Nat.Sci.10	Conservation of Natural Resources (3)	Darland
	Zool.4M	Human Physiology (4)	Odling
	Zool.57	Ornithology (3)	Hofslund
<b>Second Term</b>	Bact.53	General Bacteriology (5)	Heino
	Bot.73	Spring Flora of Minnesota (3)	Lakela
	Nat.Sci.9	General Biology (4)	Keith
	Zool.5	Economic Entomology (3)	Gerberich

**CHEMISTRY**

<b>First Term</b>	Inorg.Chem.6	General Inorganic (5)	Ar.
<b>Second Term</b>	Inorg.Chem.7	General Inorganic (5)	Ar.

**MATHEMATICS**

<b>First Term</b>	Astron.1	Elements of Astronomy (3)	C. Lindquist
	Math.A	Basic Mathematics (3)	C. Lindquist
	Math.60	College Geometry (3)	C. Lindquist
<b>Second Term</b>	Math.A	Basic Mathematics (3)	Elwell
	Math.6	Trigonometry (5)	Elwell

**PHYSICS**

<b>First Term</b>	Nat.Sci.4-5	The Physical World (6)	McEwen
<b>Second Term</b>	Nat.Sci.6	The Physical World (4)	Hanson
	Phys.20	Photography (3)	Hanson

**DIVISION OF SOCIAL STUDIES****BUSINESS AND ECONOMICS**

<b>First Term</b>	B.&E.1D	Principles of Economics (5)	Davidson
	B.&E.41D-42D	Elements of Statistics (4)	Sielaff
	B.&E.55D	Marketing (3)	Sielaff

	B.&E.61D	Foreign Trade (3)	Meyers
	B.&E.65D	Corporation Finance (3)	Meyers
	B.&E.66D	Insurance Principles (3)	Meyers
	B.&E.81D	Labor Problems (3)	Davidson
<b>Second Term</b>	B.&E.2D	Principles of Economic Analysis (5)	Davidson
	B.&E.43D	Elements of Statistics (2)	Stelaff
	B.&E.56D	Advertising (3)	Stelaff
	B.&E.61D	Foreign Trade (3)	Meyers
	B.&E.65D	Corporation Finance (3)	Meyers
	B.&E.82D	Social Legislation (3)	Davidson
	B.&E.87D	Business Cycles (3)	Meyers

## GEOGRAPHY AND GEOLOGY

<b>First Term</b>	Geog.12	Principles of Geography (5)	Chamberlin
	Geog.71	North America (3)	Belthuis
	Geog.74	Far East (3)	Belthuis
	Geog.75	Geography of Australasia (2)	Belthuis
	Geog.95	Political Geography (3)	Chamberlin
	Geol.1	General Physical Geology (3)	Heller
	Geol.A	General Physical Geology Laboratory (2)	Heller
<b>Second Term</b>	Geol.2	General Historical Geology (3)	Heller
	Geol.B	General Historical Geology Laboratory (2)	Heller

## HISTORY

<b>First Term</b>	Hist.20	American History (3)	M. Lindquist
	Hist.67D	American History in Twentieth Century (3)	M. Lindquist
	Hist.99D	Minnesota and the West (3)	M. Lindquist
<b>Second Term</b>	Hist.21	American History (3)	Livingston
	Hist.22	American History (3)	Livingston
	Hist.65	Europe since 1870 (3)	Livingston

## POLITICAL SCIENCE

<b>First Term</b>	Pol.Sci.1	American Government (National) (3)	von Glahn
	Pol.Sci.3	American Government (Municipal) (3)	Wolff
	Pol.Sci.25	International Relations (3)	von Glahn
	Pol.Sci.51	Government and Conservation (3)	Wolff
	Pol.Sci.67	Political Parties and Public Opinion (3)	Wolff
	Pol.Sci.73	Recent Political Thought (3)	von Glahn
<b>Second Term</b>	Pol.Sci.2	American Government (State) (3)	von Glahn
	Pol.Sci.30	American Democracy (3)	von Glahn
	Pol.Sci.85	Problems of World Politics (3)	von Glahn

## SOCIOLOGY

<b>First Term</b>	Soc.1	Introduction to Sociology (5)	Turbeville
	Soc.49	Social Problems (3)	Turbeville
	Soc.60	Population Trends (3)	Ar.
	Soc.81	Marriage and the Family (3)	Ar.
	Soc.82	Rural Community Organization (3)	Ar.
<b>Second Term</b>	Soc.2	Intermediate Sociology (5)	Ar.
	Soc.53	Elements of Criminology (3)	Ar.

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The Bulletin of the University of Minnesota



Lake Itasca Biological Station  
July 28 — August 30  
Summer Session  
1952

4/2/52  
at 11:00 R



## FOREWORD

This is a cordial invitation from the Biological Station Summer Session at Lake Itasca to you as

🌲🌲 **undergraduate students** interested in advanced study and research in the biological subjects and to those interested in the natural sciences but who have not found their field of major interest, to obtain help in orientation—

🌲🌲 **graduate students** who are looking for an excellent field laboratory for research—

🌲🌲 **teachers** of all phases of biology in all schools and colleges for advanced study and improvement through independent research, and to obtain training for conducting field classes—

🌲🌲 **students of wildlife management** for study in life histories and ecology—

🌲🌲 **students contemplating careers in agricultural extension work** who are interested in training in conservation and nature study—

🌲🌲 **and independent research workers—**

to make use of the unusual natural facilities combined with the planned laboratory equipment for study with outstanding instructional scientists.



Thorvald Schantz-Hansen  
Director of Biological Station



**GENERAL  
INFORMATION**

**LOCATION**

The University of Minnesota Forestry and Biological Station is on the east shore of Lake Itasca in Itasca State Park—just a mile from the headwaters of the Mississippi River in northwestern Minnesota.

**SPONSORSHIP**

Sponsored by the Summer Session, the Station is a joint enterprise of various departments of the College of Science, Literature, and the Arts and of the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine under the management of a resident director.

*Virgin Red Pine with an  
Understory of Balsam Fir*

*(Note the deer browse-  
line on the balsam.)*



**TRANSPORTATION**

Public transportation to the Station is by bus to Douglas Lodge—about four miles from the Station. Students are picked up at the Lodge by Station transportation.



*Class in Aquatic Botany*

**MAIL**

Mail for students should be addressed to: Biological Station, Douglas Lodge, Minnesota.

**INQUIRIES**

Requests for bulletins and other information relating to the Summer Session not specifically channeled elsewhere should be addressed to the Dean of the Summer Session, 788 Johnston Hall, University of Minnesota, Minneapolis 14. (See pages 5 and 10.)

**FIELD STUDY OPPORTUNITIES**

The Park—one of Minnesota's more primitive areas—is seven miles square and covers approximately 32,000 acres. Lakes, large and small, deep and shallow, of which Lake Itasca is the largest, cover approximately 5,000 acres and make possible a complete course in limnology.

Within easy reach of the research worker in the forests, the dense swamps and open bogs are beaver dams, eagle nests, turkey vulture roosts, and prehistoric Indian mounds. The Chippewa National Forest—one of the oldest and best developed in the United States—is only twenty miles to the east. About thirty miles to the west is the old Lake Agassiz basin. To the north, the Upper and Lower Red Lake together make one of the largest bodies of fresh water—excepting the Great Lakes—within the boundaries of the United States.

Rare stands of virgin pine are still existent here. There are hardwood forests of oak, elm, hard and soft maple, white and yellow birch, large- and small-toothed aspen, balm of Gilead, basswood and various other species. White, red and jack pine, white and black spruce, balsam, larch and cedar are found in pure and mixed stands of various age classes.

The wealth of flora and fauna makes possible the study of systematic botany, zoology, entomology, parasitology, and mycology through living specimens collected by the student. The abundance of fish, birds, and wild animals in their native habitat offers an unusual laboratory for studying ecology, entomology, parasitology, and wildlife management and conservation.

#### **COURSE WORK AND RESEARCH**

Both graduate and undergraduate students of biology will find an excellent field laboratory for research and course work.

Graduate students may pursue research problem work under supervision and guidance of staff without attending classes.

Students of wildlife management have the opportunity for the study of life history and ecology of vertebrates as well as basic courses in related fields.

To teachers of biology in high schools and colleges the Station offers opportunity for course work, advanced study and

*Students Work on Individual  
Problems in Ecology*



improvement through independent research. It will also provide the necessary training for conducting classes in the field.

Agriculture and home economics students contemplating careers in extension work will find this training in conservation and nature study useful preparation for rural extension work.

**GUEST  
INVESTIGATORS**

Qualified independent guest investigators may arrange with the director for research in various fields of terrestrial and freshwater biology.

**FIELD SEASON  
ARRANGEMENTS**

Advanced students and research workers needing laboratory space and special equipment and those wanting to do research during



*Field Collections Are Studied  
in the Limnology Laboratory*

the entire field season must make arrangements in advance with the director and the instructor involved. Each case will be judged individually.

**INSTRUCTIONAL  
FACILITIES**

There are seven laboratories located in three attractive buildings. Since most of the instruction is in the field the laboratories are not elaborate but they are adequate and well lighted.

A fine herbarium of the region, collections of insects and fungi, bird skins and small mammal skins are available for study.

The equipment includes all necessary compound and dissecting microscopes, binoculars, collecting equipment, various types of nets, row boats and launches, and the minor equipment and accessories for adequate instruction and research.

A new library and administration building is now ready for use.

Necessary supplies and textbooks can be bought at the small bookstore.

**INQUIRIES  
REGARDING  
COURSES**

It is suggested that the student write one of the following professors who have been appointed to answer inquiries regarding courses, necessary texts, and equipment:

Professor A. Orville Dahl  
**Department of Botany**  
University of Minnesota  
Minneapolis 14, Minnesota

Professor William H. Marshall  
**Division of Entomology and Economic Zoology**  
University Farm  
St. Paul 1, Minnesota

Professor Clyde Christensen  
**Division of Plant Pathology and Botany**  
University Farm  
St. Paul 1, Minnesota

Professor Samuel Eddy  
**Department of Zoology**  
University of Minnesota  
Minneapolis 14, Minnesota

**BOARD AND  
LODGING**

**MEALS**

Meals are served to both on-campus and off-campus students in an attractive new dining hall located on the lake shore. It is operated by the administration in consultation with officers elected by students. Meals are carefully planned, well balanced, and prepared by experienced cooks. Fresh meat, vegetables, and fruit are served daily.

**CABINS**

There are six cabins for men and six cabins for women, each accommodating eight students. Two central bathhouses are located one near each of these groups. Laundry facilities are available in each of these bathhouses.

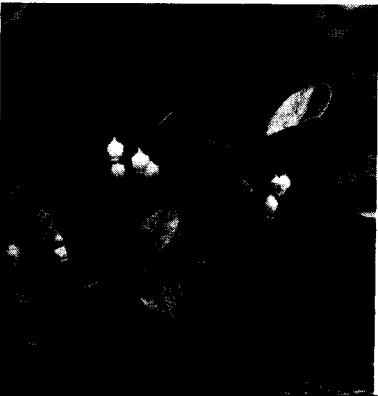
**PERSONAL NEEDS**

Students must provide their own bed linen, towels, and blankets. Since the nights are often cool, it is suggested that you bring two or three good wool blankets. Essential personal equipment should include suitable shoes or boots for field work, a field suit or dress, a warm jacket, a raincoat, heavy socks, a swimming suit, flashlight, desk lamp, notebooks, pocket field books, pencils, hand lenses, dissecting sets, pins, vials, and corks.

*Students are asked not to bring trunks. There is no room to store trunks and there are no facilities for transporting them.*



*One of the Hundreds of Fleshy Fungi  
Available for Study  
(Amanitopsis vaginata)*



*Wintergreen  
(Gaultheria procumbens)*

*The Bulletin of the*  
UNIVERSITY of MINNESOTA

The 60th Summer Session  
Announcement of Courses  
1952

First Term June 16 to July 26  
Second Term July 28 to August 30

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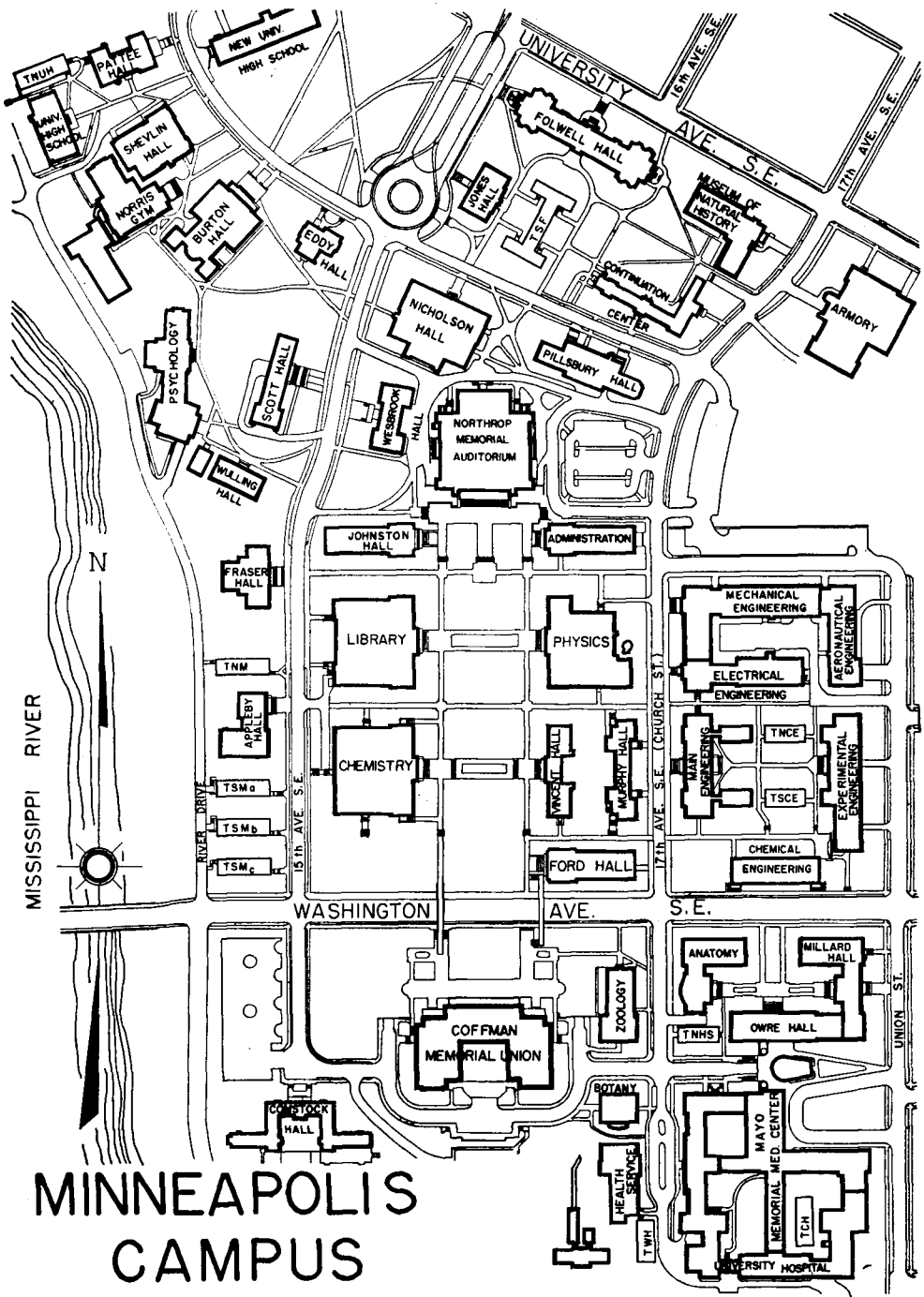
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Volume LV, Number 9

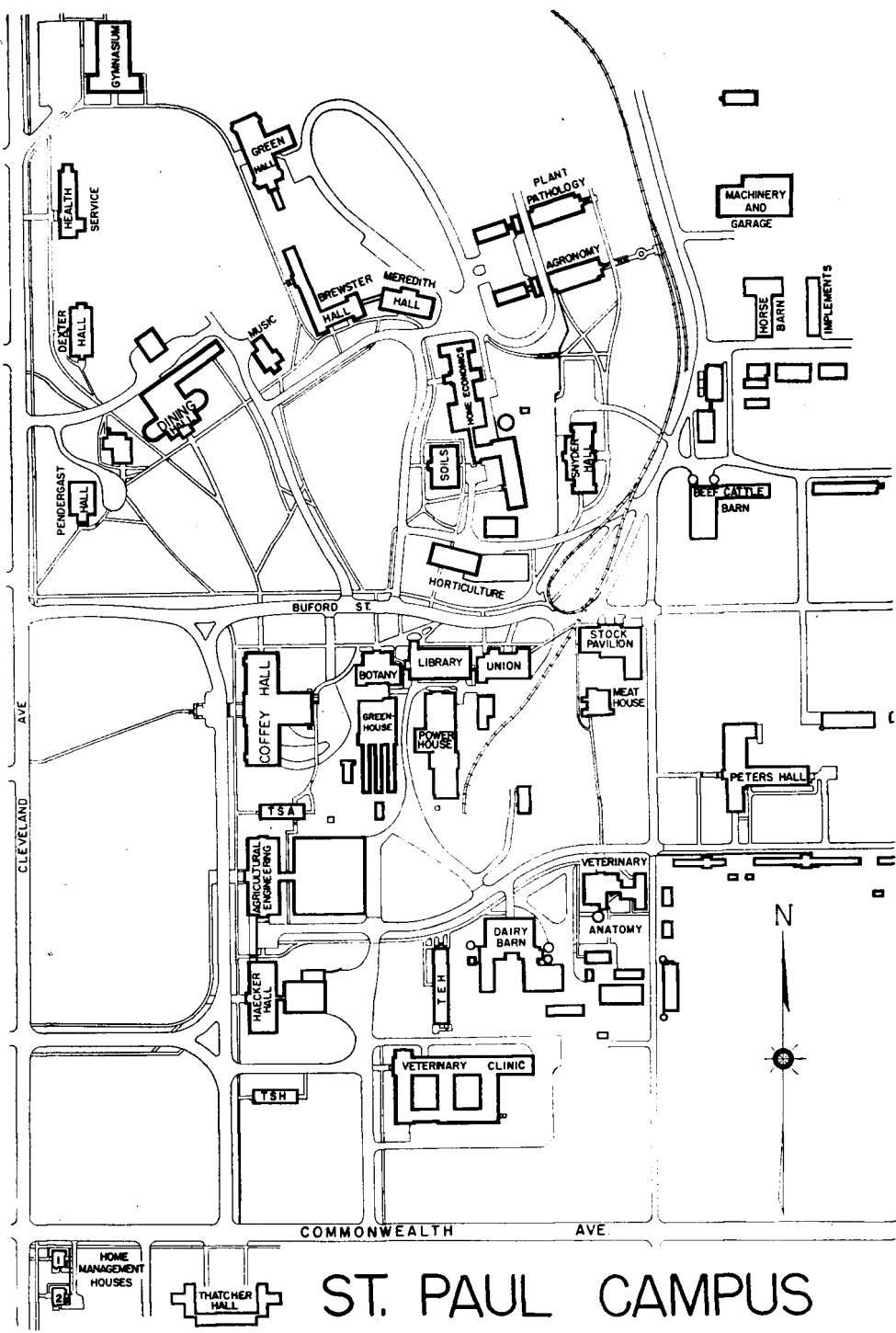
March 5, 1952

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# MINNEAPOLIS CAMPUS





# ST. PAUL CAMPUS

# UNIVERSITY OF MINNESOTA

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Edmund G. Williamson, Dean of Students

## CALENDAR OF THE 60th SUMMER SESSION, 1952

(Except Library Instruction)

June	16	Monday	Registration, first term
June	17	Tuesday	Registration, first term
June	18	Wednesday	First term classes begin
July	4	Friday	Independence Day; holiday
July	24	Thursday	Commencement, 8:00 p.m.
July	26	Saturday	First term closes
July	28	Monday	Registration for second term
July	29	Tuesday	Second term classes begin
August	28	Thursday	Commencement, 8:00 p.m.
August	30	Saturday	Second term closes

### LIBRARY INSTRUCTION

(Eight-week course)

June	16	Monday	Registration
June	17	Tuesday	Registration
June	18	Wednesday	Term begins
July	4	Friday	Independence Day; holiday
August	9	Saturday	Term closes

### CLASS HOUR SCHEDULE

	Minneapolis Campus	St. Paul Campus
I Hour	8:00- 8:50	7:45- 8:35
II Hour	9:00- 9:50	8:45- 9:35
III Hour	10:00-10:50	9:45-10:35
IV Hour	11:00-11:50	10:45-11:35
V Hour	12:00-12:50	11:45-12:35
VI Hour	1:00- 1:50	12:45- 1:35
VII Hour	2:00- 2:50	1:45- 2:35
VIII Hour	3:00- 3:50	2:45- 3:35
IX Hour	4:00- 4:50	3:45- 4:35
X Hour	5:00- 5:50	4:45- 5:35

Convocation, 8:30 p.m., Monday  
(See Official Daily Bulletin for announcements)

No application form need be filed by students with previous college work who plan to attend during the 1952 Summer Session only. See pages 13 and 14 for further details.

## BUILDING ABBREVIATIONS

A, Armory  
 Adm, Administration  
 AE, Aeronautical Engineering  
 Ag(StP), Agronomy  
 AgrBot(StP), Agricultural Botany  
 AH, Appleby Hall  
 Bo, Botany  
 Bu, Burton Hall  
 C, Chemistry  
 CH, Cooke Hall  
 ChE, Chemical Engineering  
 CofH(StP), Coffey Hall  
 DCB(StP), Dairy Cattle Barn  
 E, Main Engineering  
 EdH, Eddy Hall  
 EE, Electrical Engineering  
 En(StP), Agricultural Engineering  
 Ex, Experimental Engineering  
 F, Folwell Hall  
 ForH, Ford Hall  
 FraH, Fraser Hall  
 GH(StP), Green Hall  
 Gy(StP), Gymnasium  
 HE(StP), Home Economics  
 HoB(StP), Home Building  
 Hosp, University Hospitals  
 Hr(StP), Horticulture  
 IA, Institute of Anatomy  
 J, Jones Hall  
 JohH, Johnston Hall  
 Lib, Library  
 LsPav(StP), Livestock Pavilion  
 MB(StP), Music Building  
 ME, Mechanical Engineering  
 MeH(StP), Meredith Hall  
 MEX, Mines Experiment Station  
 MH, Millard Hall  
 MNH, Museum of Natural History  
 MSh(StP), Meat Shop  
 MurH, Murphy Hall  
 NGW, Norris Gymnasium for Women  
 NH, Nicholson Hall  
 NMA, Northrop Memorial Auditorium  
 OSL, Oak Street Laboratories  
 Owre, Owre Hall (formerly Medical Sciences)  
 P, Pillsbury Hall  
 PetH(StP), Peters Hall  
 Ph, Physics  
 PoH, Louise M. Powell Hall for Nurses  
 PP(StP), Plant Pathology  
 Psy, Psychology  
 Pt, Pattee Hall  
 ScH, Scott Hall  
 ShH, Shevlin Hall  
 SnH(StP), Snyder Hall  
 So(StP), Soils  
 TCH, Temporary, Court of Hospitals  
 TEH(StP), Temporary, East of Haecker  
 TNCE, Temporary, North Court of Engineering  
 TNHS, Temporary, North of Health Service  
 TNM, Temporary, North of Mines (Appleby Hall)  
 TNUH, Temporary, North of University High School  
 TSA(StP), Temporary, South of Administration (Coffey Hall)  
 TSCE, Temporary, South Court of Engineering  
 TSP, Temporary, South of Folwell  
 TSH(StP), Temporary, South of Haecker Hall  
 TSMa, First Temporary, South of Mines (Appleby Hall)  
 TSMb, Second Temporary, South of Mines (Appleby Hall)  
 TSMc, Third Temporary, South of Mines (Appleby Hall)  
 TSP, Temporary, South of Powell Hall  
 TWH, Temporary, West of Hospitals  
 UHS, University High School  
 VCHH, Variety Club Heart Hospital  
 VetA(StP), Veterinary Anatomy  
 VetC(StP), Veterinary Clinic  
 VH, Vincent Hall  
 WeH, Wesbrook Hall  
 WuH, Wulling Hall  
 Z, Zoology

## 1952 SUMMER SESSION

This will be the sixtieth Summer Session at the University of Minnesota. During the academic year the University is on the quarter system. Work equivalent to that taken in one quarter of the academic year may be taken in the Summer Session but for convenience the Summer Session is divided into two terms.

Most of the University's regular staff of scholars are present in the Summer Session and in addition there will be outstanding visiting professors in many fields.

### Duluth Branch

The Duluth Branch of the University of Minnesota is primarily an undergraduate institution but offers a limited number of *graduate* courses in certain fields of education during both terms of the Summer Session. Its campus overlooks Lake Superior in Duluth, Minnesota, and has the advantages of the cool North Shore climate. The curricula include preprofessional, teacher-education, and four-year academic programs. Dates of the session and tuition are the same as for the University of Minnesota in the Twin Cities.

The fourth annual summer workshop in painting, featuring another eminent American artist is planned. Special activities also are scheduled in health education, home economics, and rural education. A new feature is a study of the foundations of economics and American democracy.

For bulletin and detailed information concerning this branch, write to the Office of Personnel Services, University of Minnesota, Duluth Branch, Duluth 5.

### SPECIAL FEATURES

The following special programs have been planned to highlight the varied and rich curriculum offered:

#### Renaissance Seminar

The history, art, literature, music, and speculative and scientific thought of Europe during the sixteenth and early seventeenth centuries will be examined in a variety of perspectives in the Renaissance Seminar, an interdepartmental project of the first term of the Summer Session. Special courses will be offered by several departments, and during the period July 7-July 18 the formal courses will be supplemented by public lectures, an exhibition of Renaissance painting, a concert of Renaissance music, and a symposium. The cooperating departments are Art, English, Geography, History, History of Education, Music, Philosophy, Political Science, Romance Languages, and Sociology.

The Renaissance Seminar will not only focus attention upon one of the epochal periods in the intellectual history of the Western world but will also provide both the student body and the public with opportunities to consider the relationships of the arts to one another, to their social setting, and to the development of ideas.

Students enrolled in any one of the courses listed below will be considered members of the seminar. To secure the full benefit of the seminar, however, students are urged to enroll in two or three of these concurrently, either for credit or as auditors, since the work in the individual courses will be carried on in the light of the program as a whole. Occasional joint meetings of all the courses will be held.

The courses offered in connection with the Renaissance Seminar are as follows:

Art 57. Renaissance, Baroque Art. Mr. Eitner (University of Minnesota)

Art 117. High Renaissance and Baroque Painting and Sculpture. Mr. Eitner  
English 157. Spenser and Milton. Miss Rosamund Tuve (Connecticut College for Women)

- English 172. Renaissance Romance and Pastoral. Miss Tuve  
 French 181. Movement of Ideas in the French Literature: The Sixteenth Century. Mr. Desgranges (University of Minnesota)  
 History 66a or 104a. The Italian Renaissance. Mr. Krey (University of Minnesota)  
 Music 210. Advanced Topics in Musical Analysis. Mr. Oberg (University of Minnesota)

### Modern Language Institute

During the first term of the Summer Session, the Modern Language Institute will sponsor residence houses, located near the campus, for graduate and undergraduate students of French, Spanish, and German. All activities will be carried on in the language elected by the student. The Maison Française will be directed by Professor Guy Desgranges; the Casa Hispánica, by Professor James A. Cúneo; the Deutsches Haus, by Professor Hermann Ramras. In each house there will be native assistants.

The program will consist of regular departmental courses conducted in the morning; practical conversation sections at the residence houses in the afternoon; and lectures, round-table discussions, plays, films, music, and dances in the evening. Thus, each house will constitute a milieu for training in the language and culture of the country and will provide a unique opportunity for improvement in the spoken language. This type of instruction also contributes to a better understanding of present-day problems in the countries involved.

The Institute training has proved valuable to students and others who desire training in speaking a foreign language . . . those planning to apply for Fulbright or SPAN scholarships, or to join other foreign study groups . . . teachers or potential teachers of French, Spanish, or German whether or not they are working for graduate degrees . . . men and women training for positions with the government, international organizations, or private business.

Each language program carries 10 quarter credits for the elementary group and 9 for advanced and graduate students. A special fee of \$40, in addition to the regular Summer Session fees, is charged for the program offered in a language residence house. Room and board are additional. Several scholarships are available for the French and German houses. The French scholarships are donated by the French government.

For courses see page 48 for French, page 35 for German, and pages 48-49 for Spanish.

### Intensive Russian

A unique opportunity for intensive study of the Russian language is offered for the first time in the Summer Session. Students, with no knowledge of Russian, may register for Russian 1a-2a (see page 49) in the first term and devote twenty hours weekly to the mastery of this important language. This course is so designed that the student can then proceed to Intensive Advanced Russian in the second term.

Russian 1a-2a will present a balanced approach to the language, with the first two hours of each morning devoted to reading and composition while the second two hours will be occupied by actual conversation between students and native speakers in small drill sections.

Intensive Advanced Russian (see course 51-52-53, page 49), which may serve as a second term sequel to Russian 1a-2a or which may be taken by students who have completed one year's study of Russian, will place major emphasis on spoken Russian. Students will participate in debates, give speeches, prepared and spontaneous, and converse with native speakers.

There is a special course fee of \$20 per term in addition to the regular Summer Session fees for each of these combinations.

The new Phonetic Center in Folwell Hall with its extensive sound-recording equipment and short-wave set for Russian language broadcasts will be at the disposal of students during both terms.

### **Greek**

An elementary Greek course (see Classics, Greek 1-2, pages 27, 28) emphasizing the Hellenistic or Koine phase of the language which is of most immediate use in reading the New Testament will be offered through both terms of the 1952 Summer Session. This course is designed essentially for pretheological students and will be limited to a necessary minimum of twenty students. No credit will be allowed until the student satisfactorily completes both the first and second terms of the course.

### **American Studies Program**

The graduate program prepares its students for public and social service, library work, creative writing, editing, and teaching in high schools and colleges in these fields: American civilization . . . American history . . . American literature . . . and other American courses.

On the undergraduate level the program is planned to guide students to a broad knowledge of their own nation as preparation for enlightened citizenship.

Candidates for all degrees enroll in American courses conducted by the participating departments and in American studies seminars designed to integrate these courses. Knowledge of some foreign civilization is also required.

### **Scandinavian Area Studies**

The cooperative Minnesota-Wisconsin Summer Session program in Scandinavian area studies will be offered again during 1952 at the University of Minnesota.

With a faculty of distinguished lecturers drawn from the Scandinavian departmental staffs at the Universities of Minnesota and Wisconsin, and supplemented by lecturers from Scandinavian countries, a variety of courses will be offered on both undergraduate and graduate levels.

These courses will provide training in the Scandinavian languages and literatures, Scandinavian history, social and political conditions of twentieth-century Scandinavia, and Scandinavian art and philosophy.

The work will be open both to students specializing in Scandinavian studies and to those who may be interested only in some special aspect of Scandinavian life and culture.

### **Language Arts**

An outstanding program in the Language Arts . . . reading, speaking, writing, listening, children's theater, and children's literature . . . in the College of Education during the first term will include the most complete offering of courses in this area ever available at the University.

Supplementing these courses will be an Institute in the Center for Continuation Study from June 30 through July 3, with such national leaders as Miss Lou LaBrant and Miss Helen Sullivan added to the regular staff.

### **Business History**

In the first term, the Department of History will offer a course in business history (149a—History of American Business, see page 36) which will analyze, largely from the inside, the chief developments of modern business organization, administration and policy, together with the problems of production, finance, marketing, price, competition, combination, public relations, and government regulation. This course will be taught by Professor Ralph W. Hidy of the New York

University, who is secretary of the Economic History Association. Professor Hidy is the author of an important study of business problems as they were dealt with by the House of Baring in the first half of the nineteenth century and is now completing a history of one of the larger American business firms.

The Center for Continuation Study is planning an institute that will supplement this course.

### Workshop in High School Dramatics

During the first term of Summer Session the University Theatre in cooperation with the University High School will offer a special workshop for those interested in high school dramatics. The workshop will consist of two groups, regular Summer Session students who look forward to teaching dramatics and a special group of 25 outstanding high school students.

The program for high school students includes lectures by the director and staff of the University Theatre, reading and acting of scenes from great plays, improvisation of scenes and skits, a technical workshop, and rehearsal of one-act plays. Students will also work on University Theatre productions.

Regular Summer Session students will select courses from the University Theatre curriculum and other related fields.

High school students interested in the workshop who are not from the Twin Cities area must be able to make satisfactory arrangements regarding living quarters; the Theatre can assume no responsibility for them outside of workshop hours.

### Efficient Reading

Adult reading needs are a matter of real concern, judging from present interest in the course *Efficient Reading* (Rhetoric 47, see page 69). Designed for the average and above-average adult reader, the course provides a unique combination of activities for improving reading speed, comprehension, and vocabulary.

Extensive use is made of such recently developed aids as the Tachistoslides and Harvard Films. Teachers interested in laboratory-type experience in adult reading techniques will find the course of special value.

### School of Journalism

Mass communications and their significant role in American life have been given increasing emphasis by the University, through its School of Journalism, in recent years. Courses analyzing and evaluating the mass media are directed by trained specialists who combine years of press, radio, and other communications experience with the skills of the communications researcher.

Summer Session, 1952 offers two specially-designed courses in the School of Journalism for two groups of students who want to broaden their knowledge of mass media.

Journalism 122, *Education and the Mass Media*, see page 38, has been developed to serve the particular needs of those who use mass media in the classroom and who need systematic knowledge of media communication processes to understand the influences that determine the character, quantity, and quality of public information.

*Education and the Mass Media* will also hold special value for those who direct adult study groups, for advanced social studies students, and for those in professional communications work who have not had recent School of Journalism training.

For Summer Session students with thorough training in communications and some knowledge of the tools of research, the School of Journalism will offer Journalism 202, *Advanced Research in Printed Media*, see page 38.

This is a seminar for college and university journalism teachers and research workers from newspapers, magazines, press associations, and advertising organizations. It will also be open to qualified graduate students in journalism, psychology,



sociology, business administration, and political science, whose professional objectives may be served by its content. It will provide training in the Research Division of the School of Journalism in designing, conducting, and analyzing printed media research.

Both courses will emphasize recent research in the interrelations of the communicator, media content, mass audiences, and the effects of communicated symbols.

A Short Course for high school newspaper and yearbook advisers and for teachers of high school journalism is scheduled by the General Extension Division for June 18-27. This program is so arranged that Summer Session students may take advantage of it and still have free hours for Summer Session courses. The National Scholastic Press Association and the National Association of Journalism Directors are in joint charge of the Short Course program in conjunction with the School of Journalism and the Extension Division of the University. Interested students should contact the Extension Division or School of Journalism offices for information.

## GENERAL INFORMATION

On its Minneapolis Campus, the University of Minnesota places at the disposal of the Summer Session student the facilities of twelve schools and colleges comprising this great educational institution—their faculties, libraries, and laboratories, observatory, and museums—and in addition a recreation program of concerts and lectures as well as physical recreation such as swimming, golf, tennis, bowling, and folk and ballroom dancing.

The College of Agriculture, Forestry, Home Economics, and Veterinary Medicine is on the St. Paul Campus and has its own library, laboratories, and recreational facilities.

The campuses are connected by an intercampus trolley line which gives regular service free to students enrolled for classes on both campuses. The Como-Harriet interurban carline also connects the campuses with the two cities, thus making available the added cultural advantages of two large metropolitan centers—an attraction for the Summer Session student that is unique with the University of Minnesota.

Students who are teachers and are obliged to return to their schools before the close of the second term may arrange, with the consent of instructors, to complete the work *in absentia*. The granting of such permission is not obligatory for any instructor, *and students desiring this privilege should ascertain from the instructor, at the time of registration 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. Arrangements must be made with the recorder for the proper examination.

## Intercampus Car

For students who are registered for class work on both the Minneapolis Campus and the St. Paul Campus, free transportation on the intercampus car is provided. Tickets will be issued to students registered in the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine at the Office of Admissions and Records, St. Paul Campus; to those registered in other colleges, at the university post office in the basement of Coffman Memorial Union, Minneapolis Campus.

Students who are registered for classes on the Minneapolis Campus and who live in Meredith Hall on the St. Paul Campus will also be given free transportation. Tickets will be issued by the Office of Admissions and Records, St. Paul Campus.

## Parking Facilities

For the summer, facilities for parking are available in three university underground garages—the Union, the Auditorium, and the Center for Continuation Study. Reservations may be made in advance for space in one of these garages for either

or both terms by writing to the Transportation Office, Coffman Memorial Union Garage, University of Minnesota, Minneapolis 14, Minnesota.

These and other parking facilities are available by the day. Parking lots are operated by the University on and adjacent to the campus.

### General Offices

The office of the Dean of the Summer Session is in 135 Johnston Hall. The Office of Admissions and Records and the office of the Bursar are on the first floor of the Administration Building. For the convenience of students registered in agriculture and home economics, branch offices are established on the second floor of Coffey Hall, St. Paul Campus. The offices of the several schools and colleges together with the office of student affairs function in the control of students during the summer just as during any other quarter of the year.

### University Library

The University Library is open to all students of the Summer Session. The library of the Department of Agriculture is located in Coffey Hall on the St. Paul 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.

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 Reference Library of St. Paul grant liberal privileges to Summer Session students.

### University Post Office

The university post offices distribute students' mail addressed to the University. These post offices are located in the basement of the Coffman Memorial Union on the Minneapolis Campus and in Coffey Hall on the St. Paul 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 summer an official bulletin is published in the *Minnesota Daily*, the student newspaper of the University of Minnesota. In addition to announcements for students and faculty, it contains programs of the various recreational activities and matters of general interest. The *Minnesota Daily* is delivered to boxes strategically placed on the campuses 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.

## Housing and Food Service

**Living expenses**—The living expenses for students at the University are never very high, and this is true especially of the Summer Session. In addition to the university-maintained cafeterias on campus, 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, 204 Eddy Hall, 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 or Sanford Hall, dormitories for women, the Winchell Cottages for women (cooperative residences), and Centennial Hall, dormitory for men, on the Minneapolis Campus; and Meredith Hall, dormitory for women on the St. Paul Campus.

## ADMISSION AND REGISTRATION

### Admission

The courses of the Summer Session are open to all qualified high school graduates, regularly admitted students of the University including those attending regular sessions, and those with previous college work. Recent high school graduates must be regularly admitted before enrolling in the Summer Session.

**Special students**—Students with previous college work who wish only to attend the Summer Session may do so without filing credentials, provided they are in good standing and are not candidates for a degree. Such students will be classified as "special" for the Summer Session only.

Mature persons (those about 24 years of age or older) who are not candidates for a degree but wish to complete certain specific college subjects may be considered for admission as adult special students.

Attendance during the Summer Session in no way guarantees special students admission to the regular academic year. Special students who wish to be considered for admission to a subsequent term must file regular admission applications early in the summer. Nonresidents whose previous records at Minnesota were above "C" may ordinarily re-enter as regular students.

**Graduate students**—The procedure for admission of graduate students is discussed on pages 22 and 23.

**Degree candidates**—Those who expect to become *candidates for a degree* at the University during the Summer Session must have filed an application for admission and have been regularly admitted to a college of the University.

All students should consult the *General Information Bulletin* for detailed requirements governing admission and the granting of degrees. The *General Information Bulletin* and specific college bulletins may be obtained by writing to: 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 16, 8:00 a.m. to 4:00 p.m.
	Tuesday, June 17, 8:00 a.m. to 4:00 p.m.
For the second term	Monday, July 28, 8:00 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 18 .....	\$2.00
Thursday, June 19 .....	3.00
Friday, June 20 .....	4.00
Monday, June 23 .....	5.00

No registrations are allowed for the first term after Monday, June 23, 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 29 .....	\$2.00
Wednesday, July 30 .....	3.00
Thursday, July 31 .....	4.00
Friday, August 1 .....	5.00

No registrations will be accepted for the second term later than Friday, August 1, 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.

### Registration Tally Procedure June 16 and 17

Students registering in the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine will report to 203d Coffey Hall, St. Paul Campus, for registration materials.

Other students will report to the Main Ballroom, Coffman Memorial Union, for materials. Students without previous college work who do not have an admission certificate should go to the admission table.

Students registering before or after the regular registration period, June 16 and 17, and during the second term of the Summer Session will go to the Office of Admissions and Records to obtain registration materials.

As part of the registration procedure, all students, including graduate students, must tally for courses listed below. To tally, the student should obtain an I.B.M. class reservation card at the appropriate college tally office indicated. These class reservation cards must be attached to the student's registration blank when it is presented at the college window in the Office of Admissions and Records.

#### AGRICULTURE, FORESTRY, HOME ECONOMICS, AND VETERI- NARY MEDICINE

Tally at 203dCofH for all courses. Courses 200 and over are not tallied.

#### BUSINESS ADMINISTRATION

BA, all courses tallied at 107VH\*  
Econ, courses tallied at 107VH\* for BA students and 210JohH\* for all other students.  
BA 144, 165 and 264 are not tallied.  
Econ 32 and courses 200 and over are not tallied.

#### EDUCATION

Tally at 206Bu\* for courses listed below unless otherwise indicated. Other courses are not tallied.

AgEd 82, 91, 105, 165, 167 tallied at 203dCofH  
EdAd 133, 229  
EdCI 101, 109, 112, 125, 129, 135, 187  
EPsy 133, 134, 216A, 217A  
EdT 52  
HEd 180  
HEEd 196C, 196D  
Ind 1, 3, 15, 21, 50A, 50B, 50C  
PE 8 (for women) tallied at 210JohH\*

\* These courses will be tallied in the Main Ballroom, Coffman Memorial Union, on the regular registration days, June 16 and 17.

**GENERAL COLLEGE**

Tally at 106NH\* for all courses.

**INSTITUTE OF TECHNOLOGY**

Tally at 136E for all courses except the following (courses 200 and over are not tallied):

- AnCh 7 tallied at 210JohH\*
- InCh 1, 2, 4, 5, 11 tallied at 210JohH\* for SLA students
- OrCh 61, 62 tallied at 210JohH\* for SLA students
- PCh 107, 108 tallied at 210JohH\*

**MEDICAL SCHOOL**

The courses listed below are tallied as indicated. Other courses are not tallied.  
 Bact 53 tallied at 203dCofH for Agric, and 210JohH\* for all other students  
 Bact 122 tallied at 210JohH\*

**SCIENCE, LITERATURE, AND THE ARTS**

Courses listed below are tallied at 210JohH\* unless otherwise indicated. Other courses are not tallied.

- Art 23
- Bot 4, 5
- Comp 4, 5, 6, 27, 28, 101, 102
- FL 1, 15, 25
- Hum 1, 2, 4, 22, 23, 51, 52, 61, 62
- Jour 10, 13, 55, 73, 140
- Math 1, 6, 7, 15, 16, 30, 50, 51, 107, 108, 109, 126, 131, 136, 144, 179
- Mus A, D, 1, 1T, 2T, 3T, 4T, 5T, 6T, 209, 210, 211
- PO 1
- Spch 1, 2, 3, 32, 33, 34, 65, 66, 72, 78, 82, 91, 92, 93, 102, 106, 131
- SSci 1, 2, 8, 11
- Zool 1, 2, 21

**Changes in Registration**

After a student's registration has been accepted by the recorder, any change must be approved by the Committee on Students' Work 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.**

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.

**Tuition and Incidental Fees**

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

Tuition fee (per term) .....	\$42.00
Incidental fee† (per term) .....	9.00
<hr/>	
Total fee (per term) .....	\$51.00
General deposit .....	\$ 2.00

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

Part-time tuition fee (4 credits or less) (per term) .....	\$32.00
Incidental fee† (per term) .....	9.00
<hr/>	
Total fee (per term) .....	\$41.00
General deposit .....	\$ 2.00

**NOTE**—Regular tuition fees as provided during the academic year will be charged all students in Nursing. In Law, Veterinary Medicine, Medicine, and Dentistry, residents pay the regular Summer Session tuition fee, nonresidents pay tuition as provided during the academic year. Special fees are collected in the Division of Library Instruction and the Biological Station. All students pay the Summer Session incidental fee.

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 (one or both terms) for *thesis work only* upon the payment of a \$2 deposit and \$9.50 tuition per term.

\* These courses will be tallied in the Main Ballroom, Coffman Memorial Union, on the regular registration days, June 16 and 17.

† The incidental fee of \$9 per term is charged each student for which the student receives the privileges of the Coffman Memorial Union, the Health Service, Library, Counseling Bureau, Speech and Hearing Clinic, recreation program, *Minnesota Daily*, and the university post-office service.

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.

For fees for students in the Medical School, see page 75.

For fees for students in the School of Dentistry, see page 91.

For fees for students in the Itasca Park Biological Station, see page 71.

For fees for students in Library Instruction, see page 122.

For fees for students registered for nursing courses, see page 89.

For fees for students registered for veterinary medicine, see page 69.

### Course Fees

*All fees are per term unless otherwise indicated.*

#### Aeronautical Engineering

\$1.50—lab fee for all soph, jr, sr, students in aero engr  
4.50 per solo hr—20 (pay at U Airport)  
7.50 per dual hr—20 (pay at U Airport)  
42.00—46 (no fee for aero engrs)

#### Agricultural Education

\$1.50 per cr—82, 91, 199E

#### Agricultural Engineering

\$1.00—5, 7, 13, 14, 19, 20, 21, 23, 24,  
25, 33, 35, 40, 72  
3.00—42  
6.00—41, 43

#### Agronomy

\$2.00—136

#### Anatomy

\$1.00 per cr—156  
7.50—100, 101

#### Architecture

\$3.00—AD I, AD II, AD III, 40  
10.00—AD IV

#### Art

\$1.00—1, 2, 3, 4, 5, 11, 12  
2.00—20, 20A, 21, 21A, 22A, 43, 44, 45,  
87, 88, 89, 97, 98, 99, 103, 104, 105,  
153, 154, 155, 193, 194, 195  
3.00—23A, 24A, 25A, 30, 31, 50, 51, 52,  
60, 60A, 61, 61A, 62, 62A, 70, 71, 72,  
110, 111, 112, 150, 151, 152, 200, 201,  
202  
5.00—10, 23, 24, 25, 40, 41, 42, 53, 54,  
55, 63, 64, 65, 73, 74, 75, 80, 81, 82, 90,  
91, 92, 93, 94, 95, 101, 102, 180, 181,  
182, 190, 191, 192  
7.50—140, 141, 142, 143, 144, 145  
10.00—83, 83A, 84, 84A, 85, 85A, 123,  
124, 125  
15.00—133, 134, 135

#### Art Education

\$1.50—17, 18, 19  
2.00 per cr—84, 86, 86A, 87, 87A, 88,  
88A, 185  
2.00—81A, 81B  
3.00—56, 57, 58

#### Astronomy

\$1.00—20

#### Bacteriology

\$3.00—53, 102, 103, 104, 112, 113, 114,  
115, 116, 122, 124

#### Biological Station

\$10.00—lab fee

#### Botany

\$1.50—1, 2, 3, 50, 51, 52, 53, 54, 112, 113,  
114, 115, 118, 119, 121, 127, 130, 132,  
134, 137, 165, 194, 195, 196, 197, 198,  
199  
2.25—4, 5  
3.00—120, 123, 154, 173, 174, 175, 179,  
180, 181

#### Business Administration

\$1.00—170, 171  
2.00—65, 66, 74, 150, 152

#### Civil Engineering

\$2.00—51, 52, 53, 137, 146  
35.00—23 (summer camp)

#### Communication

\$1.00—1

#### Curriculum and Instruction

\$2.00 per cr—all courses

#### Economics

\$2.50 for one or more courses—32, 33,  
34, 35, 37, 38, 39, 40, 41, 42, 43

**Education**

\$2.00 per cr—51A, 51B, 51C, 55A, 55B,  
71A, 71B, 71C

**Educational Psychology**

\$1.00—217, 218  
1.50 per cr—142, 143, 144, 150  
1.50—216A, 217A, 218A

**Electrical Engineering**

\$1.00—12, 14, 112, 114, 116, 118, 120, 127,  
128, 129  
2.00—16, 122, 124, 126, 164, 165, 166

**Engineering English**

\$1.00—4

**Entomology**

\$1.50—5, 21, 51, 52, 56, 63, 64, 114, 117,  
118, 119, 120, 121, 125, 126, 127, 141,  
142, 144, 145, 146, 150, 164, 165, 166,  
170, 175, 176, 179  
5.00—55, 128, 129, 140, 168, 169, 177

**Family Life**

\$3.00—14

**General College**

\$1.00—10A  
1.50—22A, 22B, 22C, 22X, 23AX,  
23BX, 23CX, 23DX, 24A, 24B, 24C,  
24AX, 24BX, 24CX, 25A, 25B, 25C,  
25D, 25X, 28, 32A, 32B, 32C, 32D,  
32AX, 32BX, 32CX, 33A, 33B, 33C,  
33AX, 33BX, 33CX  
2.00—23A, 23B, 23C, 23D  
2.50—47A  
5.00—26A, 26B

**Geology**

\$1.00—A, B, 23, 24  
5.00—175  
10.00—100, 115, 150

**Home Economics**

\$2.00—25

**Home Economics Education**

\$2.00 per cr—91, 93, 94, 197, 199E

**Humanities**

\$1.00—1, 11, 21, 51, 61, 71

**Hydromechanics**

\$2.00—104

**Industrial Education**

\$1.50 per cr—1, 2, 3, 5, 6, 7, 10, 11, 12,  
15, 16, 20, 21, 25, 26  
2.00 per cr—50A, 50B, 50C, 70, 75

**Journalism**

\$1.00 general fee for one or more  
courses, excluding Jour 5  
2.00 plus general fee—51, 58, 59, 67, 68  
3.00 plus general fee—41, 52, 55  
5.00 plus general fee—10, 66

**Mathematics and Mechanics**

\$1.00—87, 141

**Mechanical Engineering**

\$2.00—1, 4, 5, 6, 7, 8, 12, 13, 14, 15, 16,  
17, 18, 33, 34, 35, 61, 110, 111, 112,  
113, 114, 118, 149, 159, 169, 189, 198

**Methods and Student Teaching**

\$2.00 per cr—all courses

**Modern Language Institute**

\$20.00—Russian (1a, 2a, or 51, 52, 53)  
40.00—French (22, 58, 109); or Ger-  
man (22, 66, 107); or Spanish (22,  
58, 109)

**Mortuary Science**

\$1.00—1, 2  
1.50—4, 5, 6  
3.00—7, 20, 21, 22

**Music**

\$1.50—10, 31, 32, 33, 34, 35, 36, 50, 51,  
52, 53, 54, 55, 56, 57, 58  
15.00—Class lessons in 11C, 12C  
25.00—60B, 61B, 62B  
30.00 for one (no cr) individual lesson  
per week—A, B, C, D, E, F  
30.00 for one (2 cr), \$60.00 for two  
(4 cr) individual lessons per week—  
11, 12, 13, 14, 15, 16, 17, 18, 19, 20,  
21, 22, 23, 24, 25, 26, 27  
50.00—13B  
60.00—204

Students paying \$30.00 or more in mu-  
sic fees may take other courses for  
additional tuition of \$32.00, incidental  
fee \$9.00 and special course fees.

**Music Education**

\$1.50 per cr—4, 5, 6, 59, 63, 64, 65  
2.00 per cr—50A, 50B, 53, 60, 61, 62  
30.00 for one (2 cr), \$60.00 for two (4  
cr) lessons per week—225E

**Natural Science**

\$1.00—1, 2, 3, 4, 5, 6  
2.00—7, 8, 9

**Physical Education (men)**

\$1.00 per cr—1A, 1B, 1C, 2A, 2B, 2C  
 1.50 per cr—4A, 4B, 4C, 5A, 5B, 5C,  
 6A, 6B, 6C, 7A, 7B, 7C, 8, 9A, 9B,  
 60B

2.00 per cr—55, 73, 74, 75

**Note:** Towel and locker fee for students using PE facilities for activity, \$2.50 per term payable at dept. Uniforms for class or recreational activity, \$2.00 per term payable at dept.

**Physical Education (women)**

\$2.50 (max \$5.00 per term)—4, 5, 7,  
 8, 11, 12, 13, 18, 32, 33

**Physical Medicine**

\$3.00—75

**Physics**

\$1.00—8 Part I, 8 Part II  
 2.00—1a, 2a, 3a, 4, 5, 6, 7, 8, 9, 50, 52,  
 110, 112, 120, 121, 122, 134, 136, 144,  
 145, 146, 148, 154

**Psychology**

\$1.00—4, 5, 135, 136, 137  
 2.00—130, 290, 291

**Public Health**

\$1.00 per cr—65, 66, 67, 119, 129, 138,  
 139, 173, 190  
 1.00—80, 140, 150  
 1.50—121, 131  
 2.00—111  
 3.00—143, 144, 184, 185, 186, 187, 188  
 100.00—169

**Rhetoric**

\$1.00—1, 12, 22, 28, 54, 59

**Russian**

\$20.00—1a, 2a, or 51, 52, 53

**Social Work**

\$5.00—210, 211, 212, 215, 216, 217

**Soils**

\$2.00—108, 111

**Speech**

\$1.00—1, 2, 3, 5, 6, 51, 55, 56, 57, 61, 65,  
 67, 81, 82, 83, 141, 142  
 2.00—31, 32, 33, 34, 66, 71, 72, 73, 78, 79,  
 91, 92, 93, 111, 112, 113, 131, 132, 133,  
 143, 153

**Technical Aid**

\$2.00—80A, 80B, 81, 81A, 81B, 82, 82A,  
 82B, 83, 83A, 84, 84A, 85A

**Zoology**

\$1.50—21, 51, 52, 53, 55, 57, 58, 59, 75,  
 81, 100, 101, 102, 107, 108, 109, 110,  
 111, 115, 116, 117, 118, 119, 120, 121,  
 125, 126, 127, 132, 143, 144, 145, 146,  
 149, 150, 155, 156, 157, 160, 161, 162,  
 170, 180, 183, 184, 185  
 2.00—14, 15  
 3.00—1, 2, 50, 112, 113  
 5.00—128, 129, 140  
 8.00—182  
 10.00—22

**Fees for Courses Requiring Deposit Cards**

Deposit cards may be purchased from the bursar (or from the cashier, Coffey Hall, for Agricultural Biochemistry). Chemistry and biochemistry cards are \$10.00; all others are \$5.00

The course fees listed below will be charged against your deposit card, together with laboratory, material and breakage, and the unused balance credited to your matriculation deposit at end of the course. You must present your deposit card to be assigned a lab desk. Veterans will receive information from their in-

structor concerning deposit cards and lab assignments.

**Agricultural Biochemistry**

\$2.00—2  
 5.00—103, 110, 117, 118, 129, 130, 131,  
 132, 133, 202, 203, 212

**Analytical Chemistry**

\$3.00—1, 2, 7, 9, 96, 97, 98, 101, 102, 103,  
 104, 105, 106, 107, 108, 109, 122, 123,  
 127, 131, 132, 134, 138, 140

**Chemical Engineering**

\$3.00—105, 106, 111, 112, 113, 151, 152,  
 153, 154, 155, 156, 160, 176, 177, 179



**Food Technology**

\$5.00—51, 52

**Inorganic Chemistry**\$3.00—1, 2, 4, 5, 6, 7, 9, 10, 11, 12, 13,  
96, 97, 98, 102, 109, 110**Organic Chemistry**\$3.00—61, 62, 64, 96, 97, 98, 102, 130  
10.00—110, 139**Pharmacognosy**\$3.00—55, 56  
5.00—162, 163**Pharmacy**\$5.00 deposit required of all soph, jr,  
sr students in Pharmacy**Physical Chemistry**\$3.00—96, 97, 98, 104, 105, 106, 107, 108,  
110, 111, 112, 113, 132, 133, 134, 211,  
212, 213, 231**Physiological Chemistry**

\$3.00—100, 101, 102, 103

**Special Fees****Music Practice**\$1.00 per term for one, \$2.00 for two,  
50 cents for each addtl hr per week  
—piano, practice room  
.20 per hr—small organ, practice  
room  
.40 per hour—large organ, practice  
room  
2.00 per term for 10 hrs per week—  
practice room for other instruments**Speech and Hearing Clinic—Students**

\$5.00 per term—spec clinical treatment

**Speech and Hearing Clinic—Nonstudent**Articulatory cases, per 10 weeks—\$15.00  
for 1, \$25.00 for 2, \$30.00 for 3, \$35.00  
for 4, \$40.00 for 5 lessons per week  
Stuttering, per 7 weeks—\$30.00 for one-  
qtr time, \$50.00 for half-time, \$100.00  
for full-time remediation**Miscellaneous**\$5.00—Credential examination  
5.00—Large diploma  
2.50—Master's thesis binding  
35.00—PhD thesis binding  
5.00—Special examination  
.50—Record service, deducted from  
general deposit upon refund**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

**Scheduling Code and Course Descriptions**

Pages 24-124 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.

Following each course is a statement, in parentheses, of credits, classes of students eligible, prerequisites, class hours, days of the week, and location of the class. Thus: (3 cred.; jr., sr., grad.; prereq. 12, 13; II MTWThF; 117F) means that course carries three credits, is open to juniors, seniors, and graduate students, has for prerequisites Courses 12 and 13 in the department under which the course is listed, meets at the second hour on Monday, Tuesday, Wednesday, Thursday, and Friday in Room 117, Folwell Hall. Abbreviations for class hours and buildings are interpreted by the lists on pages 5 and 6.

Contact department office for information on instructors, hours, and rooms not listed or listed as arranged (ar.).

### 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 lectures or recitation periods (2 per week for a summer term requiring 2 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.

### 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 Committee on Students' Work 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 with 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 subject to all the following conditions:

1. **Curriculum requirements**—Certification by the university 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 by 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. In any case, the student must spend two quarters of the senior year in residence. This last requirement may be waived under such rules as may be established by each college for such exemptions. In addition, special residence requirements must be met in several of the schools and colleges. Extension courses (not correspondence study courses) completed in Minneapolis, St. Paul, or Duluth may apply toward the residence requirement. Work done on a campus of the University of Minnesota in Armed Forces College Training Programs is considered residence credit.

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

**5. Attendance at commencement**—A candidate for a degree is required to be present at the commencement exercises at which his degree is conferred. Commencement exercises for Summer Session candidates in the first term will be held Thursday, July 24, and for second term Summer Session candidates, will be held Thursday, August 28.

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.

**6. Graduation fee**—each degree, \$10.

**7. Placement Service fee**—required of candidates for degrees from:

Institute of Technology .....	\$2.50
College of Education (except Nursing Education).....	5.50

## GRADUATE SCHOOL

The Graduate School presents unusual opportunities for advanced study and research in many fields. It brings together in a single organization all the programs and offerings of the University at the level of advanced instruction that may lead to the higher degrees of master of arts, master of science, and doctor of philosophy.

The privileges of the Graduate School are open, upon application, to those who have received Bachelor's degrees from recognized colleges and universities and whose records demonstrate that they are adequately prepared for successful work in their chosen major fields of study. Applications are considered by the Graduate School as such and by graduate advisers in the departments in which the applicants propose to carry major work and with due consideration of the available facilities for accepting additional graduate students. In many instances applicants are required to present evidence supplementary to that contained in their official transcripts. This evidence may take the form of tests such as the Graduate Record Examination, the Miller Analogies Test, or the Ohio Psychological Examination.

### ADMISSION

Students must make application for admission at least four weeks before the opening of the Summer Session which they expect to attend in order to avoid delay and last-minute disappointment as well as possible penalty for late registration. Applicants who do not hold a degree from the University of Minnesota must present a transcript in duplicate of their undergraduate work. Applicants who hold a degree from the University of Minnesota are expected to present a certified copy of their scholastic record. Applications should be sent to the Dean of the Graduate School, University of Minnesota, Minneapolis 14.

### 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 candidacy indicates a judgment by members of the graduate faculty that the student shows sufficient promise to be permitted to proceed toward a degree. Under no circumstances will a student be admitted to candidacy until he has been in residence for at least one quarter or one term of the 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 should be submitted as soon as a student has earned sufficient credits to be eligible for candidacy. 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.

### 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 work either in residence or *in absentia* 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 initiation of the degree program, except in social work where the time limit is seven years for the master of arts with a major in social work.

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 complete and registered in the Graduate School office at least eight weeks before the end of the term in which they take the degree (first term: Thursday, May 29, 1952; second term: Thursday, July 3, 1952).

### 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 initiation of the degree program, except in social work where the time limit is nine years for the master of arts with a major in social work and seven years for the master of social work.

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 credits shall be in a single field of concentration. At least 18 credits shall be in related fields, and it is understood that this work shall include at least **two** fields. The Master's degree under Plan B, as compared with Plan A, is somewhat less a test of research interest and is more adapted to those who, for example, as teachers or school administrators, will profit by a broader range of knowledge in the fields with which they are professionally concerned. The requirements under Plan B are meant to forward the students' advanced education, not on a different level but for a somewhat different purpose than in the case of the requirements for Plan A. The transfer from one plan to the other may be made only with the approval of the adviser and the appropriate Graduate Group Committee.

Under Plan B, 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.

Students must register in the Graduate School if their work is to count toward 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

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 *General Information Bulletin* and the complete *Bulletin of the College of Science, Literature, and the Arts*. (See also page 13 of this bulletin.)

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, Home Economics, and Veterinary Medicine 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 23.)

## AMERICAN STUDIES

### First Term

**Hum.22. American Life II.** The place in American civilization of the land, the city, and the good life; their implications and interrelations. (See General Studies, page 32) (3 cred.; all; no prereq.; I MTWThF; 109TSF) Ward

**Am.Stu.200.\* Introduction to American Studies.** Exposition of interdisciplinary methods and of the concept of American Studies. (3 cred.; grad.; limited to candidates for the M.A. in American studies; III MTWThF; 4F) McDowell

**Am.Stu.250. Readings in American Civilization.** Independent study of interdisciplinary aspects of American civilization under guidance of members of various departments. (Cred. ar.; grad.; prereq. consent of department chairman; ar.; ar.) Ar.

### Second Term

**Hum.23. American Life III.** The growth and interrelation of nationalism, regionalism, and internationalism in American culture and thought. (See General Studies, page 33) (3 cred.; all; no prereq.; I MTWThF; 109TSF) Kwiat

**Am.Stu.111.\* Popular Culture in the United States.** The influence of periodicals, films, radio and other leisure activities. (3 cred.; sr., grad.; prereq. 9 cred. in literature or social sciences; II MTWThF; 107F) Denney

**Soc.173. Nineteenth-Century Social Thought.** (See Sociology, page 52) Consideration of major figures in the development of social thought in the nineteenth century. (3 cred.; sr., grad.; prereq. 15 cred. in social sciences or consent of instructor; IV MTWThF; 150ForH) Denney

**Am.Stu.202\*. Introduction to American Studies.** The place of education in American civilization. (3 cred.; grad., required for candidates for M.A. in American Studies, open to others with consent of instructor; IV MTWThF; 101TSF) Welter

**Am.Stu.251. Readings in American Civilization.** Independent study of interdisciplinary aspects of American civilization under guidance of members of various departments. (Cred. ar.; grad.; prereq. consent of department chairman; ar.; ar.) Ar.

*See also approved courses in participating departments, as listed in the Bulletin of the Program in American Studies.*

## ANTHROPOLOGY

### First Term

2. **Introduction to World Ethnology.** The appearance of man in the old and new worlds; the formation of culture patterns and the spread of culture and its adaptation in various settings in Asia, Africa, the South Seas, and among the American Indian; the development of civilization; changes in arts, beliefs, and social institutions of primitive communities as observed in modern times. (3 cred.; all; no prereq.; II MTWThF; 15ForH) Spier
122. **Problems in Anthropology.** Individually directed readings. (Cred. ar.; jr., sr., grad.; prereq. consent of instructor; ar.; ar.) Spier
129. **Economic Activities in Primitive Culture.** Varied systems of making a living in preliterate groups. Economy of hunting and fishing tribes, primitive agriculturalists, and simple herders. Relations between habitat, technology, social organization, and goals and attitudes as focused in the area of economic life. (3 cred.; jr., sr., grad.; no prereq.; IV MTWThF; 15ForH) Spier

### Second Term

1. **Introduction to Anthropology.** A topical treatment of the main phases of anthropology, including physical, archeology, technology, and culture. (3 cred.; all; no prereq.; I MTWThF; 15ForH) Wallis
54. **Social Organization.** Forms of social life among primitive peoples. (3 cred.; jr., sr.; no prereq.; II MTWThF; 15ForH) Wallis
123. **Problems in Anthropology.** (See 122, first term) (Cred. ar.; ar.; ar.) Wallis

## ART

### First Term

#### HISTORY OF ART

- Art1. Introduction to Art.** (Page 31†) (3 cred.; no prereq.; IV MTWThF; 207bJ) Eitner
- Art57. Renaissance and Baroque Art: 1500-1650.** (This is a part of the Renaissance Seminar. See page 7.) The development of European painting and sculpture from Michelangelo to Rubens. The Florentine masters of the High Renaissance. The Mannerists. The Venetian painters: Titian, Tintoretto and Veronese. The Renaissance in the Northern countries: Dürer, Cranach, Holbein. The early Baroque: Caravaggio, El Greco. The developed Baroque style of Rubens, Velasquez and Bernini. (3 cred.; jr., sr.; prereq. 1 or consent of instructor; VI MTWThF; 207bJ) Eitner
- Art117.\* High Renaissance and Baroque Painting and Sculpture.** (This is a part of the Renaissance Seminar. See page 7.) A survey of the main currents in Renaissance and Baroque art in Italy and in the North, with special em-

† For description see the *Bulletin of the College of Science, Literature, and the Arts*, 1951-53.

- phasis on the Florentine and Venetian masters and the diffusion of their styles to Germany, Flanders, and Spain. (3 cred.; jr., sr., grad.; prereq. 9 cred. in history of art or 9 cred. in history or literature with consent of instructor; VI MTWThF; 207bJ) Eitner
- Art178.\* Scandinavian Art.** (Page 35†) (See Scandinavian Area Studies, page 50) (3 cred.; jr., sr., grad.; prereq. 9 cred. in history of art or 9 cred. in history or literature with consent of instructor; III MTWThF; 207bJ) Liljegren

## STUDIO COURSES

- Art23,24. Drawing and Design I.** (Page 32†) (5 cred.; prereq. 1, but may be taken at the same time as 1; I-III MTWThF; 104J) Collins
- Art30,31. Drawing and Painting I.** (Page 32†) (2 cred.; no prereq.; elective credit for art and art education majors)
- Sec. 1, III-IV MTWF, 200aJ, Doseff    Sec. 2, I-II MTWF, 200bJ, Quirt
- Art53,54. Design II.** (Page 36†) (3 cred.; jr., sr.; prereq. 25; III-IV MTWThF; 11J) Morton
- Art60,61,62. Drawing and Painting II.** (Page 35†) (3 cred.; jr., sr.; prereq. 24 or 31 or equiv. or consent of instructor; I-II MTWThF; 200aJ) Doseff
- Art70,71,72. Drawing and Painting III.** (Page 36†) (3 cred.; jr., sr.; prereq. 24; III-IV MTWThF; 200bJ) Quirt
- Art73,74,75. Presentation Techniques.** (Page 37†) (3 cred.; jr., sr.; prereq. 24, for architects there is no prerequisite; V-VI MTWThF; 104J) Collins
- Art90,91,92. Printmaking.** (Page 36†) (3 cred.; jr., sr.; prereq. 62 or consent of instructor; VI-VII MTWThF; 203J) Myers
- Art140,141,142. Metal Sculpture and Jewelry.** (Page 36†) (3 cred.; jr., sr., grad.; prereq. 55 or consent of instructor; VI-VII MTWThF; 11J) Morton
- Art150,151,152. Problems in Painting and Prints.** (Page 36†) (3 cred.; jr., sr., grad.; prereq. consent of instructor)
- Sec. 1, III-IV MTWThF, 200bJ, Quirt    Sec. 2, VI-VII MTWThF, 203J, Myers
- Art190,191,192. Problems in Printmaking.** (Page 36†) (Cred. ar.; jr., sr., grad.; prereq. 92 or consent of instructor; ar.; ar.) Myers
- Art200,201,202. Advanced Problems in Studio Work.** (Page 36†) (Cred. ar.; prereq. consent of instructor; ar.; ar.) Quirt

## Second Term

## HISTORY OF ART

- Art1. Introduction to Art.** (Page 31†) (3 cred.; no prereq.; IV MTWThF; 207bJ) Torbert
- Art68. Modern Art: Contemporary Art in Europe and America.** (Page 33†) (3 cred.; jr., sr.; prereq. 1 or consent of instructor; II MTWThF; 207bJ) Torbert
- Art156a.\* Twentieth-Century European and American Painting.** (Page 35†) (3 cred.; sr., grad.; prereq. 9 cred. in history of art or 9 cred. in history or literature with consent of instructor; ar.; ar.) Torbert

## STUDIO COURSES

- Art30,31. Drawing and Painting I.** (See first term)
- Sec. 1, I-II MTWF, 200aJ, Arnest    Sec. 2, III-IV MTWF, 200aJ, Booth
- Art40,41,42. Sculpture I.** (Page 32†) (3 cred.; prereq. 1; I-II MTWThF; 24F) Frazier
- Art60,61,62. Drawing and Painting II.** (See first term)
- Sec. 1, I-II MTWThF, 200aJ, Arnest    Sec. 2, III-IV MTWThF, 200bJ, Booth
- Art70,71,72. Drawing and Painting III.** (See first term)
- Sec. 1, III-IV, MTWThF, 200aJ, Arnest    Sec. 2, I-II MTWThF, 200bJ, Booth

† For description see the *Bulletin of the College of Science, Literature, and the Arts*, 1951-53.



- Art80,81,82. Sculpture II.** (Page 36†) (3 cred.; jr., sr.; prereq. 42 or equiv.; I-II MTWThF; 24F) Frazier
- Art93,94,95. Ceramic Design.** (Page 37†) (3 cred.; jr., sr.; prereq. 25 or equiv.; III-IV MTWThF; 10J) Frazier
- Art101,102. Ceramic Sculpture.** (Page 36†) (3 cred.; jr., sr., grad.; prereq. 25, 42, and 93; V-VI·MTWThF; 10J) Frazier
- Art150,151,152. Problems in Painting and Prints.** (See first term)
- Sec. 1, III-IV MTWThF, 200aJ, Arnest    Sec. 2, I-II MTWThF, 200bJ, Booth
- Art180,181,182. Problems in Sculpture.** (Page 36†) (Cred. ar; jr., sr., grad.; prereq. 82, 102, or 142 or consent of instructor; I-II MTWThF; 24F) Frazier
- Art200,201,202. Advanced Problems in Studio Work** (See first term) (Cred. and hrs. ar.; ar.) Arnest, Booth

## ASTRONOMY

### First Term

11. **Descriptive Astronomy.** (5 cred.; all; no prereq.; III-IV MTWF and one evening a week for observation; 133Ph) Luyten
13. **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.; 7:30 to 9:00 p.m. MW, approximately the latter half of the time being used in observation; 133Ph) Luyten

## BOTANY

### First Term

4. **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., I MTWThF, 06Bo; lab., II-III MTWThF, 4,5Bo) Ar.
- 194.\* **Problems.** Advanced work in some specialized field of botany. (1-5 cred.; jr., sr., grad.; prereq. consent of instructor; ar.; ar.) Ar.

### Second Term

5. **General Botany.** (See 4, first term) (5 cred.; all; prereq. 4 or equiv.; lect., I MTWThF, 06Bo; lab., II-III MTWThF, 4,5Bo) Hall
- 195.\* **Problems.** (See 194, first term) (1-5 cred.; ar.; ar.) Ar.

*For additional courses see Itasca Biological Station, page 71.*

## CLASSICS

### First Term

COURSE FOR WHICH NO KNOWLEDGE OF GREEK OR LATIN IS REQUIRED

- 24.¶ **Technical Terms of Science, Medicine, and the Humanities.** A course in vocabulary building with special reference to Greek and Latin elements in English: prefixes, suffixes, and root words basic in modern technical vocabularies. (3 cred.; soph., jr., sr.; no prereq.; III MTWThF; 110F) McDonald

### GREEK

- 1.†† **Beginning Greek.** (See page 9.) An accelerated course in the fundamentals of the Greek language, with particular attention to the Hellenistic ("New Testament") phase. Recommended especially for preseminary students

† For description see the *Bulletin of the College of Science, Literature, and the Arts*, 1951-53.

‡ Credit will be allowed in either English or Classics.

†† To receive credit for 1 a student must complete 2.

with no previous knowledge of the language. (5 cred.; no prereq.; II-III MTWThF; 206F) Anderson

- 171.\* **Independent Reading Course.** Designed to provide the advanced student, in consultation with the instructor, with selected reading materials suitable for a well-balanced program. (3 cred.; jr., sr., grad.; prereq. consent of instructor; II MTWThF; 103F) McDonald

#### LATIN

- 171.\* **Independent Reading Course.** Designed to meet the same needs as Greek 171 (see above). (3 cred.; jr., sr., grad.; prereq. consent of instructor; II MTWThF; 103F) McDonald

### Second Term

COURSE FOR WHICH NO KNOWLEDGE OF GREEK OR LATIN IS REQUIRED

- 24.¶ **Technical Terms of Science, Medicine, and the Humanities.** (See first term) (III MTWThF; 5F) Swanson

#### GREEK

- 2.†† **Beginning Greek.** (Continuation of Greek 1, first term) (5 cred.; prereq. 1 or equivalent; II-III MTWThF; 108F) Anderson
- 171.\* **Independent Reading Course.** (Same as Greek 171, first term, but different authors will be read) (II MTWThF; 103F) Swanson

#### LATIN

- 171.\* **Independent Reading Course.** (Same as Latin 171, first term, but different authors will be read) (II MTWThF; 103F) Swanson

### COMMUNICATION

See pages 57 and 58.

### ECONOMICS

See School of Business Administration, pages 114-120,  
and Agricultural Economics, page 65.

### EFFICIENT READING

See Rhetoric, page 69.

### ENGLISH¶¶

#### First Term

#### LITERATURE

22. **Introduction to Literature.** The Restoration and the Eighteenth Century. Pope, Swift, Addison and Steele, Johnson, Boswell, Fielding, and Sheridan. (6 cred.; soph., jr., sr.; prereq.§; I-II MTWThF; 204F) Buckley
39. **Modern Literature.** The novel since Thomas Hardy. Intended for students in all departments and colleges. Selected readings, *not* a full historical survey. (3 cred.; soph., jr., sr.; prereq.§; IV MTWThF; 206F) Blum

§ English A-B-C, or Composition 4-5-6, or Communication 1-2-3, or exemption-from requirement.

¶ Credit will be allowed in either English or Classics.

†† To receive credit for 1 a student must complete 2.

¶¶ Credit will be allowed in English for Classics 24.

55. **Shakespeare.** The reading of selected comedies—*A Midsummer Night's Dream, The Merchant of Venice, Much Ado about Nothing, Twelfth Night, Measure for Measure, The Tempest.* These plays are read in all sections. Others may be read at the discretion of the instructor. (3 cred.; jr., sr.; prereq.§§; II MTWThF; 109F) del Plaine
- 56.¶ **Shakespeare.** The reading of selected histories and tragedies—*Richard II, Henry IV 1 and 2, Henry V, Julius Caesar, Hamlet, Macbeth.* These plays are read in all sections. Others may be read at the discretion of the instructor. (3 cred.; jr., sr.; prereq.§§; VI MTWThF; 205F) Erdman
74. **American Literature.** Notable authors from Whitman to Hemingway. (3 cred.; jr., sr.; prereq.§§; II MTWThF; 301F) Holland
75. **Chaucer.** The reading of selections from the *Canterbury Tales* with introduction dealing with the grammar and literary forms of fourteenth-century English. (3 cred.; jr., sr.; prereq.§§; III MTWThF; 204F) Ar.
100. **Old English (Anglo-Saxon).** An introduction to the sounds and grammar with some prose reading. The relation to modern English is stressed. (6 cred.; jr., sr., grad.; prereq. ††; I-II MTWThF; 303F) Clark
- 110.\* **Romantic Poets of the Early Nineteenth Century.** Byron, Shelley, Keats, etc. (3 cred.; jr., sr., grad.; prereq. ††; IV MTWThF; 205F) Erdman
- 143.\* **Twentieth-Century American Literature.** (3 cred.; jr., sr., grad.; prereq. ††; III MTWThF; 303F) O'Connor
- 157.\* **Spenser and Milton.** (This is part of the Renaissance Seminar. See page 7.) (3 cred.; jr., sr., grad.; prereq.††; I MTWThF; 108F) Tuve
- 158.\* **History as a Literary Form in America.** An analysis of significant literary expressions of American culture through the medium of history. (3 cred.; jr., sr., grad.; prereq.††; IV MTWThF; 207F) Holland
165. **Introduction to Modern English.** A scientific approach to the sounds and grammar of present-day English, with some attention to syntax; implications for a reasonable attitude toward English usage in America. (Required of education majors in English.) (3 cred.; jr., sr., grad.; prereq. ††; I MTWThF; 207F) Allen
- 172.\* **Renaissance Romance and Pastoral.** (This is part of the Renaissance Seminar. See page 7.) A study of examples of the "pastoral" and the "romance" and of their fusion in the drama, poetry, and prose of the sixteenth and early seventeenth centuries. (3 cred.; jr., sr., grad.; prereq. ††; II MTWThF; 108F) Tuve
174. **American English.** The development of a distinctive vocabulary and pronunciation of American English; differences between it and British English; dialects in the United States. (3 cred.; jr., sr., grad.; prereq. 6 cred. in English literature, including language, above A-B-C; III MTWThF; 207F) Allen
- 182.\* **The Far West in Literature.** Expansion beyond the Mississippi as a force in American thought and letters; the literature of exploration and travel; the Pacific Coast regional movement; Mark Twain. (3 cred.; jr., sr., grad.; prereq. ††; II MTWThF; 207F) Smith

## COMPOSITION

**Preparatory Composition.** This course is required of all freshmen whose standings in the tests required of entering freshmen are very low. For such freshmen it is prerequisite for all college courses offered by the Departments of English and Speech. Upon notification by the English Department, registration should be made through the Extension Division, Room 57, Nicholson Hall. A special fee of \$15 for the course must be paid by the student to the Extension Division at the time of registration. (No cred.; ar.) Ar.

¶ Students may take 56 before 55 if necessary.

†† Six credits in English literature, exclusive of A-B-C.

§§ Composition 4-5-6, or Communication 1-2-3, and 6 additional credits; or English A-B-C; or 10 credits in 21-22-23.

4. **Freshman Composition.** Practical training in reading and writing. (3 cred.; all; prereq. placement test; I MTWThF; 206F) Ar.
5. **Freshman Composition.** A continuation of Comp. 4. (3 cred.; all; prereq. Comp. 4 or Communication 1; III MTWThF; 205F) Ar.
6. **Freshman Composition.** A continuation of Comp. 5. (3 cred.; all; prereq. Comp. 5 or Communication 2; IV MTWThF; 322F) Ar.
27. **Advanced Writing.** A course in formal exposition, stressing adequate content, logical development, and organization of material. (Not to be confused with Comp. 7) (3 cred.; soph., jr., sr.; prereq. §; IV MTWThF; 109F) del Plaine
101. **The Writing of Fiction.** A study of the principles of the composition of fiction. Class meetings are devoted to the analysis of examples drawn from standard sources. Writing by students is criticized in individual conferences. (3 cred.; jr., sr., grad., others with consent of instructor; prereq. for undergraduates 6 cred. above 50 in composition or consent of instructor; VII-VIII TTh; 304F) Blum

## Second Term

### LITERATURE

23. **Introduction to Literature.** The Romantic Movement and the Victorians. Wordsworth, Byron, Shelley, Keats, Lamb, Carlyle, Browning, and Arnold. (6 cred.; soph., jr., sr.; prereq. §; III-IV MTWThF; 204F) Montgomery
37. **Modern Literature.** Twentieth-century British and American short fiction. Intended for students in all departments and colleges. Selected readings, *not* a full historical survey. (3 cred.; soph., jr., sr.; prereq. §; I MTWThF; 206F) Steinmann
55. **Shakespeare.** (See first term) (I MTWThF; 205F) Christie
- 56.¶ **Shakespeare.** (See first term) (III MTWThF; 205F) Christie
73. **American Literature.** Notable American authors from Edwards to Holmes. (3 cred.; jr., sr.; prereq. §§; II MTWThF; 301F) Kwiat
- 105.\* **Hawthorne and Melville.** (3 cred.; jr., sr., grad.; prereq.††; IV MTWThF; 207F) Marx
- 109.\* **Romantic Poets of the Early Nineteenth Century.** Wordsworth, Coleridge, Scott, etc. (3 cred.; jr., sr., grad.; prereq. ††; IV MTWThF; 107F) Jackson
- 114.\* **The Midwest in Literature.** (3 cred.; prereq.††; VI MTWThF; 207F) Krause
- 121.\* **The Interpretation of Poetry.** A study of certain technical aspects of poetry in relation to poetic meaning. Emphasis on Coleridge, Housman, Frost, and Eliot. (3 cred.; jr., sr., grad.; prereq. ††; II MTWThF; 206F) Unger
- 129.\* **Modern Drama, 1880 to the Present.** A survey of the chief dramatists, English, American, and Continental, from the time of Ibsen. (3 cred.; jr., sr., grad.; prereq. 55-56 or 126-127; III MTWThF; 207F) Hillhouse
- 155.\* **American Novel.** The history of the American novel from Howells to the present. (3 cred.; jr., sr., grad.; prereq. ††; III MTWThF; 107F) Welter
- 162.\* **Milton.** The minor poems, *Areopagitica*, *Paradise Lost*, and *Samson Agonistes*. (3 cred.; jr., sr., grad.; prereq. ††; III MTWThF; 305F) Unger
- 189a.\* **Dominant Ideas in Eighteenth-Century Literature.** A study of the dominant ideas and how they are embodied in a representative selection of poetry and prose. (3 cred.; jr., sr., grad.; prereq. ††; III MTWThF; 206F) Steinmann

§ English A-B-C, or Composition 4-5-6, or Communication 1-2-3, or exemption from requirement.

¶ Students may take 56 before 55 if necessary.

†† Six credits in English literature, exclusive of A-B-C.

§§ Composition 4-5-6, or Communication 1-2-3, and 6 additional credits; or English A-B-C; or 10 credits in 21-22-23.

COMPOSITION

6. **Freshman Composition.** (See first term) (I MTWThF; 109F) Ar.  
 28. **Advanced Writing.** A course in the writing of description and narration, stressing methods and technique, particularly in simple narratives of general or technical interest: biography, travel, expanded incident, process, sketch. (3 cred.; soph., jr., sr.; prereq. †; II MTWThF; 303F) Haga  
 102. **The Writing of Fiction.** (See 101, first term) (VII-VIII TTh; 108F) Ross

FAMILY LIFE

See General Studies, pages 31 and 33.

FAMILY LIFE EDUCATION, MARRIAGE AND

See pages 93 and 102.

FOREIGN STUDY SEMINAR

See General Studies, pages 31 and 33.

GENERAL STUDIES

*First Term*

FAMILY LIFE

**F.L.1. Preparation for Marriage.** A discussion of such topics as the function of the family today, problems of dating and courtship, the engagement, relations of husband and wife, family crises and bases of marital stability. (3 cred.; all; no prereq.)

Sec. 1, I MTWThF, 107TNM, Neubeck Sec. 2, III MTWThF, 107TNM, Dyer

**F.L.15. The Home and Its Furnishing.** Present-day housing problems; choice of location; house plans as they affect family living; exterior and interior design; choice of appropriate furnishings and accessories; building furnishing costs. (3 cred.; all; no prereq.; II MTWThF; 206WeH) Ludwig

**F.L.25. Child Development and Adjustment.** Physical growth and care; development of basic habits, skills, attitudes, and adjustments; the development of self-control and the provision of good environment for child growth. (Students who have taken C.W. 40 or 80 may not receive cred. for this course.) (3 cred.; all; no prereq.; IV MTWThF; 113JohH) Templin

FOREIGN STUDY

**161. Seminar for Foreign Study I.** A directed field study in selected foreign countries, investigating the current economic, political, educational, cultural, and religious patterns of life. Each student in the seminar will study the country carefully before embarking and write a comprehensive report of his findings upon returning. (6 cred.; prereq. approval before December by a faculty selection committee. Grad. students must have also the approval of their faculty adviser.)

HUMANITIES

**Hum.1. Humanities in the Modern World I.** The intellectual, political, and economic revolutions which gave humanity its modern world. Period: from about 1740 to about 1820. Authors: Voltaire, Rousseau, Burke, Paine, Goethe, and the poets. One historical novel. (3 cred.; all; no prereq.; II MTWThF; 114JohH) Ames

† English A-B-C, or Composition 4-5-6, or Communication 1-2-3, or exemption from requirement.

- Hum.4. Humanities in the Modern World IV.** An introduction to the study of humanities since World War I. The authors include Freud, Lenin, Koestler, Malraux, T. S. Eliot, and others. The background topics include civilization between two wars, the impact of psychoanalysis, communism versus fascism, etc. (3 cred.; all; no prereq.; IV MTWThF; 114JohH) Livingston
- Hum.22. American Life II.** The place in American civilization of the land, the city, and the good life; their implications and interrelations. (Formerly Hum. 23) (See American Studies, page 24) (3 cred.; all; no prereq.; I MTWThF; 109TSF) Ward
- Hum.51. Humanities in the Modern World.** This course is similar to 1 except that it is confined to juniors and seniors. A student may not receive credit for the course if he has completed 1. (3 cred.; jr., sr.; no prereq.; II MTWThF; 113JohH) Livingston
- Hum.61. The Greek Heritage.** The golden age of Athens—tragedy, the concepts of goodness and beauty, the struggle for the state; the age of reason—the concepts of reason, justice, order. Selected readings in the historians and Aristotle; longer readings in Homer, Plato, the dramatists. Greek architecture and sculpture. A student may not receive credit for this course if he has completed 11. (3 cred.; jr., sr.; no prereq.; III MTWThF; 114JohH) Ames

#### NATURAL SCIENCE

- Nat.Sci.165. Science in World Affairs.** Consideration of the social and intellectual problems raised by the advances of contemporary science with attention to proposed solutions. The discussions will deal with such matters as atomic energy, eugenics, nutrition, behaviorism, and treatment of science in totalitarian countries. (3 cred.; jr., sr., grad.; prereq. one year of biological and of physical science in high school or college or consent of instructor; II MTWThF; 143Ph) Graubard
- Nat.Sci.175. Survey of Science History.** Examination of the monumental achievements of science during recent centuries with particular emphasis upon the culture, equipment, and beliefs which surrounded each development. A one-term summary of the longer Course 171-172-173 and therefore not open to those who have taken any portion of that course. (3 cred.; jr., sr., grad.; prereq. one year of biological and of physical science in high school or consent of instructor; III MTWThF; 145Ph) Graubard

#### PERSONAL ORIENTATION

- Per.Or.1. How to Study.** Practical assistance to the student in developing efficient study habits, organizing materials, training the memory, preparing for examinations, and improving the speed and comprehension of reading. (2 cred.; all; no prereq.) (Sections limited to 30)

Sec. 1, II MTWThF, 106TNM, Harrell    Sec. 2, IV MTWThF, 106TNM, Harrell

#### SOCIAL SCIENCE

- Soc.Sci.1. Introduction to Social Science.** An integrated study of the factors—historical, political, economic, social, psychological and cultural—that influence man's behavior. Social Science 1 deals with the basic theme of the development of personality. The entire course (1-2-3) but not any part of it, will satisfy the social science requirement under Plan I for admission to the Senior College of Science, Literature, and the Arts and to the College of Education. (3 cred.; all; no prereq.; III MTWThF; 20ForH) Nelson
- Soc.Sci.3. Introduction to Social Science.** (Continuation of 1-2) The integrating theme is the quest for community in modern society. (3 cred.; all; no prereq.; IV MTWThF; 20ForH) Nelson

**Soc.Sci.11. International Relations.** A survey of the world's critical areas and an examination of international forces in war and peace. This course offers a basis for informed evaluation of future as well as present international situations. (3 cred.; all; no prereq.; II MTWThF; 115JohH) Turner

### Second Term

#### FAMILY LIFE

**F.L.1. Preparation for Marriage.** (See first term) (III MTWThF; 107TNM) Neubeck

**F.L.15. The Home and Its Furnishing.** (See first term) (II MTWThF; 206WeH) Ludwig

#### FOREIGN STUDY

**162. Seminar for Foreign Study II.** (Continuation of 161) (6 cred.)

#### HUMANITIES

**Hum.1. Humanities in the Modern World I.** (See first term) (IV MTWThF; 113JohH) Bryan

**Hum.2. Humanities in the Modern World II.** The industrial revolution; liberalism and socialism. How these bulked large in the nineteenth century. Period: from about 1776 to 1850. Authors: Carlyle, Mill, Marx, Smith, Malthus, Ibsen, Zola, Dostoiévsky, and the poets. (3 cred.; no prereq.; II MTWThF; 113JohH) Shaw

**Hum.23. American Life III.** The growth and interrelation of nationalism, regionalism, and internationalism in American culture and thought. (Formerly Hum. 21) (See American Studies, page 24) (3 cred.; all; no prereq. I MTWThF; 109TSF) Kwiat

**Hum.52. Humanities in the Modern World.** This course is similar to 2 except that it is confined to juniors and seniors. A student may not receive credit for the course if he has completed 2. (3 cred.; jr., sr.; no prereq.; II MTWThF; 115JohH) Bryan

**Hum.62. The Roman and Medieval Heritage.** Roman jurisprudence and organization; epicureanism and stoicism. Selections from Lucretius, Epictetus, Marcus Aurelius. Medieval faith, theocracy. Selections from St. Augustine, Dante, Chaucer. Ecclesiastical and feudal architecture. A student may not receive credit for this course if he has completed 12. (3 cred.; jr., sr.; no prereq.; III MTWThF; 113JohH) Shaw

#### PERSONAL ORIENTATION

**Per.Or.1. How to Study.** (See first term) (Sections limited to 30)

Sec. 1, II MTWThF, 106TNM, Ar. Sec. 2, IV MTWThF, 106TNM, Ar.

#### SOCIAL SCIENCE

**Soc.Sci.2. Introduction to Social Science.** (Continuation of 1) The integrating theme is work as a central aspect of modern life. (3 cred.; all; no prereq.; III MTWThF; 85ForH) Naftalin

#### GEOGRAPHY

##### First Term

**4.† Human Geography.** The geography of population and principal ways of life; the capacity of the earth for future population. (5 cred.; all; no prereq.; II-III MTWThF; 285ForH) Broek

† Not open to students who have previously taken 45.

80. **The Teaching of Geography.** Objectives, principles, methods, and materials of teaching geography. (3 cred.; jr., sr.; prereq. 5 cred. in geography or consent of instructor; V MTWThF; 285ForH) Meyer
109. **Geography of Middle America.** Physical and human geography of the West Indies and of the mainland from Mexico to Panama. (3 cred.; jr., sr., grad.; prereq. 5 cred. in geography or consent of instructor; I MTWThF; 285ForH) Hewes
- 114.¶ **Historical Geography of North America.** (3 cred.; jr., sr., grad.; prereq. 1 and 10 additional cred. in either geography or history; IV MTWThF; 285ForH) Hewes
- 144.§§ **Political Geography.** An investigation of selected regions, in terms of the physical and ethnic environment as affecting political organization and international relations. (3 cred.; jr., sr., grad.; prereq. 12 cred. in geography, history, or political science, or consent of instructor; III MTWThF; 180ForH) Meyer
- 301.\* **Research Problems in Geography.** (Cred. ar.; hrs. ar.; ar.) Staff

### Second Term

- 1.¶¶ **Geography of Physical Resources.** The character, causes, and significance of regional differences in the world's physical resources. (5 cred.; all; no prereq.; I and III MTWThF; 285ForH) Hammond
- 67.†† **Geography of Minnesota.** A geographical analysis of the physical and human resources and commercial production of Minnesota. Discussion of map sources, literature, and problems of the geography of the state. Saturday field trips in central and eastern Minnesota will replace the MTW classroom periods and a part of the outside reading during the last three weeks of the session. (3 cred.; jr., sr.; prereq. 5 cred. in geography or consent of instructor; II MTWThF; 285ForH) Borchert
107. **Geography of the Soviet Union.** The character of and bases for the regional diversity of physical resources, population, agriculture, manufacturing, and transportation in the U.S.S.R. (3 cred.; jr., sr., grad.; prereq. 5 cred. in geography or consent of instructor; IV MTWThF; 285ForH) Borchert
- 301.\* **Research Problems in Geography.** (Cred. ar.; hrs. ar.; ar.) Staff

## GEOLOGY AND MINERALOGY

### First Term

1. **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.; I-II MTWThF; 210P) Wright
100. **Field Work in Northern Minnesota.** (July 15 to 30, approximately) Students interested in this field trip should consult the department. (3 cred.; jr., sr.; prereq. 25) Thiel
- 150.§ **Field Geology (Black Hills).** (June 15 to July 15, approximately) (Cred. ar.; jr., sr., grad.; prereq. 125) Swain
170. **Geologic Problems.** (3 cred.; jr., sr., grad.; prereq. consent of major adviser; ar.; ar.) Wright

§ A maximum of 6 credits will be granted after report is completed. The course will not be given for fewer than six students.

¶ Not open to students who have previously taken 53.

†† Not open to students who have previously taken 47.

§§ Not open to students who have previously taken 43.

¶¶ Not open to students who have previously taken 11.



### Second Term

2. **Historical Geology.** A study of the probable conditions of earth origin, the antiquity of the earth and the evolution of the continents and of the life that inhabited the seas and the land areas of past ages. (5 cred.; all; prereq. 1 or 8; I-II MTWThF; 210P) Bell
170. **Geologic Problems.** (See first term) Bell

*In addition to the courses definitely offered, graduate students may register for Geology 211, 241, 243, or 245 and do their work under the supervision of the instructors in residence.*

**Note—***For further information see instructors.*

## GERMAN

### First Term

1. **Beginning A.** (5 cred.; all; no prereq.; I-II MTWThF; 209½F) Downs
- 3-4. **Beginning C or Intermediate.** (5 cred.; all; prereq. two or more years of high school German; I-II MTWThF; 209F) Staff
- 130.\* **The Age of Luther: Hans Sachs.** (3 cred.; sr., grad.; prereq. 72 and 11 cred. above 59 or equiv.; VI-VII MTh; 208F) Downs
- 143a.\* **Eighteenth Century. Sturm und Drang.** (3 cred.; sr., grad.; prereq. 72 and 11 cred. above 59 or equiv.; III-IV TF; 208F) Ramras

### DEUTSCHES HAUS†

22. **Intermediate Conversation and Oral Practice.** (Offered only in German House) This course is intended for students who understand German fairly well but who need assurance in self-expression and a basic active vocabulary. A thorough study will be made of the material to be used in the conversation sections for the day. Then the students will subdivide into smaller groups and their entire time be devoted to actual conversation under the supervision of native teachers. (5 cred.; prereq. 1 and 2 or equiv.) Staff
66. **Advanced Oral Practice and Self-Expression.** (Offered only in German House) This course is intended primarily to develop self-confidence in expressing ideas in German. It will consist of daily training in current German based on the techniques used by the Army Language Training School; prepared discussion on assigned topics with definite vocabulary preparation, short debates, oral reports, and oral criticisms of books and articles. (5 cred.; prereq. 3 and 4 or equiv.) Staff
107. **German Stylistics.** (Offered only in German House) The purpose of this course is to enable advanced students and especially teachers of German to acquire a finer feeling for German style, a sense for shades of expression, and a complete mastery of certain grammatical and idiomatic difficulties. Model selections of prose will form the basis for imitative composition. The course aims to strengthen the background and broaden the range of the American teacher of German. (4 cred.; prereq. consent of instructor) Staff

### Second Term

2. **Beginning B.** (5 cred.; all; prereq. 1 or one year of high school German; I-II MTWThF; 209½F) Wangness.

## GREEK

See Classics, pages 27 and 28.

† See Modern Language Institute, page 8.

## HISTORY

*First Term*

1. **Civilization of the Modern World: Part I.** (3 cred.; all; no prereq.; I MTWThF; 120ForH) Ar.
2. **Civilization of the Modern World: Part II.** (3 cred.; all; no prereq.; III MTWThF; 120ForH) Ar.
20. **American History: Part I.** (3 cred.; soph., jr., sr.; no prereq.; I MTWThF; 80ForH) Osgood
22. **American History: Part III.** (3 cred.; soph., jr., sr.; no prereq.; IV MTWThF; 180ForH) Beatty
- 66a. **Renaissance and Reformation: Part II.** (This is a part of the Renaissance Seminar. See page 7) (3 cred.; jr., sr.; III MTWThF; 130ForH) Krey
89. **Economic History of Modern War.** (3 cred.; jr., sr.; II MTWThF; 115ForH) Bowditch
- 92a. **American History: The National Period, 1789-1840.** (3 cred.; jr., sr.; II MTWThF; 180ForH) Beatty
- 104a. **Renaissance and Reformation: Part II.** (Students attend classes in 66a.)
- 106a. **Nineteenth-Century Europe, 1815-1848.** (3 cred.; jr., sr., grad.; III MTWThF; 115ForH) Bowditch
111. **Europe in the Twentieth Century: Part III.** (3 cred.; jr., sr., grad.; I MTWThF; 15ForH) Deutsch
123. **History of the Scandinavian Countries from the Thirty Years' War to the Napoleonic Era.** (See Scandinavian Area Studies, page 50) (3 cred.; jr., sr., grad.; I MTWThF; 12F) Hovde
131. **Economic Developments in the Scandinavian Countries in the Last Half Century.** (See Scandinavian Area Studies, page 50) (3 cred.; jr., sr., grad.; prereq. a course in economic theory, modern economic history, or consent of instructor; III MTWThF; 12F) Hovde
143. **American Folklore: Part I.** (3 cred.; jr., sr., grad.; I MTWThF; 115ForH) Jordan
- 149a. **History of American Business.** (See page 9) (3 cred.; jr., sr., grad.; IV MTWThF; 160ForH) Hidy
- 176c. **Readings in Recent European History: Part I.** (3 cred.; sr., grad.; prereq. lect. course in Twentieth-Century Europe or World War II, or consent of instructor; II MTWThF; 175ForH) Deutsch
- 185d. **Readings in Nineteenth-Century American History.** (3 cred.; sr., grad.; III MTWThF; 175ForH) Jordan
- 186a. **Readings in the American West: Part II.** (3 cred.; sr., grad.; ar.; ar.) Osgood

*Second Term*

3. **Civilization of the Modern World: Part III.** (3 cred.; all; no prereq.; I MTWThF; 180ForH) Ar.
14. **Ancient Civilization: Part I.** (3 cred.; no prereq.; I MTWThF; 120ForH) Jones
21. **American History: Part II.** (3 cred.; soph., jr., sr.; no prereq.; II MTWThF; 115ForH) Chambers
50. **Ancient Civilization: Part I.** (3 cred.; jr., sr.; not open to those who have credit for 14; I MTWThF; 120ForH) Jones
69. **American History since 1900: Part II.** (3 cred.; jr., sr.; IV MTWThF; 115ForH) Chambers
87. **American Colonies: Part II.** (3 cred.; jr., sr.; I MTWThF; 115ForH) Tyler
101. **Greek History: the Periclean Age.** (3 cred.; jr., sr., grad.; III MTWThF; 180ForH) Jones

- 107a. **Nineteenth-Century Europe, 1849-1870.** (3 cred.; jr., sr., grad.; IV MTWThF; 180ForH) Wolf
150. **Social and Intellectual History of the United States: Part II.** (3 cred.; jr., sr., grad.; III MTWThF; 115ForH) Tyler
- 152.\*† **The Immigrant in American Life.** Special attention is given to the Scandinavian element. (See Scandinavian Area Studies, page 50) (3 cred.; jr., sr., grad.; II MTWThF; 12F) Kolehmainen
176. **Readings in Seventeenth-Century Europe: Part I.** (3 cred.; sr., grad.; VI MTWThF; 175ForH) Wolf

## HOW TO STUDY

See General Studies, Personal Orientation, pages 32 and 33.

## HUMANITIES

See General Studies, pages 31, 32 and 33.

## SCHOOL OF JOURNALISM

### First Term

10. **Photography.** Fundamental principles of photography; the use of cameras, developing, printing, and other elementary techniques. (Limited to twenty journalism students) (3 cred.; soph., jr., sr.; no prereq.)  
Lect. V T, 311MurH, Ar Lab. VI-IX TTh, 20MurH, Pouncey
13. **Introduction to Reporting.** Lectures, practice, and conferences. Practical work in news gathering, news writing, and news analysis. Study of news sources and problems of the reporter. Reports on aspects of leading American newspapers and on selected books dealing with the contemporary newspaper. (Limited to twenty-five in a section) (3 cred.; soph., jr., sr. with C average or better; prereq. English A-B-C or Composition 4-5-6 or Communication 1-2-3 or exemption from English requirement; I-II MTWThF; 212MurH) Herington
- 101.\* **The Reporting of Public Affairs.** Reporting court trials, city, county, state, federal, administrative and legislative agencies, politics, business, and labor. Students attend and report trials, hearings, official governmental sessions, and press conferences. (3 cred.; sr., grad.; prereq. 51; IV MTWThF; 311MurH) Herington
- 103.\* **Literary Aspects of Journalism.** Established authors who possess a dual relationship to letters and journalism are considered in this course. Among others, the following are included: Defoe, Addison and Steele, Franklin, Freneau, Bryant, Whitman, Dickens, Mark Twain, Bret Harte, Howells, Bierce, Crane, Kipling, Lafcadio Hearn, Dreiser, Hemingway. Weekly sketches are written by students. The purpose of this writing assignment is to encourage creative work other than that required for informative articles of timely interest. (3 cred.; jr., sr., grad.; prereq. consent of instructor; I MTWThF; 311MurH) Ford
- 109.\* **History of Journalism.** Early beginnings of newspapers and periodicals in Europe. The seventeenth- and eighteenth-century newspaper in England. Development of Colonial newspapers in America; the press during and after the Revolution; the rise of the daily; personal and party journalism through the Civil War period. (3 cred.; jr., sr., grad.; III MTWThF; 308MurH) Ford

† No knowledge of a Scandinavian language is required.

- 111.\* **International Communications and Foreign Affairs.** The development, use and regulation of international communications facilities. The relation of communications to the conduct of diplomacy, economic interchange and cultural relations in war and peace. International newsgathering agencies: history, development, present status. Factors affecting the gathering and dissemination of information throughout the world. Attempts to overcome obstacles to the free flow of information in the international arena. (3 cred.; jr., sr., grad.; no prereq.; II MTWThF; 311MurH) Park
- 121.\* **The Newspaper in a Dynamic Society.** Economic, political, and social determinants of the character and content of the mass communications. Patterns of ownership, their effect on content, and their relative social utility. Government and mass communications. The press of the future. (3 cred.; jr., sr., grad.; prereq. 15 or 18 or consent of instructor; IV MTWThF; 308MurH) Gerald
- 122.\* **Education and the Mass Media of Communication.** (See page 10) Use of the mass media in the school room, in adult study groups, and in making discriminating selection of content. Analysis and evaluation of the social function, distribution, content pattern, criteria for business operation, and interrelationships of the media. (Not open to journalism majors) (3 cred.; sr., grad.; prereq. 15 cred. in social studies, or in education, or graduate standing; II MTWThF; 308MurH) Gerald
- 130.\* **Communication Agencies, Propaganda, and Public Opinion.** The agencies of mass communication and their role in the opinion-making process. Propaganda techniques and strategies of governments, political parties, pressure groups and other organized groups that seek to control mass behavior. Democratic procedures in appealing to public opinion contrasted with authoritarian methods of enforcing acceptance. Present-day cultural relations programs of national states and propaganda campaigns on the ideological front. (3 cred.; jr., sr., grad.; prereq. 15 cred. in the social studies; III MTWThF; 105MurH) Casey
- 140.\* **Interpretation of Contemporary Affairs.** Analysis of major political, economic, and social developments that have public interest and significance, and their interpretation in the editorial, interpretative article, and commentary. A study of authoritative source materials in the backgrounding of the news. (Limited to twenty in a section) (3 cred.; sr., grad.; prereq. 51, 10 cred. in social studies or consent of major adviser in jour.; VI MTWThF; 302MurH) Park
- 202.\* **Advanced Research in Printed Media.** (See page 10) Recent developments in measuring audiences of printed media. Prediction studies, use of external criteria, validity and reliability of instruments. Experiments in attention to, learning from, and comprehension and acceptance of printed media. Practice in projects with the Research Division of the School of Journalism. (3 to 5 cred.; grad.; prereq. consent of director of the School; I-II MWF; 405MurH) Goldish

### Second Term

55. **Advertising and Newspaper Typography.** The principles of graphic presentation. Preparation of layouts for advertisements and printed pieces. Lectures and laboratory work teach the student how to work with type, how to handle headline forms, copy blocks, illustrations, borders, and decorations, and how to meet other typographical and makeup problems. Practical work in hand composition and training in the identification of type families and sizes and a knowledge of the appropriate uses of such types. Printing processes. The course is planned for supervisors of school publications as well as for undergraduate majors in journalism. (3 cred.; jr., sr.; prereq. for jour. majors, Senior College standing, for minors, 11 and 41)

Lect. I MW, 311MurH, Wilson

Lab. 1, I-II TTh, 315MurH, Wilson  
2, VI-VII MW, 315MurH, Wilson

65. **Graphic Arts: Processes.** Letter press, offset, and gravure printing processes; engravings and copy preparation; use of ink and paper; significant graphic arts developments. Visits to printing and engraving plants. (3 cred.; jr., sr.; prereq. consent of instructor; IV MTWThF; 105MurH) Wilson
73. **Magazine Writing and Editing.** Lectures and conferences. The writing of nonfiction articles for periodicals, general and specialized, and for 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. (Limited to twenty-five) (3 cred.; jr., sr.; prereq. 15 or consent of instructor; III MTWThF; 311MurH) Charnley
- 106.\* **Critical Writing.** The theory and practice of writing book, theater, and motion picture reviews. Analysis of the work of leading critics and critical periodicals. A number of review assignments are written by students. (3 cred.; jr., sr., grad.; prereq. a Senior College writing course and consent of instructor; IV MTWThF; 311MurH) Hage
- 110.\* **History of Journalism.** The course begins with the rise of the popular press in the 1830's and deals generally with the emergence of the modern newspaper in America. Stress is placed on the major social influences that have shaped the pattern of the press. Contributions of leading publishers and editors are discussed. (3 cred.; jr., sr., grad.; prereq. 13 and Senior College standing; II MTWThF; 311MurH) Nelson

## LATIN

See Classics, page 28.

## MARRIAGE AND FAMILY LIFE EDUCATION

See pages 93 and 102.

## MATHEMATICS

### First Term

1. **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. one year 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 and to other students who obtain permission from the department; I-II MTWThF; 105F) Wells
6. **Trigonometry.** A treatment of logarithms and plane trigonometry. (5 cred.; all; prereq. plane geometry and either 1 or high school higher algebra; open for credit even to students offering high school trigonometry for entrance; I-II MTWThF; 104F) Hatfield
15. **Elementary Mathematical Analysis I.** This, together with 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. plane geometry and either 1 or high school higher algebra; III-IV MTWThF; 105F) Hafstrom
30. **Analytic Geometry.** A study of geometry by means of algebra. Topics included: Cartesian and polar coordinates, straight lines, circles, conic sections, loci of given equations, equations of given loci, solid analytic geometry. (5 cred.; all; prereq. 6 and 7, or 6 and 8, or 15 and 16; III-IV MTWThF; 104F) Nering

- 50. Calculus I: Differential Calculus.** Includes derivatives and differentials of elementary functions; curve tracing; definitions of velocity, acceleration, etc.; maxima and minima; related rates; mean value theorems; indeterminate forms; infinite series; expansions of functions. (5 cred.; jr., sr.; prereq. 30; I-II MTWThF; 102F) Gibbens
- 107.\* Advanced Calculus I.** This course, together with Course 108, is a detailed study of some topics in calculus: partial differentiation; multiple integrals and change of variables; basic ideas and applications of vectors; line and surface integrals; Stokes' and Green's theorems; exact differentials; Beta and Gamma functions. (3 cred.; jr., sr., grad.; prereq. 52, or 50 and 51 taken with A grades in this college, and either some acquaintance with solid analytic geometry or consent of instructor; I MTWThF; 101F) Gelbaum
- 109.\* Theory of Numbers.** Elementary properties of integers; prime and composite numbers; Euclid's algorithm; congruences; the theorems of Fermat and Wilson; primitive roots; indices; Galois imaginaries; finite algebras; Pythagorean and Heronian triangles; Diophantine equations. (3 cred.; jr., sr., grad.; prereq. 51; II MTWThF; 101F) Loud
- 126.\* Calculus of Finite Differences.** The basic definitions and formulas with applications to the summation of series; interpolation; numerical integration; solution of simple difference equations; analogy between the calculus of finite differences and infinitesimal calculus; introduction to the Euler-Maclaurin summation formula. (3 cred.; jr., sr., grad.; prereq. 51; IV MTWThF; 101F) Loud
- 144.\* Fourier Series and Orthogonal Functions.** The general theory of orthogonal functions is developed and applied to Fourier, Legendre, Bessel, and other series. (3 cred.; jr., sr., grad.; prereq. 51; III MTWThF; 101F) Gelbaum

### Second Term

- 1. Higher Algebra.** (See first term) (5 cred.; I-II MTWThF; 105F) Zink
- 7. College Algebra.** Selected topics in algebra commencing with quadratic equations and extending through the theory of equations, probability, and determinants, omitting logarithms. (5 cred.; all; prereq. 1 or high school higher algebra; I-II MTWThF; 104F) Lewis
- 16. Elementary Mathematical Analysis II.** (See 15, first term) (5 cred.; all; prereq. 15; III-IV MTWThF; 105F) Hafstrom
- 51. Calculus II: Integral Calculus.** Includes: formal integration; geometrical and physical meaning of constants of integration; definite integrals; fundamental theorem of integral calculus; approximate integration; geometrical and physical applications; improper integrals; multiple integrals. (5 cred.; jr., sr.; prereq. 50; I-II MTWThF; 102F) Olmsted
- 108.\* Advanced Calculus II.** (See 107, first term) (3 cred.; jr., sr., grad.; prereq. 107; I MTWThF; 101F) Gelbaum
- 131.\* Advanced Algebraic Theory.** A study of the properties of polynomials, determinants, matrices, linear transformations, and quadratic forms. (3 cred.; jr., sr., grad.; prereq. 51; II MTWThF; 101F) Hatfield
- 136.\* Solid Analytic Geometry.** Algebraic treatment of planes and lines; direction cosines; systems of planes. Cylinders; surfaces of revolution. Quadric surfaces; tangent planes; ruled surfaces. Coordinate transformations, invariants. General equation of the second degree. (3 cred.; jr., sr., grad.; prereq. 50 or registration in 50; IV MTWThF; 101F) Hatfield
- 179.\* Special Functions.** A discussion of the Gamma, Beta, and Bessel functions, spherical harmonics, Laguerre, Legendre, Tchebycheff and Hermite polynomials. Emphasis is on the properties and formal developments of these functions, with an attempt to unify and motivate their treatment. (3 cred.; jr., sr., grad.; prereq. 51; III MTWThF; 101F) Gelbaum

## MUSIC

## First Term

- 1T-2T-3T. **Music Theory.** An intensive course in the development of musicianship through both auditory and visual perception. The student will participate in extensive ear training, sight singing, and keyboard drills. (3 cred.; primarily for music majors and minors; II-III MTWThF; 3ScH) Fetler
- 4T-5T-6T. **Music Theory.** A continuation of 1T-2T-3T with greater emphasis on harmonic analysis, part-writing, and clef reading. (4 cred.; prereq. 3T; IV-V MTWThF; 3ScH) Fetler
- A. **Piano.** (No cred.; for students without entrance requirements in piano; no prereq.; two lessons a week; ar.; 107ScH) Ar.
- D. **Voice.** (No cred.; for students without entrance requirements in voice; no prereq.; two lessons a week; ar.; 107ScH) Ar.
11. **Piano.** Two lessons a week. (2 cred.; ar.; 107ScH) Stephens, Rymer
12. **Voice.** Two lessons a week. (2 cred.; ar.; 107ScH) Hull, Schuessler
13. **Violin.** Two lessons a week. (2 cred.; ar.; 107ScH) Cullen
- 13B. **Violin.** Two lessons a week. (2-4 cred.; ar.; 107ScH) Druian
14. **Viola.** Two lessons a week. (2 cred.; ar.; 107ScH) Barton
15. **Cello.** Two lessons a week. (2 cred.; ar.; 107ScH) Meltzer
16. **Double Bass.** Two lessons a week. (2 cred.; ar.; 107ScH) Fitch
17. **Flute.** Two lessons a week. (2 cred.; ar.; 107ScH) Winkler, Arnegard
18. **Oboe.** Two lessons a week. (2 cred.; ar.; 107ScH) Angelucci
19. **Clarinet or Saxophone.** Two lessons a week. (2 cred.; ar.; 107ScH) Handlon, Fitch
20. **Bassoon.** Two lessons a week. (2 cred.; ar.; 107ScH) Santucci
21. **Trumpet.** Two lessons a week. (2 cred.; ar.; 107ScH) MacKay
22. **French Horn.** Two lessons a week. (2 cred.; ar.; 107ScH) Linder
23. **Trombone.** Two lessons a week. (2 cred.; ar.; 107ScH) MacKay
24. **Tuba.** Two lessons a week. (2 cred.; ar.; 107ScH) MacKay
25. **Percussion.** Two lessons a week. (2 cred.; ar.; 107ScH) Denecke
26. **Harp.** Two lessons a week. (2 cred.; ar.; 107ScH) Ar.
27. **Organ.** Two lessons a week. (2 cred.; ar.; 107ScH) Jennings
31. **Music Literature.** (2 cred.; all; no prereq.; II MTWThF; 104ScH) Ivory
- 43-44-45. **University Chorus.** (1 cred.; prereq. consent of director; VII MTWThF; 4NMA) Ar.
- 60B,61B,62B. **Instrumental Ensemble.** (2 cred.; jr., sr.; prereq. consent of instructor; V MTWThF; 104ScH) Druian
76. **Form and Analysis.** (3 cred.; jr., sr.; prereq. 6T; III MTWThF; 103ScH) Stephens
- 97-98-99. **Counterpoint.** (2 cred.; jr.; prereq. 6T; I MTWThF; 3ScH) Fetler
101. **American Music.** (3 cred.; sr., grad.; prereq. consent of instructor; IV MTWThF; 104ScH) Oberg
- 127-128-129. **Composition.** (2 cred.; sr., grad.; prereq. 97-98-99 and 121-122-123; ar.; 215ScH) Ar.
140. **Chorus Production.** (3 cred.; sr., grad., must also register for 43; VI MTWThF; 4ScH) Ar.
- 141-142-143. **Orchestration.** (2 cred.; jr., sr., grad.; prereq. 6T; ar.; 215ScH) Ar.
- 197-198-199. **Advanced Counterpoint.** (2 cred.; jr., sr., grad.; prereq. 97-98-99; ar.; 8ScH) Fetler
204. **Graduate Applied Music.** (3 cred.; prereq. placement test by Music Dept. staff; ar.; 107ScH) Staff
- 209-210-211. **Advanced Topics in Musical Analysis.** (Course 210 is part of the Renaissance Seminar. See page 7) (3 cred.; grad.; II MTWThF; 2ScH) Oberg

- 212.\* **Special Problems in Music.** (3 to 9 cred.; grad.; prereq. 202 or 211; ar.; 107ScH) Oberg  
 227-228-229. **Seminar in Composition and Orchestration.** (3 cred.; grad.; prereq. consent of instructor; ar.; 215ScH) Ar.

### Second Term

1. **Fundamentals of Music.** (2 cred.; nonmusic majors—primarily child welfare and elementary teachers; no prereq.; III MTWThF; 103ScH) Kendall  
 4T-5T-6T. **Music Theory.** (See first term) (I-II MTWThF; 3ScH) George  
 A. **Piano.** (See first term) Ar.  
 D. **Voice.** (See first term) Ar.  
 11. **Piano.** (See first term) Kendall, McConkie  
 12. **Voice.** (See first term) Birnbach  
 13. **Violin.** (See first term) Cullen  
 13B. **Violin.** (See first term) Druian  
 14. **Viola.** (See first term) Barton  
 15. **Cello.** (See first term) Meltzer  
 16. **Double Bass.** (See first term) Fitch  
 17. **Flute.** (See first term) Winkler  
 18. **Oboe.** (See first term) Angelucci  
 19. **Clarinet or Saxophone.** (See first term) Handlon, Fitch  
 20. **Bassoon.** (See first term) Santucci  
 21. **Trumpet.** (See first term) MacKay  
 22. **French Horn.** (See first term) Linder  
 23. **Trombone.** (See first term) MacKay  
 24. **Tuba.** (See first term) MacKay  
 25. **Percussion.** (See first term) Denecke  
 26. **Harp.** (See first term) Ar.  
 27. **Organ.** (See first term) Berryman  
 60B,61B,62B. **Instrumental Ensemble.** (See first term) (V MTWThF; 104ScH) Druian  
 101. **American Music.** (See first term) (VI MTWThF; 103ScH) McConkie  
 127-128-129. **Composition.** (See first term) (IV MTWThF; 3ScH) George  
 141-142-143. **Orchestration.** (See first term) (III MTWThF; 3ScH) George  
 164. **Music in Baroque Era.** (2 cred.; jr., sr., grad.; prereq. 34-35-36; VII MTWThF; 103ScH) McConkie  
 204. **Graduate Applied Music.** (See first term) Staff  
 212. **Special Problems in Music.** (See first term) (Ar.; 107ScH) McConkie  
 227-228-229. **Seminar in Composition.** (See first term) (Ar.; 107ScH) George

### NATURAL SCIENCE

See General Studies, page 32.

### PERSONAL ORIENTATION

See General Studies, pages 32 and 33.

### PHILOSOPHY

#### First Term

1. **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.; soph., jr., sr.; no prereq.; I MTWThF; 202WeH) Feigl



2. **Logic.** A study of the difference between logical and fallacious reasoning; the rules of a good definition; syllogisms; what constitutes proof; hypothesis; generalization; probability. (3 cred.; soph., jr., sr.; no prereq.; IV MTWThF; 202WeH) Holmer
3. **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.; III MTWThF; 113JohH) Hospers
113. **Kierkegaard and Scandinavian Philosophy.** (See Scandinavian Area Studies, page 50.) A study of the philosophical tradition in the Scandinavian countries with special reference to Kierkegaard and his significance. (3 cred.; jr., sr., grad.; prereq. one course from 50-51-52 or consent of instructor; III MTWThF; 115JohH) Holmer
153. **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.; prereq. Course 2 or consent of instructor; II MTWThF; 202WeH) Feigl
159. **Esthetics.** The nature of the esthetic experience; standards of esthetic evaluation; the relation of art to nature; the status of subject matter in the arts; the relation of form and content; the concepts of representation, expression, style, meaning, and truth in the arts; the use of symbols in art; the relation of the arts to knowledge, and to society; the relation of esthetics to ethics. (3 cred.; jr., sr.; no prereq.; IV MTWThF; 115JohH) Hospers
191. **Seminar. Research Problems in Philosophy.** (Cred. and hrs. ar.; open only to properly qualified students upon consultation with instructor) Staff

### Second Term

1. **Problems of Philosophy.** (See first term) (3 cred.; soph., jr., sr.; no prereq.; I MTWThF; 202WeH) Sellars
2. **Logic.** (See first term) (3 cred.; soph., jr., sr.; no prereq.; III MTWThF; 115JohH) Brodbeck
3. **Ethics.** (See first term) (3 cred.; soph., jr., sr.; no prereq.; II MTWThF; 114JohH) Terrell
50. **History of Philosophy (Ancient).** A survey of Greek philosophy from Thales to (and including) Aristotle. (3 cred.; soph., jr., sr.; no prereq.; III MTWThF; 202WeH) Sellars
- 114A. **American Philosophy since James.** Continuation of 114. (3 cred.; jr., sr., grad.; no prereq.; II MTWThF; 122JohH) Brodbeck
135. **Philosophy in Modern Literature.** A survey of basic philosophical ideas in modern civilization as they are expressed in major works of literature. (3 cred.; jr., sr., grad.; no prereq.; IV MTWThF; 115JohH) Terrell
192. **Seminar. Research Problems in Philosophy.** (Cred. and hrs. ar.; open only to properly qualified students upon consultation with instructor) Staff

### PHYSICAL EDUCATION FOR WOMEN

The following courses may be taken for elective credit in the College of Science, Literature, and the Arts:

First term: Phys.Ed. 4, 5, 7, 8, 11, 12, 13, 18, 32, 33.

Second term: Phys.Ed. 7, 8, 32.

See page 110.

## PHYSICS

*First Term*

1. **Introduction to Physical Science.** Mechanics and heat. Lectures and experimental demonstrations. (3 cred.; all; prereq. high school algebra and plane geometry; lect. I MTWThF; 150Ph) Valasek
- 1a. **Introduction to Physical Science.** Mechanics and heat. Lab. (two 2-hr. periods) included. May be applied toward group requirements in SLA. (4 cred.; all; prereq. high school algebra and plane geometry) Valasek  
Lect. I MTWThF, 150Ph      Lab. 1, III-IV TTh, ar.  
2, VI-VII MW, ar.
8. **General Physics, Part I.** Topics in mechanics, heat, and electricity. (Primarily for students in the Institute of Technology and those majoring in physics, mathematics or chemistry) Lab. (one 2-hr. period) included. (2½ cred.; all; prereq. 7) Freier  
Lect. and quiz II MTWThF, 133Ph      Lab. 2, III-IV T, ar.  
Lab. 1, VIII-IX M, ar.      3, VI-VII F, ar.
107. **Modern Physics.** Selected topics in modern physics such as photoelectric effect, mass spectroscopy, ionization of gases, radioactivity, nuclear physics. (3 cred.; jr., sr., grad.; prereq. a general course in physics, Math. 51; I MTWThF; 145Ph) Freier
- 134.\* **Experimental Optics.** Laboratory work in spectrometry, optics of compound lenses, photometry, absorption, interferometry, and polarized light. (3 cred.; jr., sr., grad.; prereq. 15 cred. in physics; lab. VI-IX MWF; 348Ph) Valasek
- 136.\* **Spectrum Analysis.** Laboratory work dealing with the measurement of wave lengths, intensities, and absorption coefficients in the infrared, visible, and ultraviolet regions of the spectrum. (3 cred.; jr., sr., grad.; prereq. 15 cred. in physics; lab. VI-IX MWF; 348Ph) Valasek

*Second Term*

3. **Introduction to Physical Science.** Light and sound. Lectures and experimental demonstrations. (See 1, first term) (3 cred.; lect. I MTWThF; 150Ph) Rassweiler
- 3a. **Introduction to Physical Science.** Light and sound. (See 1a, first term) Lab. (two 2-hr. periods) included. (4 cred.) Rassweiler  
Lect. I MTWThF, 150Ph      Lab. 1, III-IV TTh, ar.  
2, VI-VII MW, ar.
8. **General Physics, Part II.** (See first term) Wall
144. **Electrical Measurements.** An experimental course covering ballistic and current galvanometers, magnetic flux measurements, potentiometer methods, D.C. bridges and audio-frequency A.C. bridges. (4 cred.; jr., sr., grad.; prereq. 15 cred. in physics, Math. 51; lect. IV MTWThF, 145Ph; lab. VI-IX TTh) Wall

## POLITICAL SCIENCE

*First Term*

- A.† **The State in the Modern World.** (Part A of A-B-C) The development, principles, structure, and operation of the modern nation state. (3 cred.; all; no prereq.; IV MTWThF; 120ForH) Turner
1. **American Government and Politics.** (Part 1 of 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. (3 cred.; all; no prereq.; I MTWThF; 180ForH) Monat

† Students may not receive credit for A if they have received credit for the old 9-10 or 15.

25. **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.; no prereq.; II MTWThF; 120ForH) Mills
80. **National Government in the United States**—with special reference to current problems and developments. (3 cred.; no prereq.; I MTWThF; 85ForH) Rourke
120. **Municipal Functions.** A general survey of "line" functions: safety, health, welfare, works, utilities, etc. (3 cred.; prereq. 6 cred. or consent of instructor; II MTWThF; 140ForH) Ludwig
131. **Public Administration.** Organization and areas; administrative responsibility. (3 cred.; jr., sr., grad.; prereq. 6 cred.; III MTWThF; 185ForH) Short
155. **Government and International Relations in Latin America.** An analysis of the factors that have conditioned the constitutional and political organizations of the principal Latin-American states; their relations with the other American nations; the development and the nature of the inter-American political system. (3 cred.; jr., sr., grad.; prereq. 6 cred. or consent of instructor; IV MTWThF; 115ForH) Heubel
160. **American Political Thought.** An analysis and criticism of leading American political and social ideas from colonial times to the present day. Federalism; religious factors in political thought; utopianism; evolution and politics; radical social movements; law and the social order; class factors; pragmatism; ethics and politics. (3 cred.; jr., sr., grad., others with consent of instructor; I MTWThF; 170ForH) Tucker
161. **Problems of Democracy.** An intensive examination of certain major problems of modern government in the light of democratic theory. (3 cred.; jr., sr., grad., others with consent of instructor; IV MTWThF; 150ForH) Rourke
178. **Foreign Relations Agencies and Methods.** A rapid survey of the organization, functions, and problems of principal agencies in the United States concerned with formulation of foreign policy and administration of foreign relations; the Department of State, the Foreign Service, Presidential and Congressional functions. Some comparisons with European foreign offices and diplomatic establishments will be made. (3 cred.; jr., sr., grad.; not open to students who have completed 175 or 176; no prereq.; III MTWThF; 150ForH) McLaughlin
183. **Recent Problems in International Law.** A survey of recent legal problems in connection with military occupation, war crimes, international guarantees of civil liberties, the veto power, collective security, regional defense pacts. Suggestions for the modernization of international law; prospects for codification. (3 cred.; jr., sr., grad.; no prereq.; I MTWThF; 150ForH) McLaughlin
197. **The Mediterranean Area in World Affairs.** Economic, political, and strategic conditions; policies of the European and Asiatic states; post-war conflict of interests between the Western powers and Russia. (3 cred.; jr., sr., grad.; prereq. 25 or History 125a-126a-127a; III MTWThF; 85ForH) Mills

### Second Term

- B. § The State in the Modern World.** (Part B of A-B-C) (See A, first term) (3 cred.; IV MTWThF; 75ForH) Rourke
1. **American Government and Politics.** (See first term) (II MTWThF; 180ForH) Warp

§ Students may not receive credit for B if they have received credit for the old 15.

2. **American Government and Politics.** (Part 2 of 1-2-3) Organization of national, state, and local government; legislative, executive, and judicial branches and their procedures. (3 cred.; all; no prereq.; I MTWThF; 85ForH) Hein
25. **World Politics.** (See first term) (III MTWThF; 120ForH) Levi
126. **Government and the Economic Order.** A survey of governmental powers and politics for regulation of business enterprise. (3 cred.; jr., sr., grad.; prereq. 9 cred. or consent of instructor; IV MTWThF; 185ForH) Warp
143. **Government of the USSR and Adjacent States.** (3 cred.; jr., sr., grad.; prereq. 6 cred.; II MTWThF; 185ForH) McClosky
171. **Scandinavian Foreign Policy.** (See Scandinavian Area Studies, page 50) (3 cred.; jr., sr., grad.; prereq. 6 cred. in hist. or pol. sci. or consent of instructor; IV MTWThF; 12F) Kolehmainen
187. **Problems of European Reconstruction.** Plans for political, economic, and social reconstruction of Europe; present situation in key states; politics of reconstruction. (3 cred.; jr., sr., grad.; prereq. 6 cred. or consent of instructor; I MWF, 2 hrs. ar.; 366ForH) Levi

## PSYCHOLOGY

### First Term

- 1-2.† **General Psychology.** An introductory survey of psychology; its materials, fundamental laws, applications, and relations to other sciences. (6 cred.; soph., jr., sr.; no prereq.; II-III MTWThF; 2P) Hotchkiss
- 4-5.† **Introductory Laboratory Psychology.** Simple experiments illustrating 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. general psychology; I-III MTWThF; 211Psy) Soar
90. **Readings in Psychology.** (Cred. ar.; jr., sr.; prereq. 1-2 and 3 additional cred. and written consent of instructor; hrs. ar.) Rosen and others
- 125-126.¶ **Psychology of Individual Differences.** Quantitative studies of such factors as age, sex, race, and nationality, physical traits, family heredity, and environment in the causation of individual differences in abilities and temperament. (6 cred.; sr., grad.; prereq. 1-2, 4-5, or 5 cred. in statistics; II-III MTWThF; 201WuH) Jenkins
127. **Projects in the Psychology of Individual Differences.** (3 cred.; sr., grad.; primarily for majors in Sequence C; prereq. 125-126; ar.; ar.) Staff
- 144-145.† **Abnormal Psychology.** Normal and abnormal behavior contrasted. Emphasis on the dynamics, and particularly the social determinants, of personality maladjustments. (6 cred.; jr., sr., grad.; prereq. 9 cred. in psychology or 6 cred. in psychology and either Zool. 1-2-3 or 12 cred. in social science; II-III MTWThF; 202WuH) Bird
- 171-172.† **Clinical Psychology.** A survey of the methods of clinical psychology emphasizing basic concepts and research problems, especially in a psychiatric setting. Topics include the theory of diagnosis, the history and mental status, structured tests, the major diagnostic groups, psychological deficit, prediction, psychotherapy, and interprofessional relations. (6 cred.; sr., grad.; prereq. 144, either 125 or Ed.Psy. 120 or 5 cred. in statistics and 6 additional cred. in psychology or child welfare, or educational psychology. Students intending to use this course professionally should postpone taking it until they are in the Graduate School; II-III MTWThF; 115Psy) Meehl

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

¶ 126 may not be taken until after completion of 125.

210. **Research Problems.** Laboratory investigations. (Cred. ar.; grad. students only; hrs. ar.) Rosen and others
250. **Topics in Psychology.** (Cred. ar.; grad. students only, with consent of instructor; hrs. ar.) Rosen and others
290. **Introduction to Projective Techniques.** Survey of the field of projective techniques, emphasizing theory, methodological considerations, and published studies of reliability and validity. Instruction in administration and scoring of some currently used devices, especially the Rorschach. (3 cred.; grad. students only; prereq. 144-145, 171-172; IV MTWThF; 115Psy) Rosen

### Second Term

- 1-2.† **General Psychology.** (See first term) (II-III MTWThF; 2P) Peterson
- 4-5.† **Introductory Laboratory Psychology.** (See first term) (II-IV MTWThF; 211Psy) Russell
56. **Psychology of Advertising.** Psychological analysis of the basic principles underlying advertising and selling. Consumer research is stressed. Research techniques for investigating advertising problems and the analysis of consumer wants are considered in detail. (3 cred.; jr., sr.; prereq. 1-2 and principles of economics; III MTWThF; 202WuH) Longstaff
90. **Readings in Psychology.** (See first term) Longstaff and others
111. **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. general psychology; I MTWThF; 213NH) Heron
127. **Projects in the Psychology of Individual Differences.** (See first term) Staff
128. **Psychology of Learning.** A review and comparison of the modern theories of learning: connectionism, associationism, conditioning, and field theories. The application of the theories to practical situations will be indicated as the occasion demands. (3 cred.; jr., sr., grad.; prereq. general psychology; III MTWThF; 115Psy) Heron
210. **Research Problems.** (See first term) Longstaff and others
250. **Topics in Psychology.** (See first term) Longstaff and others

## ROMANCE LANGUAGES

### First Term

#### FRENCH

1. **Beginning French.** (5 cred.; all; no prereq.; I-II MTWThF; 202F) Ar.
- 3-4. **Intermediate French.** (Students receive credit either for 3 or for 4) (5 cred.; all; prereq. 2 or 3 or two or three years of high school French; I-II MTWThF; 201F) Ar.
54. **French Conversation.** Equiv. to 54w. (2 cred.; jr., sr.; prereq. 4; I TWThF; 203F) Nahas
77. **French Civilization and Culture: Modern Period.** (Course conducted in French) Equiv. to 77s. (2 cred.; jr., sr.; prereq. 3-4; II TWThF; 302F) Blinoff
- 156.\* **Realistic French Novel: Balzac and Flaubert.** Equiv. to 156s. (2 cred.; jr., sr., grad.; prereq. Survey of French Literature or equiv.; II TWThF; 307F) Desgranges

† To receive credit for any part of this course a student must complete the parts preceding the dagger.

- 159.\* **Contemporary French Novel II: Camus, Malraux, St-Exupéry.** (Course conducted in French) Equiv. to 159w. (2 cred.; jr., sr., grad.; prereq. Survey of French Literature or equiv.; III TWThF; 203F) Blinoff
- 181.\* **Movement of Ideas in French Literature: Sixteenth and Seventeenth Centuries: Montaigne, Descartes, Pascal.** (Course conducted in French) Equiv. to 181f. (This is a part of the Renaissance Seminar. See page 7 for further details.) (2 cred.; jr., sr., grad.; prereq. Survey of French Literature or equiv.; IV TWThF; 203F) Desgranges

#### MAISON FRANCAISE

22. **Practical French Conversation.** (Offered only in French House†) The primary purpose of this course is to build a practical vocabulary and to give the students an opportunity to use it appropriately in small drill sections under the guidance of native instructors. (5 cred.; prereq. 1-2 or equiv.) Desgranges and staff
58. **Advanced Practical French Conversation.** (Offered only in French House†) In this course, the students will acquire fluency by presenting short oral reports and participating in debates. etc. They will be divided into small groups under the guidance of native instructors. (5 cred.; prereq. 3-4 or equiv.) Desgranges and staff
- 109a. **Oral Diction.** (Offered only in French House†) The purpose of this course is to enable advanced students to acquire a finer feeling for the language, a sense for shades of expression, a knowledge of specialized and technical vocabulary, and a complete mastery of certain grammatical and idiomatic difficulties. (4 cred.; prereq. consent of instructor) Desgranges and staff

#### SPANISH

1. **Beginning Spanish.** (5 cred.; all; no prereq.; III-IV MTWThF; 202F) Ar.
- 3-4. **Intermediate Spanish.** (Students receive credit either for 3 or for 4) (5 cred.; all; prereq. 2 or 3 or two or three years of high school Spanish; III-IV MTWThF; 201F) Grismer
73. **Latin-American Civilization and Culture.** (Course conducted in Spanish) (2 cred.; jr., sr.; prereq. 4 or equiv.; IV TWThF; 226F) Cúneo
83. **La Novela Hispano-Americana y los Problemas Sociales.** (Course conducted in Spanish) (2 cred.; jr., sr.; prereq. 20 or 53 or consent of instructor; III TWThF; 226F) Cúneo
- 165.\* **Great Figures of Spanish Literature:** the hero, el Cid Ruy Díaz; the bawd, la Celestina; the waif, Lazarillo de Tormes; the idealist, Don Quijote; the realist, Sancho Panza; the libertine, Don Juan; the romantic, Don Alvaro; the bigot, Doña Perfecta. (2 cred.; jr., sr., grad.; prereq. Survey of the Literature of Spain or consent of instructor; II TWThF; 203F) Grismer
259. **Directed Readings in Spanish.** (Cred. ar.; grad.; prereq. consent of instructor; ar.; ar.) Grismer

#### CASA HISPANICA

22. **Practical Spanish Conversation.** (Offered only in Spanish House†) This course is intended for students who understand Spanish fairly well but need assurance in self-expression and a basic active vocabulary. Students divided into small groups will devote all their time to practical conversation under the guidance of native instructors. (5 cred.; all; prereq. 1-2 or equiv.) Cúneo and staff

† See Modern Language Institute, page 8.

- 58. Advanced Practical Spanish Conversation.** (Offered only in Spanish House†) This course is intended primarily to develop self-confidence in expressing ideas in Spanish. The students will be divided into small groups for conversation on assigned topics, informal debates and oral reports on current events, political and economic life, and development in Latin America and Spain. (5 cred.; all; prereq. 3-4 or equiv.) Cúneo and staff
- 109a. Oral Diction.** (Offered only in Spanish House†) The purpose of this course is to study Spanish expression and enable advanced students and especially teachers of Spanish to acquire a finer feeling for the language and a mastery of certain grammatical and idiomatic difficulties. (4 cred.; jr., sr., grad.; prereq. consent of instructor) Cúneo and staff

## Second Term

### FRENCH

- 2. Beginning French.** (5 cred.; all; prereq. 1 or one year of high school French; I-II MTWThF; 202F) Ar.
- 3-4. Intermediate French.** (See first term) (I-II MTWThF; 201F) Ar.
- 130.\* Nineteenth-Century Poetry: Victor Hugo.** (2 cred.; jr., sr., grad.; prereq. Survey of French Literature or equiv.; IV TWThF; 203F) Clefton
- 259. Directed Readings in French.** (Cred. ar.; grad.; prereq. consent of instructor; ar.; ar.) Clefton

## RUSSIAN

### First Term

- 1. Beginning Russian.** Special attention to the needs of those who desire a reading knowledge of modern Russian. (5 cred.; all; no prereq.; I-II MTWThF; 8F) Niemi
- 1a-2a. Intensive Beginning Russian.** (See page 8) A concentrated approach to the attainment of a minimal fluency in spoken Russian and a basic competence in handling the written language. Students will spend ten hours a week in the reading group, while the remaining ten hours will be spent in smaller conversational sections. (10 cred.; all; no prereq.; reading and grammar section, I-II MTWThF, 8F, Niemi; oral sections, III-IV MTWThF, 153, 157, 159TSF) Magner and assistants

## Second Term

- 51-52-53. Intensive Advanced Russian.** (See page 8) Designed to meet the present need for students trained in the Russian language, this course offers twenty hours a week of spoken Russian. Class sections will be small and native speakers of Russian will serve as instructors. (9 cred.; prereq. 1a-2a or equivalent; I-IV MTWThF; 153, 157, 159TSF) Magner and assistants

## SCANDINAVIAN AREA STUDIES¶

(See also Scandinavian Area Studies on page 9)

### First Term

- Scand.161. The Scandinavian Novel I.** The late nineteenth century. An examination of "the great tradition" in the Scandinavian novel of the nineteenth century, together with the circumstances, intellectual and political, social and economic, out of which it grew. (3 cred.; jr., sr., grad.; prereq. 4-5-6 or 10-11-12 or 8 cred. in literature; IV MTWThF; 12F) Gustafson

† See Modern Language Institute, page 8.

¶ No knowledge of a Scandinavian language is required for any of these courses.

- Scand.171. Ibsen and the Beginnings of the Modern Drama.** (See Speech, page 53.) An intensive examination of the plays of Ibsen, especially with reference to the role he has played as "the founder" of the modern European drama. (3 cred.; jr., sr., grad.; prereq. 4-5-6 or 10-11-12 or 8 cred. in literature; II MTWThF; 12F) Gustafson
- Phil.113. Kierkegaard and Scandinavian Philosophy.** (See Philosophy, page 43.) (3 cred.; jr., sr., grad.; prereq. one course from 50-51-52 or consent of instructor; III MTWThF; 115JohH) Holmer
- Hist.123. History of the Scandinavian Countries from the Thirty Years' War to the Napoleonic Era.** (See History, page 36) (3 cred.; jr., sr., grad.; I MTWThF; 12F) Hovde
- Hist.131. Economic Developments in the Scandinavian Countries in the Last Half Century.** (See History, page 36) (3 cred.; jr., sr., grad.; prereq. a course in economic theory, modern economic history, or consent of instructor; III MTWThF; 12F) Hovde
- Art178.\* Scandinavian Art.** A survey of the chief trends in Scandinavian art during the nineteenth and twentieth centuries. (See Art, page 26) (3 cred.; jr., sr., grad.; prereq. 9 cred. in history of art or 9 cred. in history or literature with consent of instructor; III MTWThF; 207bJ) Liljegren

### Second Term

- Hist.152.\* The Immigrant in American Life.** Special attention is given to the Scandinavian element. (See History, page 37) (3 cred.; jr., sr., grad.; II MTWThF; 12F) Kolehmainen
- Pol.Sci.171.\* Scandinavian Foreign Policy.** (See Political Science, page 46) (3 cred.; jr., sr., grad.; prereq. 6 cred. in hist. or pol. sci. or consent of instructor; IV MTWThF; 12F) Kolehmainen

## SCHOOL OF SOCIAL WORK

### First Term

- Soc.91. Case Method Applied to the Study of Human Problems.** (See Sociology, page 51) Saloshin
- C.W.140. Behavior Problems in Younger Children.** (See Institute of Child Welfare, page 121) Blodgett
- 213.¶ Field Work.** Clinical instruction in social work process under tutorial supervision. (3-9 cred.; grad.§; prereq. 220 or 282A; ar.) Konopka
- 282A. Principles of Group Work.** A general introduction to the philosophy of social group work, the group work process and understanding of the needs of individuals in groups. (3 cred.; grad.; II MTWThF; 150ForH) Konopka
- 293.\* Special Studies in Social Work.** Supervised experience in research on an independent project to be offered for fulfillment of degree project requirements for the MSW degree. (1-9 cred.; grad.§; prereq. 45 grad. credits in social work) Konopka

### Second Term

- C.W.141. Behavior Problems in Older Children.** (See Institute of Child Welfare, page 121) Deno
- 206. Special Topics—Social Work Practice Problems.** An analysis of selected problems in social work with particular attention to public welfare. (3 cred.; II MTWThF; 175ForH) Stinson

§ Admission on consultation with a social work adviser.

¶ In Summer Session, credit toward 210-211-212, 215-216-217 may be taken under number 213-214.



- 214.¶ **Field Work.** (See 213, first term) (3-9 cred.; grad.§; prereq. 221 or 282B; ar.) Stinson
275. **Principles of Administration Applied to Social Work.** An analysis of the process of translating social policy into social services. (3 cred.; I MTWThF; 175ForH) Kidneigh
- 293.\* **Special Studies in Social Work.** (See first term) Stinson
- 300.\* **General Seminar in Social Work.** (3 cred.; grad.§; VII MTWThF; 467ForH) Stinson

## SOCIAL SCIENCE

See General Studies, pages 32 and 33.

## SOCIOLOGY

### First Term

1. **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. (3 cred.; no prereq.; II MTWThF; 155ForH) Johnson
49. **Social Problems.** A survey course in contemporary social problems with especial emphasis on personal demoralization and social disorganization. (3 cred.; no prereq.; IV MTWThF; 80ForH) Johnson
91. **Case Method Applied to the Study of Human Problems.** The general application of the interviewing method for students who plan to work professionally in fields involving human relationships, such as social work, public health nursing, speech pathology, etc. (3 cred.; jr., sr.; prereq. 50 or 51 or consent of major adviser; III MTWThF; 155ForH) Saloshin
120. **Social Psychology.** Research and theory regarding the relation of the individual to social groups. Emphasis on the socialization process; effects of social interaction and isolation; individual behavior under conditions of social organization and disorganization; collective behavior in the crowd, the mass, the public, and the institution. (3 cred.; jr., sr., grad.; prereq. 1 and 15 cred. in social science, child welfare, education, philosophy, or psychology, or consent of instructor; I MTWThF; 185ForH) Taves
140. **Social Organization.** The organization and structure of social groups; basic culture patterns of economic, political, and social institutions. Integration and disintegration of social groups and institutions. Essentials of social dynamics. (3 cred.; jr., sr., grad.; prereq. 1 and 15 cred. in social science, child welfare, education, philosophy, or psychology, or consent of instructor; III MTWThF; 80ForH) Taves
145. **Urban Sociology.** An introduction to the study of the city as a social organization. Emphasis is given to the analysis of urbanism as a way of life, and to the relationship between spatial and social configurations. A brief research project under supervision, using material drawn from the Twin Cities, is required. (3 cred.; jr., sr., grad.; prereq. 1 and 15 cred. in social science. Not open to students who have taken the old courses 7 or 118; II MTWThF; 185ForH) Ar.
146. **Industrial and Occupational Sociology.** This course analyzes the occupational group, the factory and the business enterprise as social institutions, with particular attention to the contrasting functions of formal and informal organization, and to the significance of cooperation, authority, communication,

§ Admission on consultation with a social work adviser.

¶ In Summer Session, credit toward 210-211-212, 215-216-217 may be taken under number 213-214.

status, and group norms in the working situation. (3 cred.; jr., sr., grad.; prereq. 1 and 15 cred. in sociology, psychology, political science, or economics; IV MTWThF; 170ForH) Ar.

240.\* **Seminar in Sociology.** (2 cred.; ar.) Staff

### Second Term

1. **Introduction to Sociology.** (See first term) Mouratides
49. **Social Problems.** (See first term) (III MTWThF; 155ForH) Martindale
111. **Population Trends.** This course emphasizes the cultural and social phases of population change with particular reference to birth rates, death rates, and migration. The implications of population change are also discussed. (3 cred.; jr., sr., grad.; prereq. 1 and 15 cred. in social science, child welfare, education, philosophy, or psychology, or consent of instructor; II MTWThF; 120ForH) Ar.
161. **Rural Community Analysis.** This course is intended primarily for those interested in obtaining information and techniques for analyzing rural and small town community problems. (3 cred.; sr., grad.; prereq. 1 and 15 cred. in social science, or consent of instructor; IV MTWThF; 120ForH) Ar.
171. **Social Life and Cultural Change.** Examination of theories of social change with particular attention to their methodological problems. Materials drawn from the comparative social thought and structure of antiquity utilized as basic data for analysis. (3 cred.; jr., sr., grad.; prereq. 1 and 15 cred. in social science, child welfare, education, philosophy, or psychology, or consent of instructor; I MTWThF; 185ForH) Martindale
173. **Nineteenth-Century Social Thought.** (See American Studies, page 24) Consideration of major figures in the development of social thought in the nineteenth century. (3 cred.; sr., grad.; prereq. 15 cred. in social sciences or consent of instructor; IV MTWThF; 150ForH) Denney
- 240.\* **Seminar in Sociology.** (See first term) Staff

## SPEECH AND THEATER ARTS

### First Term

*The facilities of the University Speech and Hearing Clinic are available to students desiring a personal speech or hearing analysis or wanting help with their speech or hearing problems. Interested students are invited to confer with Professor E. H. Henrikson, Director of the Speech and Hearing Clinic (Office of the Dean of Students), Room 20, Shevlin Hall.*

- 1.† **Fundamentals of Speech.** Development of basic skills in speech: voice and action, oral reading, discussion, extemporaneous speaking. (3 cred.; fr., soph., jr., sr.; no prereq.) Gilkinson and staff  
 Sec. 1, I MTWThF, 306F      Sec. 3, III MTWThF, 305F  
 2, II MTWThF, 305F
2. **Fundamentals of Speech.** (Second quarter of 1-2) (3 cred.; fr., soph., jr., sr.; prereq. 1; IV MTWThF; 305F) Gilkinson and staff
3. **Fundamentals of Speech.** (Continuation of 1-2) (3 cred.; fr., soph., jr., sr.; prereq. 1-2; IV MTWThF; 305F) Gilkinson and staff
32. **Beginning Acting.** Creation and presentation of original scenes and skits. Ability to respond to the imaginative situation with sincerity, individuality, and effectiveness is stressed. (3 cred.; soph., jr., sr.; prereq. 31; II MTWThF; 19ScH) Ar.

† Credit for Speech 1 without Speech 2 by petition only.

61. **Personal Development through Speech.** A study of behavior as indicated through speech; speech symptoms evaluated from cause and effect relations; psychologic factors in speech; analysis of individual problems of self-consciousness, stage fright; speech as a means of self-control as applied to teacher and pupil. (3 cred.; jr., sr.; prereq. 1-2 or 5, Psy. 1-2; II MTWThF; 308F) Bryngelson
66. **Radio Drama.** A study of the historical development of radio drama, with an analysis of the various types of radio dramas including production, direction, and acting techniques. (3 cred.; jr., sr.; prereq. 1-2 or 5, 65 recommended; I MTWThF; 302MurH) Morgan
72. **Play Production: Problems of Dramatic Production in the Secondary School.** Primarily for students in the College of Education. (3 cred.; jr., sr.; prereq. 1-2 or 5, 31, 32; IV MTWThF; 302NH) Walker
78. **Advanced Acting.** Characterization styles of acting, dialect and stage technique. Presentation of scenes from great plays. (3 cred.; jr., sr.; prereq. 31, 32; II MTWThF; 302NH) Morgan
82. **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 or 5, 81; I MTWThF; 308F) Thompson
92. **Stage Lighting.** Theory and practice in applying methods and principles of lighting in the theater. (3 cred.; jr., sr.; prereq. 1-2 or 5, 31; VI MTWThF; 302NH) Walker
102. **Argumentation and Persuasion.** Theories of modern motivational rhetoric. Analysis of persuasive speaking; practice in preparation and delivery of oral argument. (3 cred.; jr., sr., grad.; prereq. 1-2 or 5, 101, Psy. 1-2, 10 cred. in social science; III MTWThF; 308F) Howell
106. **Discussion.** Cooperative thinking; recognition and definition of problems, critical analysis, examination of possible solutions. Planning, preparing for, participating in, and leading classroom, public, and radio discussions. (3 cred.; jr., sr., grad.; prereq. 1-2 or 5; IV MTWThF; 306F) Howell
112. **Stage Direction.** Rehearsal problems and the direction of two one-act plays. (3 cred.; sr., grad.; prereq. 31, 32-33, 34, 91-92-93 and consent of instructor; III MTWThF; 19Sch) Thompson
- 122.\* **Introduction to Research.** Graduate research in speech: selection of topics and methods of investigation. Required of all graduate majors in speech. (3 cred.; sr., grad.; prereq. 1-2 or 5, Psy. 1-2; IV MTWThF; 308F) Gilkinson
- 126.\* **History and Criticism of Public Address.** An examination of historical and critical studies of oratory. The study of orators: education and training, style, speech composition, topics and issues, historical settings. (3 cred.; jr., sr., grad.; prereq. 1-2 or 5, Psy. 1-2; II MTWThF; 306F) Gilkinson
- 163.\*† **Speech Pathology.** Physiologic and psychologic aspects of organic and functional speech problems. Articulatory disorders. Diagnosis and treatment. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6, 61, 67, 119, 162; III MTWThF; 306F) Bryngelson
- 164-165-166.\*† **Clinical Methods and Practice in Speech Pathology.** (3 cred.; sr., grad.; prereq. 1-2-3 or 5-6, 61, 67, 162-163, Ed. Psy. 142, consult instructor; ar.) Bryngelson
- Scand.171. **Ibsen and the Beginnings of the Modern Drama.** (See Scandinavian Area Studies, page 50.) (3 cred.; jr., sr., grad.; prereq. Scand. 4-5-6 or 10-11-12 or 8 cred. in literature; II MTWThF; 12F) Gustafson
203. **Debate Coaching.** Study of literature concerning and methods of directing extra-curricular interscholastic public speaking, discussion and debate activities. Each seminar member directs the preparation and practice of a group of undergraduate student speakers. (2 cred.; prereq. 1-2 or 5, 101-102-103, Psy. 1-2, 10 cred. in social science; ar.) Howell

† Students intending to take Speech Pathology should take Phonetics the preceding winter.

### Second Term

*The facilities of the University Speech and Hearing Clinic are available to students desiring a personal speech or hearing analysis or wanting help with their speech or hearing problems. Interested students are invited to confer with Professor E. H. Henrikson, Director of the Speech and Hearing Clinic (Office of the Dean of Students), Room 20, Shevlin Hall.*

1. **Fundamentals of Speech.** (See first term) Smith and staff  
Sec. 1, I MTWThF, 305F      Sec. 2, III MTWThF, 303F
2. **Fundamentals of Speech.** (See first term) Smith and staff  
Sec. 1, II MTWThF, 305F      Sec. 2, IV MTWThF, 305F
3. **Fundamentals of Speech.** (See first term) Smith and staff  
Sec. 1, II MTWThF, 305F      Sec. 2, IV MTWThF, 305F
33. **Beginning Acting, Creative Approach.** Continuation of creative approach plus study in stage technique and in make-up. (3 cred.; soph., jr., sr.; prereq. 31; II MTWThF; 19ScH) Moulton
34. **Stagecraft—Construction and Painting.** Theory and practice in construction, painting and shifting of stage scenery. (3 cred.; soph., jr., sr.; prereq. 31; IV MTWThF; 302NH) Ar.
65. **Radio and Television Speech.** Speech arts and psychology of the radio. Practice, exercises, projects, and reports on problems of appeal and audience response. (3 cred.; jr., sr.; prereq. 1-2 or 5; IV MTWThF; 302MurH) Ziebarth
67. **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 or 5; I MTWThF; 306F) Fletcher
91. **Stage Design.** Theory and practice of designing scenery as a functional environment for the stage play. (3 cred.; jr., sr.; prereq. 31; VI MTWThF; 302NH) Ar.
93. **Stage Costuming.** (3 cred.; jr., sr.; prereq. 31; III MTWThF; 302NH) Moulton
106. **Discussion.** (See first term) (III MTWThF; 306F) Smith
131. **Creative Dramatics.** Studies in the principles and methods of developing original dramatizations with children. Observation of children's classes in creative dramatics. Readings, projects, term papers. (3 cred.; jr., sr., grad.; prereq. 31 or elementary education major, or consent of instructor, Ed.C.I. 63 recommended; IV MTWThF; 302NH) Graham
141. **Anatomy and Physiology of the Voice Mechanism.** Consideration of respiration, articulation, and phonation. Practical applications to speech improvement. (3 cred.; jr., sr., grad.; prereq. 1-2 or 5, 67, Psy. 4-5 or consent of instructor; II MTWThF; 306F) Fletcher

*For teaching of Speech see Ed.C.I. 140, listed under College of Education, page 103.*

## ZOOLOGY

### First Term

- 1.† **General Zoology.** Structure, physiology, embryology, classification, and evolution of animals. (5 cred.; all; no prereq.; lect. V MTWTh, V-VI F, 06Bo; lab. VI-VIII MTWTh, 101, 107Z) Ar.

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

83. **Introduction to Genetics and Eugenics.** Facts and theories of heredity with special reference to man; chances of man to inherit traits; possible benefits of control by man for the betterment of himself and society. (3 cred.; jr., sr.; prereq. 1-2-3 or 10 cred. in botany; II MTWThF; 06Bo) Ar.
101. **Zoological Techniques.** (Grad. students only) (Cred. and hrs. ar.) Staff
- 197.\* **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

- 2.† **General Zoology.** (Continuation of 1) (5 cred.; all; prereq. 1 or equiv.; lect. V MTWTh, V-VI F, 06Bo; lab. VI-VIII MTWTh, 101, 107Z) Olson
21. **Histology.** Microscopic structure of the tissues and organs. (5 cred.; soph., jr., sr.; prereq. 1-2-3 or equiv.; lect. I MTWTh, I-II F, 211Z; lab. II-IV MTWTh, 201Z) Olson
101. **Zoological Techniques.** (See first term)
- 198.\* **Problems.** Advanced work in some special line. (3 cred. or more; jr., sr., grad.; prereq. 1-2-3 and special requirements; ar.) Ar.

*For additional courses see Itasca Biological Station, page 71.*

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

# INSTITUTE OF TECHNOLOGY

## College of Engineering†

An asterisk (\*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 23.)

### AERONAUTICAL ENGINEERING

#### First Term

1. **Aeronautics.** (Page 72) (3 cred.; prereq. M.&M. 24; I MTWThF; 211AE) Ar.
83. **Stresses in Simple Structures.** (Page 72) (4 cred.; prereq. M.&M. 128; lect. II MTWThF, 211AE; lab. III-IV TTh, 215AE) Ar.
190. **Seminar.** (Page 74) (1 cred.; prereq. 101; III MW; 211AE) Ar.
191. **Seminar.** (Page 74) (1 cred.; prereq. 190; IV MW; 211AE) Ar.
- 193-194-195. **Advanced Problems in Aeronautical Engineering.** (Page 74) (2 to 5 cred.; prereq. sr. or grad. in A.E.; ar.) Ar.

#### Second Term

- 193-194-195. **Advanced Problems in Aeronautical Engineering.** (See first term)
- 272-273-274. **Research in Aeronautical Engineering.** (Page 74) (2 to 6 cred.; prereq. permission of instructor; ar.) Ar.

### CIVIL ENGINEERING

#### First Term

23. **Summer Camp.** (Page 88) (9 cred.; prereq. 15, 16, and 22; ar.) Staff
31. **Stresses in Structures.** (Page 88) (3 cred.; prereq. M.&M. 26; lect. I MTWThF, 110Ex; lab. III-V MW, 225E) Andersen
32. **Design in Steel.** (Page 88) (3 cred.; prereq. 31, Draw. 23, M.&M. 128; lect. II MTWThF, 110Ex; lab. III-V TTh, 225E) Andersen

#### HYDROMECHANICS

103. **Fluid Mechanics.** (Page 103) (5 cred.; prereq. M.&M. 26 or 84; III-IV MTWThF; 110Ex) Barbarossa
104. **Hydraulics Laboratory.** (Page 103) (1 cred.; prereq. cred. or registration in 101, 102, 103 or Chem.E. 101) Barbarossa  
Sec. 1, VI-IX T, Ex      Sec. 2, VI-IX F, Ex

#### Second Term

33. **Design in Timber.** (Page 88) (3 cred.; prereq. 32; I MTWThF; 110Ex) Andersen
147. **Foundations.** (Page 89) (3 cred.; prereq. 32; II MTWThF; 110Ex) Andersen

#### HYDROMECHANICS

103. **Fluid Mechanics.** (See first term) Barbarossa
104. **Hydraulics Laboratory.** (See first term) Barbarossa

† The page number in parentheses after the course title indicates the page in the *Bulletin of the Institute of Technology* on which course description is given.

**DRAWING AND DESCRIPTIVE GEOMETRY***First Term*

1. **Engineering Drawing.** (Page 92) (3 cred.; prereq. solid geometry; VI-VIII MWThF, VI-IX T; 18E) Bullen
3. **Descriptive Geometry.** (Page 92) (3 cred.; prereq. 2, M.&M. 11; VI-VIII MWThF, VI-IX T; 201E) Eggers
8. **Engineering Drawing.** (Page 92) (3 cred.; prereq. 7; VI-VIII MWThF, VI-IX T; 18E) Bullen
10. **Solid Geometry.** (Page 92) (No cred.; prereq. plane geometry; VI MTWThF; 201E) Eggers
22. **Structural Detailing.** (C.E.) (Page 92) (2 cred.; prereq. 21; VI-VIII MTWTh; 18E) Bullen
28. **Drafting.** (Aero.E.) (Page 92) (2 cred.; prereq. 3; VI-VIII MTWTh; 18E) Bullen
34. **Lettering.** (Page 92) (1 cred.; prereq. 1; V MW; 18E) Bullen

*Second Term*

2. **Engineering Drawing.** (Page 92) (3 cred.; prereq. 1; VI-VIII MWThF, VI-IX T; 18E) Quaid
3. **Descriptive Geometry.** (See first term) Springer
7. **Engineering Drawing.** (Page 92) (3 cred.; prereq. solid geometry; VI-VIII MWThF, VI-IX T; 18E) Quaid
21. **Drafting.** (C.E.) (Page 92) (2 cred.; prereq. 3; VI-VIII MTWTh; 201E) Springer
23. **Structural Detailing.** (C.E.) (Page 92) (2 cred.; prereq. 22; VI-VIII MTWTh; 201E) Springer
34. **Lettering.** (See first term) Quaid

**ELECTRICAL ENGINEERING***First Term*

15. **Elements of Electrical Engineering.** (Page 95) (3 cred.; prereq. 13; VI MTWThF; 138EE) Cartwright
16. **Elements of Electrical Engineering Laboratory.** (Page 95) (2 cred.; prereq. 14 and registration in 15) Cartwright  
     Sec. 1, VII-IX MW, 21EE      Sec. 2, VII-IX TTh, 21EE
36. **Electrical Engineering Survey.** (Page 95) (3 cred.; prereq. Phys. 9) Caverley  
     Lect. II MTThF, 138EE      Lab. 1, VI-IX M, 207cEE  
     2, VI-IX Th, 207cEE
125. **Electrical Engineering.** (Page 95) (3 cred.; prereq. 123; ar.) Brown
126. **Electrical Engineering Laboratory.** (Page 95) (2 cred.; prereq. registration in 125; ar.) Caverley
163. **Electrical Communication.** (Page 96) (4 cred.; prereq. 162; ar.) Brown

**ENGLISH (ENGINEERING)***First Term*

6. **Written and Spoken Communication.** (Page 97) (3 cred.; prereq. 5; III MTWThF; 227E) Ar.
85. **Advanced Technical Communication.** (Page 98) (3 cred.; prereq. 6; I MTWThF; 205E) Ar.

**Second Term**

6. **Written and Spoken Communication.** (See first term) Ar.  
 86. **Advanced Technical Communication.** (Page 98) (3 cred.; prereq. 85; I MTWThF; 205E) Ar.

**GENERAL ENGINEERING***First Term*

70. **The Slide Rule.** (Page 98) (1 cred.; prereq. M.&M. 11 or registration in M.&M. 11; V TTh; 106E) Bullen

*Second Term*

70. **The Slide Rule.** (See first term) Springer

**HYDROMECHANICS**

See Civil Engineering, page 56.

**INDUSTRIAL ENGINEERING***First Term*

- 90.† **Industrial Assignment, Part I.** (Page 104) (1½ cred.; prereq. registration in work-study program; ar.) Algren  
 92.† **Industrial Assignment, Part I.** (Page 104) (1½ cred.; prereq. registration in work-study program; ar.) Algren

*Second Term*

- 90.† **Industrial Assignment, Part II.** (See first term) Algren  
 92.† **Industrial Assignment, Part II.** (See first term) Algren

**MATHEMATICS AND MECHANICS***First Term*

12. **Trigonometry.** (Page 105) (5 cred.; prereq. 11; III-IV MTWThF; 104E) Thompson  
 13. **Analytic Geometry.** (Page 106) (5 cred.; prereq. 11 and 12; I-II MTWThF; 104E) McElrath  
 24. **Calculus I: Differential.** (Page 106) (5 cred.; prereq. 13; I-II MTWThF; 106E) Braden  
 25. **Calculus II: Integral.** (Page 106) (5 cred.; prereq. 24; III-IV MTWThF; 106E) Priestor  
 26. **Technical Mechanics: Statics.** (Page 107) (5 cred.; prereq. 25; III-IV MTWThF; 203E) Turrittin  
 80. **Elementary Differential Equations.** (Page 106) (3 cred.; prereq. 25; III MTWThF; 205E) Loye  
 127. **Technical Mechanics: Dynamics.** (Page 107) (5 cred.; prereq. 26; I-II MTWThF; 203E) Doeringsfeld  
 128. **Strength of Materials.** (Page 108) (5 cred.; prereq. 26; III-IV MTWThF; 206E) Miller  
 141. **Materials Testing Laboratory.** (Page 108) (1 cred.; prereq. 128 or registration in 128) Doeringsfeld, Miller

Sec. 1, VI-VII TTh, Ex

Sec. 2, VI-VII MW, Ex

† These courses carry 3 credits and will be given on quarter basis. Credit not given for first term unless course is completed second term.



150. **Calculus III.** (Page 106) (3 cred.; prereq. 25; II MTWThF; 205E) Loye  
 154. **Vector Analysis.** (Page 106) (3 cred.; prereq. 25; III MTWThF; 215E) Munro  
 168. **Elementary Theory of Complex Variables.** (Page 106) (3 cred.; prereq. 152; IV MTWThF; 205E) Munro

### Second Term

13. **Analytic Geometry.** (See first term) Indritz  
 25. **Calculus II: Integral.** (See first term) Koehler  
 26. **Technical Mechanics: Statics.** (See first term) Ar.  
 80. **Elementary Differential Equations.** (See first term) Zeitlin  
 85. **Strength of Materials.** (Page 107) (3 cred.; prereq. 26 or 84; IV MTWThF; 205E) Zeitlin  
 127. **Technical Mechanics: Dynamics.** (See first term) (III-IV MTWThF; 206E) Wilcox  
 128. **Strength of Materials.** (See first term) (I-II MTWThF; 203E) Scott  
 141. **Materials Testing Laboratory.** (See first term) Scott, ar.  
 152. **Calculus IV.** (Page 106) (3 cred.; prereq. 150; II MTWThF; 205E) Polansky  
 155. **Vector Analysis and Dyadics with Applications.** (Page 106) (3 cred.; prereq. 154; III MTWThF; 215E) Polansky

## MECHANICAL ENGINEERING

### First Term

13. **Metal Processing.** Theory and practice of hot and cold working, welding, and heat treating of metals; operation of forging presses, welding equipment and furnaces. (2 cred.; no prereq.; lect. III MTWTh, 18ME; lab. VI-VIII TTh, 50ME) Hughes  
 14. **Machine Tool Operation.** Care and use of machine tools, jigs, fixtures, cutting tools, and precision measuring instruments. Fundamental operations on the lathe, drill press, shaper, and milling machine; production setups. (2 cred.; no prereq.; lect. IV MTWTh, 114ME; lab. VI-VIII MW, 171ME) Crowder  
 22. **Mechanisms.** Analysis of motion transmitted by curves in direct contact. Friction gearing, tooth gearing, analysis of gear-tooth action, study of the usual forms of gear-tooth profile, and design of gear trains. Use of graphical differentiation and integration to determine velocity and acceleration of machine elements. Miscellaneous connectors, intermittent motion devices, automatic feeding devices, and synthesis of mechanisms. (2 cred.; prereq. 21; lect. IV MW, 321ME; lab. VI-VIII MW, 325ME) Ryan  
 90.† **Industrial Assignment, Part I.** (Page 110) (1½ cred.; prereq registration in cooperative work-study program; ar.) Algren  
 92.† **Industrial Assignment, Part I.** (Page 110) (1½ cred.; prereq. registration in cooperative work-study program; ar.) Algren  
 94.† **Industrial Assignment, Part I.** (Page 110) (1½ cred.; prereq. registration in cooperative work-study program; ar.) Algren  
 121. **Machine Design.** (Page 111) (2 cred.; prereq. 24; lect. VI TTh, 321ME; lab. VII-IX TTh, 308ME) Ryan  
 131. **Thermodynamics.** (Page 112) (3 cred.; prereq. M.&M. 25, Phys. 8; III MTWThF; 208ME) Andeen  
 190. **Seminar.** (Page 114) (1 cred.; prereq. sr.; IV TTh; 208ME) Andeen  
 198 and 199. **Instrumentation and Servomechanism** respectively are being offered as one unit. (6 cred. total; grad.; prereq. 80 and EE 37 or permission of instructor; 7:30 a.m. to 12:30 p.m., June 13-July 12; 359ME) LaJoy, Baillif, and others

† These courses carry 3 credits and will be given on quarter basis. Credit not given for first term unless course is completed second term.

### Second Term

23. **Dynamics of Machinery.** (Page 109) (3 cred.; prereq. credit or registration in 22 and M.&M. 127; lect. III MTWTh, 321ME; lab. VII-IX MW, 325ME) LaJoy
33. **Mechanical Engineering Laboratory I.** (Page 110) (2 cred.; prereq. 131; lect. VI MW, 321ME; lab. VI-IX TTh, 370ME) LaJoy
- 90.† **Industrial Assignment, Part II.** (See first term) Algren
- 92.† **Industrial Assignment, Part II.** (See first term) Algren
- 94.† **Industrial Assignment, Part II.** (See first term) Algren
132. **Thermodynamics.** (Page 112) (3 cred.; prereq. 131; IV MTWThF; 208ME) Andeen
141. **Heat Power Engineering.** (Page 112) (3 cred.; prereq. 132; III MTWThF; 208ME) Andeen

## School of Chemistry

An asterisk (\*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 23.)

### INORGANIC CHEMISTRY

#### First Term

1. **General Inorganic Chemistry.** Study of the general laws of chemistry and the nonmetals and their compounds. (4 cred.; all; no prereq.; lect. II MTWThF, 225C; rec. V T, 225C; lab. V-VII MW, ar. C) Johnson
4. **General Inorganic Chemistry.** Study of the general laws of chemistry and of the nonmetals and their compounds. More intensive than Course 1. (4 cred.; for premedics, etc.; prereq. high school chemistry; lect. I MTWThF, 225C; rec. V Th, 225C; lab. V-VII MW, ar. C) Maynard
6. **General Inorganic Chemistry.** Study of the general laws of chemistry and of the nonmetals and their compounds. (5 cred.; all; no prereq.; lect. II MTWThF, 225C; rec. V T, 225C; lab. V-VIII MWF, ar. C) Johnson
9. **General Inorganic Chemistry.** Study of the general laws of chemistry and of the nonmetals and their compounds. More intensive than Course 6. (5 cred.; prereq. high school chemistry; lect. I MTWThF, 225C; rec. V Th, 225C; lab. V-VIII MWF, ar. C) Maynard
11. **Semimicro Qualitative Analysis.** Laboratory work in systematic qualitative analysis of the cations with lectures on solutions; ionization, chemical and physical equilibria, oxidation and reduction, etc. (4 cred.; prereq. 2, 5, 7, or 10; lect. II MTWThF, 325C; rec. IV M, 325C; lab. V-VIII MW, ar. C) Heisig
12. **Semimicro Qualitative Analysis.** Laboratory work in systematic qualitative analysis of the cations with lectures on solutions, ionization, chemical and physical equilibria, oxidation and reduction, etc. (5 cred.; prereq. 7 or 10; lect. II MTWThF, 325C; rec. IV M, 325C; lab. V-VIII MWF, ar. C) Heisig
- 105.\* **Advanced Inorganic Chemistry.** Coordination compounds. (3 cred.; jr., sr., grad.; prereq. Anal. Chem. 1, 2, Org. Chem. 62; lect. III MTWThF, 215C; rec. V T, 215C) Maynard
- 109.\* **Synthetic Inorganic Chemistry.** Methods of preparation and purification of inorganic compounds of special interest. Current literature. (3 to 5 cred.; jr., sr., grad.; prereq. 13 or permission of instructor; lect. and lab. hrs. ar.) Heisig

† These courses carry 3 credits and will be given on quarter basis. Credit not given for first term unless course is completed second term.

- 111.\* **Elements of Group IV A.** Silicon and related elements. Review of current studies of boron, silicon, germanium, tin and lead with emphasis on recent silicon chemistry. (3 cred.; prereq. Anal. Chem. 1 and 2, Org. Chem. 62; lect. I MTWThF, 215C; rec. V W, 215C) Johnson
- 301.\* **Research in Inorganic Chemistry.** (Cred. and hrs. ar.) Johnson, Heisig, Maynard

### Second Term

2. **General Inorganic Chemistry.** (See 1, first term) (4 cred.; prereq. 1; lect. II MTWThF, 225C; rec. V T, 225C; lab. V-VII MW, ar. C) Barber
5. **General Inorganic Chemistry.** (See 4, first term) (4 cred.; prereq. 4; lect. I MTWThF, 225C; rec. V Th, 225C; lab. V-VII MW, ar. C) Pervier
7. **General Inorganic Chemistry.** (See 6, first term) (5 cred.; prereq. 6; lect. II MTWThF, 225C; rec. V T, 225C; lab. V-VIII MWF, ar. C) Barber
10. **General Inorganic Chemistry.** (See 9, first term) (5 cred.; prereq. 9; lect. I MTWThF, 225C; rec. V Th, 225C; lab. V-VIII MWF, ar. C) Pervier
11. **Semimicro Qualitative Analysis.** (See first term) (4 cred.; prereq. 2, 5, 7, or 10; lect. III MTWThF, 325C; rec. V T, 410C; lab. V-VIII MW, ar. C) Pervier
12. **Semimicro Qualitative Analysis.** (See first term) (5 cred.; prereq. 7 or 10; lect. III MTWThF, 325C; rec. V T, 410C; lab. V-VIII MWF, ar. C) Pervier
- 102.\* **Semimicro Qualitative Analysis.** Advanced analysis of the anions and cations. (3 cred.; jr., sr., grad.; prereq. Anal. Chem. 1-2; lect. and lab. hrs. ar.) Barber
- 302.\* **Research in Inorganic Chemistry.** (Cred. and hrs. ar.) Barber, Pervier

## ANALYTICAL CHEMISTRY

### First Term

1. **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. qualitative analysis; lect., rec., quiz V-VI TTh, V F, 325C; lab. V-VIII MW, VII-VIII TTh, VI-VIII F, 310C) Herr
7. **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. qualitative analysis; lect., rec., quiz V MWF, 225C; lab. VI-VIII MWF, V-VIII TTh, 310C) Herr
123. **Advanced Analytical Chemistry.** Problems are assigned that involve special technique on more advanced theory than the basic courses. (3 cred.; prereq. gravimetric and volumetric analysis; hrs. ar.) Herr
- 301.\* **Research in Quantitative Analysis.** (Cred. and hrs. ar.) Herr

### Second Term

2. **Quantitative Analysis.** (Volumetric) Introductory course covering the general principles and methods of volumetric analysis. Typical problems are assigned and attention given to proper laboratory practice. (5 cred.; prereq. qualitative analysis; lect., rec., quiz V-VI TTh, V F, 325C; lab. V-VIII MW, VII-VIII TTh, VI-VIII F, 310C) Herr
7. **Quantitative Analysis.** (See first term) (Lect., rec., quiz V MWF, 225C; lab. VI-VIII MWF, V-VIII TTh, 310C) Herr
123. **Advanced Analytical Chemistry.** (See first term) Herr
- 301.\* **Research in Quantitative Analysis.** (See first term) Herr

## ORGANIC CHEMISTRY

## First Term

- 61.† **Elementary Organic Chemistry.** (For all colleges) Discussion of important classes of organic compounds, both aliphatic and aromatic. Laboratory includes the preparation of typical substances. (4 cred.; prereq. Inorg. Chem. 11 or 12; lect. I MTWThF, 325C; rec. II TTh, 410C; lab. II-IV MWF, 390C; lab. conf. III TTh, 410C) Fenton and assistants
101. **Intermediate Organic Chemistry.** A survey course in which are considered important topics such as unusual types of aliphatic, aromatic, and heterocyclic compounds, natural products, and industrial processes. (3 cred.; prereq. 14 cred. in organic chemistry; III MTWThF; 315C) Lauer
102. **Organic Qualitative Analysis.** (Elementary course) An introduction to the methods of organic qualitative analysis. (3 cred.; prereq. one year of organic chemistry; lect. II MW, 315C; 12 hrs. of lab. work ar.) (Limit twenty students) Lauer and assistants
301. **Research in Organic Chemistry.** (Cred. ar.; prereq. 110; hrs. ar.) Fenton, Lauer

## Second Term

- 62.† **Elementary Organic Chemistry.** (See 61, first term) (4 cred.; prereq. 61; lect. I MTWThF, 325C; rec. II TTh, 410C; lab. II-IV MWF, 390C; lab. conf. III TTh, 410C) Fenton and assistants
110. **Organic Qualitative Analysis.** (Advanced course) Reactions of typical functional groups, identification of pure organic compounds, separation and identification of constituents of mixtures. (3 cred.; prereq. 102 or equiv.; lect. IV MW, 315C; 12 hrs. of lab. work ar.) (Limit twenty students) Arnold and assistants
- 116.\* **Heterocyclic Compounds.** Discussion of typical classes of heterocyclic compounds, their chemical and physical properties and uses, and the ring closures leading to heterocycles. (3 cred.; prereq. 63 and 64 or equiv.; II MTWThF; 315C) Arnold
302. **Research in Organic Chemistry.** (Cred. ar.; prereq. 110; hrs. ar.) Arnold, Fenton

## PHYSICAL CHEMISTRY

## First Term

- 104,105,106. **Physical Chemistry Laboratory.** (1 or 2 cred.; VI-VIII MW; 190C) Wertz
- 107.¶ **Elementary Physical Chemistry.** (3 cred.; primarily for premed. students; prereq. two years of college chemistry, one year of college physics; lect. I MTWTh, 410C; rec. I F, 410C; lab. VI-VIII MW, 190C) Wertz
301. **Research in Physical Chemistry.** (Cred. and hrs. ar.) Wertz

## Second Term

- 104,105,106. **Physical Chemistry Laboratory.** (See first term) Gibbs
- 108.¶ **Elementary Physical Chemistry.** (3 cred.; primarily for premed. students; prereq. 107; lect. I MTWTh, 410C; rec. I F, 410C; lab. VI-VIII MW, 190C) Gibbs
301. **Research in Physical Chemistry.** (See first term) Gibbs

† To receive credit for any part of this course, a student must complete both 61 and 62.  
 ¶ Course 108 is a continuation of 107. The entire course 107-108 must be completed before credit will be assigned (6 credits). Grades will not be sent in at the end of the first term.

**CHEMICAL ENGINEERING***First Term*

- 151-152. § **Chemical Manufacture.** Semi-works manufacture of inorganic and organic chemical products. (3 cred. each; prereq. 103, 131; lab. II-X MTWThF; lect., conferences [151] I MTWThF, 158ChE, [152] I MTWThF, 162ChE) Stoppel, Madden
156. **Special Problems.** Investigation in chemical engineering; library or laboratory research. (Cred. ar.; 1 conference hour per week, lab. hrs. ar.) Staff
301. **Research in Chemical Engineering.** Unit operations, applied unit processes, electrochemistry and electric furnace work, and chemical manufacture. (Cred. ar.) Staff

*Second Term*

301. **Research in Chemical Engineering.** (See first term)

**School of Mines and Metallurgy****MINING***First Term*

15. **Field Trip.** Field work on the iron ranges of Minnesota. Surveying of an underground mine, including shaft plumbing. Survey of open-pit mine including an estimate of the surface stripping. Solar and stellar observations. (6 cred.; prereq. 13, 14; four weeks beginning about June 15) Heilig, Hartman

*Third Term*

139. **Practical Mining (Field Trip).** Study of mining operations, mine plants, and metallurgical plants in several mining camps. (6 cred.; prereq. jr. yr.; three weeks beginning about September 1) Pfeider

§ Each laboratory section is limited.

# COLLEGE OF AGRICULTURE, FORESTRY, HOME ECONOMICS, AND VETERINARY MEDICINE

## GENERAL INFORMATION

Agriculture offers a limited number of courses to college undergraduates interested in this field, and a large number of courses, from most of the agricultural divisions for graduate students. For teachers of agriculture and instructors in the veterans-on-farm training program a number of courses are available. Special opportunity is afforded for work towards the Master's degree.

The offerings in home economics are designed primarily for upperclass undergraduate students and qualified graduate students. Courses are available in a variety of fields of home economics.

## GRADUATE STUDY

Opportunity is offered in the divisions of Agriculture and Forestry 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 course 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, should 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.

In Home Economics, graduate course work is given in the first term only.

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. See page 22.

## 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 23.)

## AGRICULTURAL BIOCHEMISTRY

### *First Term and Second Term*

118. **Laboratory Problems in Biochemistry.** (Page 58§) (3 to 5 cred.; jr., sr., grad.; consent of instructor; ar.; ar.) Staff
203. **Research Problems.** (Page 38†) (2 to 5 cred.; grad.; consent of instructor; ar.; ar.) Staff

† For description see *Bulletin of the Graduate School for 1950-52*.

§ For description see *Bulletin of the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine for 1951-53*.

## AGRICULTURAL ECONOMICS

*First Term*

1. **Principles of Economics I.** (Page 58§) (3 cred.; soph., jr., sr.; no prereq.; I MTWThF; 109HH) Lowe
107. **Farm Work Simplification.** (Page 59§) (Lect. work only, 2 cred.; lect. work and problems, 3 cred.; jr., sr., grad.; prereq. 102 or equiv.; I-II MTWThF; 230TSH) Engene
143. **Marketing Organization: Livestock and Meats.** (3 cred.; jr., sr., grad.; prereq. 40; III MTWThF; 311HH) Dowell

*Second Term*

2. **Principles of Economics II.** (Page 59§) (5 cred.; soph., jr., sr.; prereq. 1; I-II MTWThF; 109HH) Lowe
- 240.\* **Seminar in Grain Marketing.** A study of the economic problems of grain marketing with emphasis on selected topics of market organization, prices, cash and future trading, and governmental controls. (3 cred.; grad.; ar.; 311HH) Cox

## AGRICULTURAL EDUCATION

See Agricultural Education, College of Education, pages 95 and 96.

## AGRICULTURAL ENGINEERING

*First Term*

40. **Mechanical Training.** Instruction and laboratory practice in mechanical trades, embracing rope work, belts, lacings and pulleys, cement work, soldering, electric wiring. (Limited to 30) (2 to 4 cred.; no prereq.; lect. VI TWThF, lab. ar.; 106, 20En) Dent
41. **Metal Work.** Instruction and laboratory practice in mechanical trades embracing cold metal work; pipe fitting; oxyacetylene welding, brazing, and cutting; and electric arc welding. Students may select any or all of the above and concentrate on those of special interest. Special attention given to practical application and features of special interest to teachers. (Limited to 30) (2 to 4 cred.; no prereq.; lect. VII TWThF, lab. ar.; 106, 20En) Dent

*Second Term*

41. **Metal Work.** (See first term) (Lect. VI TWThF, lab. ar.; 106, 20En) Dent
42. **Art Metal Work.** A course designed for persons interested in creating articles of permanent beauty and value from metals including copper, brass, steel, aluminum, silver, and plastics. Forming of plates, bowls and trays, use of jeweler's saw in pierced work, etching, soldering, lapidary work. Making candlesticks, book ends, desk sets, lamps and bracelets. Students may choose any project and any material. (Limited to 25) (2 to 4 cred.; no prereq.; lect. VII TWThF, lab. ar.; 106, 20En) Dent

§ For description see *Bulletin of the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine* for 1951-53.

## AGRONOMY AND PLANT GENETICS

### *First Term and Second Term*

#### AGRONOMY

- 201.\* **Research in Farm Crops.** (Page 43†) (Cred. ar.; grad.; prereq. 121, 123; ar.) Dunham, Schmid

#### PLANT GENETICS

- 241.\* **Research in Plant Genetics.** (Page 43†) (Cred. ar.; grad.; ar.) Myers, Burnham, Rinke, Lambert, Thomas  
 244. **Laboratory Methods in Plant Breeding.** (Page 43†) (1½ cred.; grad.; ar.) Staff

## ANIMAL HUSBANDRY

### *First Term and Second Term*

- 213.\* **Research in Animal Husbandry.** Special problems assigned to students to be worked out under the supervision of a faculty member. (3 to 5 cred.; grad.; ar.) Ferrin, Hanson, Harvey, Winters

## DAIRY HUSBANDRY

### *First Term and Second Term*

- 208.\* **Research in Dairy Production.** (Page 82†) (Cred. ar.; prereq. preliminary grad. work; ar.) Fitch, Gullickson, Petersen, Hervey  
 209.\* **Research in Dairy Manufacturing.** (Page 82†) (Cred. ar.; prereq. preliminary grad. work; ar.) Combs, Coulter  
 215.\* **Research in Dairy Bacteriology.** (Page 82†) (Cred. ar.; prereq. preliminary grad. work; ar.) Olson, Jezeski

## ENTOMOLOGY AND ECONOMIC ZOOLOGY†

### *First Term*

13. **Field Zoology.** Offered at Itasca Park. (1½ cred.; no prereq.) Dawson, Krogstad  
 197. **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. (Cred. ar.; jr., sr., grad.; prereq. 9 hrs. ent., and other prescribed work; ar. CofH) Mickel, Granovsky, Hodson, Haydak, Marshall, Richards, Smith, Cutkomp  
 204. **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. (Cred. ar.; grad.; ar.) Mickel, Granovsky, Hodson, Haydak, Marshall, Richards, Smith, Cutkomp

### *Second Term*

197. **Introduction to Research.** (See first term)  
 204. **Research in Entomology.** (See first term)

† For description see *Bulletin of the Graduate School* for 1950-52.

‡ For additional courses see Itasca Park Biological Station, page 71.



## FORESTRY

*First Term*

(Offered at Itasca Park Forestry and Biological Station. Open only to students who have completed at least two quarters of forestry, or one year in a junior college, or other college. Preparatory courses in botany, dendrology, and zoology are desirable. The schedule is arranged to occupy the student's full time for 5½ days per week. Largely field or laboratory work. In addition to the regular field work in For. 5 and 6, special field trips to federal, state and private forestry operations are required. Required of all forestry students including transfer students.)

**For.2. Important Forest Plants.** (Page 70§) (1½ cred.; no prereq.) Rees

**For.5. Field Silvics.** (Page 70§) (2 cred.; no prereq.) Hansen and assistant

**For.6. Field Measurements.** (Page 70§) (2 cred.; no prereq.) Brown and assistant

**Ent.13. Field Zoology.** (1½ cred.; no prereq.) Dawson, Krogstad

*First Term and Second Term*

OFFERED ON ST. PAUL CAMPUS

**203-204.\* Research Problems in Forest Management.** (Cred. ar.; grad.) Schneider, Spurr, Hansen, Duncan, Hall, Brown

**213-214.\* Research Problems in Forest Utilization.** (Cred. ar.; grad.) Kaufert, Hossfeld, Rees

## HOME ECONOMICS

*First Term*

**F.L.15. The Home and Its Furnishing.** Present-day housing problems; choice of locations; house plans as they affect family living; exterior and interior design; choice of appropriate furnishings and accessories; building furnishing costs. (3 cred.; all; no prereq.; II MTWThF; 206WeH) Ludwig

**H.E.28. Construction and Refinishing of Home Furnishings.** Laboratory problems in refinishing and reupholstering furniture and making of slip covers and draperies. Emphasis on design and techniques suitable for homemakers, extension workers and general homemaking teachers. (3 cred.; prereq. consent of instructor; II-III MTWThF and 2 hrs. ar.; 342, 433HE) Myren

**H.E.46. Cafeteria Experience.** Experience in the minor problems of cafeteria, dining hall, and tearoom administration. (3 cred.; soph., jr., sr.; no prereq.; IV-VI MTWThF; Cafeteria) Scholl, Billings

**H.E.53. Advanced Clothing.** Problems in designing, fitting, and tailoring a lined wool coat or suit; use of a plaid, striped or figured fabric in the designing and construction of a garment; social and economic problems involved in children's clothing. (3 cred.; jr., sr.; prereq. 4, 50 or parallel; IV-V MTWThF and 2 hrs. ar.; 305HE) Paschall

**H.E.85. Home Management Principles.** A study and discussion of managerial aspects of homemaking; work simplification of household activities; financial records and budget-making for the individual and the family. (3 cred.; jr., sr.; prereq. 40, 41 advised; III MTWThF; 203HE) Hurst

**H.E.86. Home Management Laboratory.** Residence for one-half quarter in one of the two home management houses, with direct experience in managing and sharing the various activities and responsibilities involved in the group-living of the students in residence. (4 cred.; jr., sr.; open only to students

§ For description see *Bulletin of the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine* for 1951-53.

registered in the regular year; prereq. 85 or parallel, 40, 41 advised, P.H. 52a,b; Home Management House) Hurst, Nordberg  
(Students should not register for first period class)

- H.E.122. Advanced Interior Design.** Small-house interiors designed and elevation drawings rendered in color. Studies and reports on modern trends, designers and their work, and other topics of practical and historic interest. Actual materials used as far as possible. Field trips to shops and homes. (3 cred.; jr., sr.; prereq. 27, 120 or consent of instructor; VI-VII MTWThF, VIII MWThF; 360HE) Ludwig
- H.E.140. New Developments in Food Preparation.** Demonstrations, discussions and some laboratory work illustrating recent trends in food preparation. (3 cred.; jr., sr., grad.; prereq. 40 or equiv.; VI MTWThF and VII-IX T; 48, 157HE) Trammell
- H.E.153. Recent Developments in Clothing Construction.** Discussion, demonstration and laboratory work with emphasis on management of time and materials, including newer construction techniques. (3 cred.; jr., sr., grad.; prereq. 53 or consent of instructor; I-II MTWThF and 2 hrs. ar.; 305HE) Paschall
- H.E.174. Nutrition and the School Lunch.** Lectures, discussion and assigned reading dealing with the nutrition of children, the place of the school lunch in the educational program, and school lunch management. (2-3 cred.; jr., sr., grad.; prereq. 34 or 170 and 171 or equiv.; III MTWThF and 2 hrs. ar.; 213HE) Leichsenring

### Second Term

- F.L.15. The Home and Its Furnishing.** (See first term) (II MTWThF; 206WeH) Ludwig
- H.E.86. Home Management Laboratory.** (See first term) Gallagher, Thomson

## HOME ECONOMICS EDUCATION

See Home Economics Education, College of Education, page 105.

## HORTICULTURE

### First Term and Second Term

- 190-191-192. Special Problems.** (Page 146†) (2 to 4 cred.; jr., sr., grad.; ar.) Alderman, Brierley, Currence, Krantz, Hutchins, Nylund, Wilcox, Winter, Phillips
- 247.\* Reports on Special Horticultural Topics.** (Page 146†) (Cred. ar., maximum 9 cred.) Alderman, Brierley, Currence, Krantz, Hutchins, Nylund, Wilcox, Winter
- 249.\* Research in Horticultural Crop Breeding.** (Page 146†) (Cred. ar., maximum 9 cred.) Currence, Krantz, Hutchins, Wilcox

## PLANT PATHOLOGY AND BOTANY¶

### First Term and Second Term

- 206.\* Research in Plant Pathology.** (Page 187† description for 203-204-205) (Cred. ar.; grad.; PP) Stakman, J. J. Christensen, Eide, Hart, C. M. Christensen, Dossdall, Kernkamp, King
- 210.\* Special Problems in Mycology.** (Page 187†) (Cred. ar.; grad.; prereq. 105-106-107; PP) Stakman, C. M. Christensen, Dossdall

† For description see *Bulletin of the Graduate School* for 1950-52.

¶ For additional courses see Itasca Park Biological Station, page 71.

- 257.\* **Research Problems in Applied Plant Physiology.** (Page 188†) (Cred. ar.; grad.; AgrBot) Landon
- 263.\* **Research Problems in Agricultural Botany.** (Page 188†) (Cred ar.; grad.; AgrBot) Larson, Stakman

### POULTRY HUSBANDRY

#### *First Term and Second Term*

- 214.\* **Research in Poultry Husbandry.** Research problems assigned to meet the needs of the student. (Cred. ar.; grad.; prereq. consent of instructor; ar.) Ar.
- 215.\* **Research in Poultry Nutrition.** (Cred. ar.; grad.; prereq. consent of instructor; ar.) Sloan
- 216.\* **Research in Poultry Breeding.** (Cred. ar.; grad.; prereq. consent of instructor; ar.) Shoffner

### RHETORIC

#### *First Term*

47. **Efficient Reading.** Designed for students, teachers, business or professional people of average reading ability wishing to improve speed, comprehension and vocabulary. Techniques valuable in achieving or maintaining superior scholastic or professional status. Maximum use of recently developed visual aids. Of special value to teachers interested in laboratory-type experience in adult reading techniques. Similar to Efficient Reading offered in General Extension. Not a remedial course. (Class limited to 30.) (3 cred.; no prereq.; IV MTWThF; 185ForH) Wright
51. **Exposition.** Essays and articles; technical writing; application letters; review of English usage. (3 cred.; jr., sr.; prereq. satisfaction of freshman communication requirements; III MTWThF; 308En) Thurston

#### *Second Term*

22. **Public Speaking.** A practical course in the fundamentals of speech making. Particular emphasis upon organizing the speech and projecting it to the audience. (3 cred.; soph., jr., sr.; prereq. satisfaction of the freshman communication requirements; III MTWThF; 307En) Thurston
51. **Exposition.** (See first term) (IV MTWThF; 308En) Thurston

### SOILS

#### *First Term and Second Term*

- 202.\* **Research Problems in Soils.** (Page 218†) (2-5 cred.; grad.; prereq. consent of instructor in advance of registration; ar.) Rost, McMiller, Burson, Caldwell, MacGregor

### VETERINARY MEDICINE‡

All classes scheduled by arrangement

#### *First Term and Second Term*

104. **Special Studies in Animal Anatomy.** Individual problems for further study in Animal Anatomy. (1-3 cred.; registration for more than one term permitted; prereq. 101) Kitchell, Weber

† For description see *Bulletin of the Graduate School* for 1950-52.

‡ Tuition fees per term in Veterinary Medicine are \$42 for resident and \$77.50 for non-resident students, incidental fee per term \$9, and deposit \$5.

114. **Special Studies in Animal Histology and Embryology.** Individual problems for further study in animal histology and embryology and histological techniques. (1-3 cred.; registration for more than one term permitted; prereq. 111 or equiv.) Kitchell, Weber
137. **Problems in Animal Physiology.** (Cred. ar.; jr., sr., grad.; prereq. 135 and 136 or Hum. Physiol. 106 and 107) Sellers
157. **Veterinary Post-Mortem Pathology.** (1-3 cred.; registration for more than one term permitted; jr., sr., grad.; prereq. 153 or equiv., with consent of instructor) Staff
201. **Advanced Animal and Poultry Pathology.** Studies of clinical material, collateral reading, and conferences. (Cred. ar.; prereq. consent of instructor) Kernkamp, Fenstermacher, Sautter
205. **Advanced Animal Bacteriology.** Studies on clinical material, collateral reading, and conferences. (Cred. ar.; prereq. consent of instructor) Pomerooy, Fenstermacher
209. **Advanced Clinical Techniques.** A more detailed application of clinical techniques in the diagnosis and therapy of animal diseases. (Cred. ar.; prereq. consent of instructor) Campbell, Mather, Hoyt
213. **Veterinary Obstetrics and Gynecology.** A course designed to give the student a more comprehensive training in the disorders and diseases of reproduction of domestic animals through studies on clinical material, collateral reading, and conferences. (Cred. ar.; prereq. consent of instructor) Bartlett
230. **Research in Veterinary Medicine.** (Cred. ar.) Staff
235. **Research in Animal Physiology.** (Cred. ar.; prereq. 135 and 137 or Hum. Physiol. 106 and 107) Sellers
245. **Research in Veterinary Parasitology.** Introduction to research and special parasitological problems. (Cred. ar.; prereq. consent of instructor) Griffiths

# ITASCA PARK BIOLOGICAL STATION

## GENERAL INFORMATION

During the second term of the Summer Session an excellent opportunity for the study of terrestrial and fresh-water biology in its most fundamental aspects is presented by the Biological Station of the University of Minnesota, located at Itasca State Park, approximately 220 miles northwest of the Twin Cities.

These classes will be conducted cooperatively by various departments in the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine and the College of Science, Literature, and the Arts. Classes will be held at the station beginning July 28, ending August 30.

Interested students may find the following opportunities offered by the Biological Station at Itasca State Park:

1. Elementary and advanced instruction for college undergraduates, graduate students, high school and nature study teachers, and others interested.
2. Opportunities for graduate students who may wish to pursue biological investigation in the lakes, fields, or forests close to the station.
3. Opportunities for teachers of botany, zoology, and biology, as well as for guest investigators for independent research in terrestrial and fresh-water biology.

### Admission and Registration†

The courses in the Biological Station are open to all qualified graduate and undergraduate students who have had usual preliminary courses in biological subjects.

Inquiries concerning the Biological Station should be directed to and reservations made through the College Office, University Farm, St. Paul 1.

Application for admission to the Graduate School should be sent directly to the Dean of the Graduate School, University of Minnesota, Minneapolis 14. Students must make such application at least four weeks before the opening of the Biological Station Summer Session. (See also information under Graduate School in this catalog.) Attention is called to the fact that pending admission to the Graduate School students can register as adult special students. Credit so earned may be transferred, upon petition, to a graduate record if the student is later admitted to the Graduate School. If the student is not admitted to the Graduate School the credit earned as an adult special student will not be given official validation toward a graduate degree.

*All students should make reservations* at the College Office on the St. Paul Campus. Students should note that a reservation is not registration, and all *on-campus students* must complete their registration at the Admissions office on either campus as early as possible but not later than July 25. *Off-campus students* may register upon arrival at the Biological Station on July 28 if registration before arrival is difficult.

### Fees and Expenses

Registrations will be accepted during June and July but not later than July 28.

The following fees are payable by each registrant on or before July 28 and must be paid before registration is completed:

Tuition fee .....	\$50.00
Incidental fee .....	9.00
General deposit fee .....	2.00
Laboratory fee .....	10.00
Total fees for the term .....	\$71.00

† See pages 13 and 14 for general University of Minnesota admission.

In addition, it is estimated, on the basis of the experience of other groups of students, that board which is on a cost basis will be approximately \$60 for the five weeks. A charge of \$10 is made for room in the dormitories and cabins of the Biological Station and is to be paid to the director during the first week of the session.

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.

Laboratory fee includes the use of microscopes, nets, boats, various class supplies, and accessories.

The estimated cost of \$141 for the five-week session does not include traveling expenses, clothing, laundry, and minor incidental personal expenses.

Tuition and fees are payable on or before July 28. After July 28 the late registration fee will be charged according to the following schedule:

Tuesday, July 29 .....	\$2.00
Wednesday, July 30 .....	3.00
Thursday, July 31 .....	4.00
Friday, August 1 .....	5.00

No registration will be accepted after August 1 without the approval of the professor in charge and payment of a \$5 fee.

### Courses of Instruction†

An asterisk (\*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 23.)

#### Second Term

##### BOTANY

- Pl.Path.56. Introduction to the Study of Fungi.** (Course also listed under Plant Pathology) (4 cred.; jr., sr.; prereq. 9 cred. in bot. or consent of instructor; MTh) C. M. Christensen
- 112. Aquatic Flowering Plants.** (4 cred.; prereq. 10 cred. in bot. or zool. or consent of instructor; WS) Morley
- 116. Summer Flora of Minnesota.** (4 cred.; prereq. Bot. 8, or consent of instructor; TF) Morley
- 131. Field Ecology.** (4 cred.; prereq. Bot. 50 or 130 or For. 2-4; MTh) Buell
- 155. Fresh-water Algae.** (4 cred.; prereq. 10 cred. of biology, or consent of instructor; TF) Evans
- Pl.Path.156. Advanced Study of Fungi.** (Course also listed under Plant Pathology) (4 cred.; prereq. 9 cred. in bot. or consent of instructor; MTh) C. M. Christensen
- 157. Bryophytes and Pteridophytes.** (4 cred.; prereq. 10 cred. in biology or consent of instructor; MTh) Evans
- 196.\* Problems in Ecology, Taxonomy, Bryology, or Algology.** (Cred. ar.; adv. students with proper qualifications) Buell, Morley, Evans
- 224.\* Research Problems in Ecology.** (Cred. ar.; grad. students with proper qualifications) Buell

#### ENTOMOLOGY AND ECONOMIC ZOOLOGY

- 59. Field Entomology.** (4 cred.; jr., sr.; prereq. Zool. 1-2-3 or equiv.; TF) Spieth

† For detailed description of courses write to Dean of Summer Session, University of Minnesota, Minneapolis 14, for special bulletin of the Biological Station.

68. **Natural History of the Higher Vertebrates.** (Given in alternate years. Not offered in 1952)
124. **The Biology of Immature Insects.** (4 cred.; 15 cred. in zool. and Ent. 52 or equiv. or consent of the Division of Entomology and Economic Zoology; WS) Spieth
162. **Ecology of Terrestrial Vertebrates.** (4 cred.; prereq. Ent. 68 or Zool. 57-58, and Ent. 63 or equiv. and Bot. 20; MTh) (There will be a "cost-basis charge" for mileage on field trips) Marshall
- 196.\* **Special Problems in Entomology and Economic Zoology.** (Cred. ar.; advanced students with proper qualifications) Spieth, Marshall

### PLANT PATHOLOGY AND BOTANY

56. **Introduction to the Study of Fungi.** (Course also listed under Botany) (4 cred.; jr., sr.; prereq. 9 cred. in bot. or consent of instructor; MTh) C. M. Christensen
156. **Advanced Study of Fungi.** (Course also listed under Botany) (4 cred.; prereq. 9 cred. in bot. or consent of instructor; MTh) C. M. Christensen
- 210.\* **Special Problems in Mycology.** (Cred. ar.; grad.; prereq. 105-106-107) C. M. Christensen

### ZOOLOGY

55. **Natural History of Invertebrates and Fishes.** (4 cred.; prereq. Zool. 1-2-3 or equiv.) Eddy
107. **Protozoology.** A survey of the Protozoa with special reference to their identification, classification, and life histories. (4 cred.; prereq. 15 cred. in zool.) Cosgrove
115. **Advanced Natural History of Invertebrates and Fishes.** (4 cred.; prereq. 15 cred. in zool.) Eddy
119. **Limnology.** A study of the conditions for life in the water and distribution of aquatic animals. (4 cred.; prereq. 15 cred. in zool.) Eddy
- 198.\* **Problems in Protozoology, Ecology and Limnology.** (Cred. ar.; prereq. Zool. 1-2-3 and special requirements; advanced students) Cosgrove, Eddy

# MEDICAL SCHOOL

## GENERAL INFORMATION

Students in the freshman, sophomore, and junior years at the University of Minnesota Medical School are required to be in attendance during the first term of the Summer Session of 1952. Their courses are a continuation of those begun in the spring quarter and are not open to students from other institutions. For other courses offered in various departments of the Medical School attention is directed to the course listings by departments.

A student applying to register in preclinical subjects for the purpose of making up deficiencies incurred at other medical schools should present, at the time of application for such registration, a letter from the dean of his medical school approving the purpose of the registration. Medical students from other schools, whether their purpose is make-up work or to accelerate or broaden their medical education, are registered as adult special students and receive 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 receive the degree. No obligation to accept such students for registration in the regular medical course is attached to adult special registration. They should consult the deans or department heads in their own schools as to the equivalence of the courses in which they might be interested at the University of Minnesota. (See departmental listings.)

In the *clinical departments*, instruction of junior medical students is a continuation of spring quarter courses up to the end of the first term. During the second term both sophomore and junior medical students, at their election, may continue in their clinical work as externs. Similar externship training is offered to medical students from other institutions and to practicing physicians during both first and second terms of the Summer Session. (See departmental schedules.)

The externships will offer an integrated program of bedside teaching and clinical responsibilities, ward rounds, conferences and seminars, occupying approximately three fourths of the registrant's time, on the wards of the University Hospitals, the Minneapolis General Hospital, and the Veterans Hospital, for recently graduated physicians, and qualified medical students from other institutions who are recommended by their respective deans. Registration may be for either or both terms of the Summer Session. Research opportunities may be afforded registrants who remain for both terms. At the discretion of individual clinical departments, selected registrants may remain during the month of September for additional clinical training. Since an externship will not occupy completely the registrant's time, about one fourth of this time may, if he chooses, be devoted to electives in basic sciences or in another clinical department. Medical classes of the Summer Session 1952 will begin on June 18.

## Opportunity for Practitioners

In addition to the externships which have been described above, attention is called to continuation courses offered from time to time throughout the year under the General Extension Division and the Center for Continuation Study. These courses are primarily for practitioners and are largely practical in nature. Circulars may be obtained from the Center for Continuation Study.

Clinics and conferences 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.

## Graduate and Special Continuation Courses

Opportunities are offered in the various departments of the Medical School for work during the Summer Session for advanced degrees, either in laboratory



or clinical branches of medicine. 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.

A special program of courses has been arranged through the Center for Continuation Study for medical officers returning to civilian life from military service and a restricted number of others. A limited number of such physicians may live at the Center for Continuation Study. Address Director, Continuation Medical Education, University of Minnesota, Minneapolis 14, for details.

**An asterisk (\*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 23.)**

**Fees**

**Medical students desiring time credit**—The Medical School tuition fee for the full summer quarter is \$84 for residents of Minnesota, and \$175 for nonresidents. Less than a full program may be paid for on a credit-hour basis, namely \$7 per credit hour (nonresidents \$14.75). In addition each student will pay the incidental fee of \$18 and a deposit of \$5. 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 be therefore:

	Summer Quarter	Summer Term
Tuition fee .....	\$84.00 (\$175.00)	\$42.00 (\$87.50)
Incidental fee .....	18.00	9.00
Deposit .....	5.00	5.00

**Medical students or physicians registering for externships**—A tuition fee of \$42 *per term* is charged for the externships listed under the various clinical departments. This is the same for residents and nonresidents of Minnesota. No additional tuition will be charged for such electives in the basic sciences or clinical work as the registrant may have time for, not to exceed one-fourth time. Each registrant for an externship will pay the incidental fee of \$9 per term. In elective courses where a microscope is required this may be rented from the University.

**Nonmedical Summer Session students**—Students who do not desire to register for time credit toward a medical degree, and who are ineligible to register for an externship or for a program of clinical subjects, may pay the regular Summer Session fees (see pages 15 and 16) per term plus special course fees.

**ANATOMY**

*First Term*

**REQUIRED COURSES**

Courses 104 and 111, which are required work for freshman medical students, are continued from the spring quarter through the first term of the Summer Session. Not open to students from other medical schools. Graduate students who have registered for either of these courses in the spring quarter may continue by registering in the first term of the Summer Session.

**ELECTIVE COURSES**

- 149. **Experimental Neurology.** Study of morphology of central nervous system as determined by experimental methods. (Cred. ar.; prereq. 111; ar.; ar.) Campbell
- 150. **Special Topics in Neurology.** Study of literature on selected phases of human neurology. (Cred. ar.; prereq. 111; ar.; ar.) Larsell
- 156. **Advanced Anatomy.** Individual problems in gross anatomy, histology, hematology, or neurology. (Cred. ar.; consent of instructor: ar.; ar.) Boyden, Larsell, Campbell, Hartmann, Williams, Sundberg

164. **Segmental and Topographic Anatomy of the Lungs.** (2 cred.; prereq. 101; ar.; ar.) Boyden
204. **Research in Anatomy.** (Gross anatomy, histology, hematology or neurology) (Cred. ar.; consent of instructor; ar.; ar.) Boyden, Larsell, Campbell, Hartmann, Williams, Sundberg

### Second Term

#### REQUIRED COURSES

58. **Anatomy of the Extremities.** (Enrolment limited to students from the Kenny Institute) (3 cred.; lect. VI MTWThF, 304 IA; lab. VII MTWThF, ar.) Wells

#### ELECTIVE COURSES

156. **Advanced Anatomy.** (See first term) Wells, Sundberg
165. **Hematology.** For medical technologists and others. (Enrolment limited) (4 cred.; prereq. 103, 104 or equiv.; lect. II MTWTh, 304 IA; lab. III-IV MTWTh, 213 IA) Sundberg
204. **Research in Anatomy.** (See first term) Wells, Sundberg

### First Term and Second Term

#### ELECTIVE COURSES

- 100-101. **Gross Human Anatomy.** Dissection of lower and upper halves of body, respectively. (Enrolment limited) (8 cred. each; prereq. Zool. 1-2-3 and preferably 22; lect. I MTWThF, 304 IA; lab. II-IV, VI-VII MTWThF, 306 IA) Boyden (100 or 101); Wells (101 or 100). (These two courses may be run consecutively or concurrently, depending upon number of students and their needs. Consent of head, Department of Anatomy, required before June 1)

## BACTERIOLOGY AND IMMUNOLOGY

### First Term

53. **General Bacteriology.** (Page 15†) (5 cred.; prereq. 10 cred. in chemistry and 4 cred. in biological sciences; lect. II MTWThF, 129MH; lab. III-IV MTWThF, 201MH) Johansson
122. **Physiology of Bacteria Laboratory.** Special techniques employed in the study of bacterial physiology and metabolism. (3 cred.; prereq. 121; required of all grad. students in bact. and open to others by permission of instructor; VI-IX MWF; 201MH) Lichstein
201. **Research in Bacteriology.** (Page 54¶) (Cred. and hrs. ar.) Staff

### Second Term

102. **Medical Bacteriology.** (Page 15†) (5 cred.; prereq. 53; lect. VI MTWThF, 214MH; lab. VII-VIII MTWThF, 201MH) Syverton, Roth
114. **Medical Mycology.** A study of the pathogenic fungi and of the mycotic infections in man and animals; special emphasis is placed on diagnostic procedures. (3 cred.; jr., sr., grad.; prereq. 102; lect. II MTThF, 214MH; lab. III-IV MTThF, 201MH) Roth
116. **Immunology.** A study of the mechanisms of the interactions between the host and the parasite. The technics and theories of serologic procedures; laws of hemolysis, quantitative relationship between antigen and antibody; opsonins, serums, vaccines, toxin, antitoxin, complement fixation, neutralization, pre-

† For description see *Bulletin of the Medical School*, 1949-51.

§ Microscope required. Students may obtain use of microscope by purchasing one \$3 microscope card from the bursar.

¶ For description see *Bulletin of the Graduate School*, 1950-52.

cipitative and agglutinative reactions, blood grouping, atopy, anaphylaxis. (3 cred.; jr., sr., grad.; prereq. 102 or 105; lect. I MTWTh, 214MH; lab. II-III MTWTh, 201MH) Watson

**201. Research in Bacteriology.** (See first term)

## MEDICINE

### DIVISION OF INTERNAL MEDICINE

#### First Term

##### REQUIRED COURSES

Courses 102, 104, and 111, which are required work for sophomore and junior medical students, are continued from the spring quarter through the first term of the Summer Session. Not open to students from other medical schools.

#### First and Second Terms

##### ELECTIVE COURSES

- 132. Diagnosis and Treatment of Diseases of the Lungs.** Lectures and clinics in the dispensary and on the hospital wards. Lectures with or without hospital work. (Cred. and hrs. ar.; jr., sr.; not less than 10 students) Myers
- 136. The Respiratory Organs in Health and Disease.** (Cred. and hrs. ar.; jr., sr.; limited to 6 students) Myers
- 140. Externship in Medicine.** Not less than 10 students; limited to 54 students. Of the total number, 15 can be taken to serve as junior clerks on each of the medical services at the University and the Minneapolis General Hospitals, and 24 to serve as senior clerks in the Medical Clinic at the University Hospitals. Applicants must have passed satisfactorily the first two years of medicine in a Class A medical school. In selecting the senior clerks to serve in the Medical Clinic at the University Hospitals, preference will be given to students who have also satisfactorily completed the third (junior) year of medicine. Watson and staff

##### COURSES FOR GRADUATE STUDENTS

- 201. Clinical Medicine.** (Cred. ar.) Watson, Spink, Ebert, Flink, Hoffbauer, Nesbitt, Tucker
- 203. Research in Medicine.** Watson, Spink, Ebert, Flink, Hoffbauer, Nesbitt, Schwartz, Tucker, Chapman, Thomas, Hall
- 205. Tuberculosis.** Myers, Tucker
- 206. Clinical Conference.** Presentation of problem cases. Discussion of diagnosis and treatment and consideration of pertinent literature. (1 cred.; 9 a.m. F) Watson, Ebert, and staff
- 207. Clinical Pathological Conference.** Presentation of clinical features, necropsy findings, and discussion. Medical and surgical cases. (1 cred.; 11 a.m. W) Dawson, Watson, Wangenstein, and staff
- 208. Clinical Radiological Conference.** Presentation and discussion of X-ray films, from the Medical Service, with clinical correlation. (1 cred.; 9 a.m. M) Rigler, Watson, and staff
- 213. Cardiovascular Seminar.** Weekly conference on clinical cardiovascular problems, held jointly by the Departments of Medicine and Pediatrics. (1 cred.; hrs. ar.) Thomas, Chapman, Adams, and others

**DIVISION OF DERMATOLOGY****First and Second Terms****ELECTIVE COURSES**

- 159.† **Assistantship, Dermatology and Syphilis.** (Prereq. jr. med. clerkship; limited to 1 student; Minneapolis General Hospital) Laymon
- 160.† **Assistantship and Conference in Dermatology.** (Prereq. jr. med. clerkship; limited to 1 student; University Hospitals) Michelson and staff
- 162.† **Assistantship in Dermatology.** (Prereq. 124; limited to 2 students; Minneapolis General Hospital) Laymon
- 163.† **Treatment of Syphilis.** (Limited to 2 students; University Hospitals) Michelson and staff
- 164.† **Seminar in Pathology.** Histopathology of the skin. Clinical and pathological phases will be exemplified. (Prereq. Path. 102) Michelson
- 165.† **Seminar in Dermatology.** Michelson and staff
- 166.† **Allergy and Dermatology.** (Limited to 1 student) Michelson

**COURSES FOR GRADUATE STUDENTS**

225. **Clinical Dermatology and Syphilology.** (University Hospitals) Michelson and staff
226. **Clinical Dermatology and Syphilology.** (Minneapolis General Hospital) Laymon and staff
227. **Histopathology of the Skin.** Michelson and staff
228. **Research in Dermatology and Syphilology.** Michelson, Laymon, and staff

**Second Term****ELECTIVE COURSES**

167. **Externship in Dermatology.** (Limited to 10 students) Michelson and staff

**DIVISION OF CLINICAL LABORATORY MEDICINE****First and Second Terms****COURSES FOR GRADUATE STUDENTS**

235. **Advanced Clinical Laboratory Medicine.** Evans and staff
236. **Research on Clinical Laboratory Problems.** Evans and staff

**OBSTETRICS AND GYNECOLOGY****First Term****REQUIRED COURSES**

Course 124, which is required work for junior medical students, is continued from the spring quarter through the first term of the Summer Session. Not open to students from other medical schools.

**First Term****ELECTIVE COURSES**

- 160a. **Externship in Obstetrics and Gynecology.** (Limited to 10 students) Elective for junior and senior medical students and recent graduates. Course will consist of clinical work in obstetrics and gynecology. Under exceptional circumstances investigative work can be done. Registration may be for one or both terms. (6 cred.) McKelvey and staff

† Consent of instructor required.

**Second Term**

- 160b. **Externship in Obstetrics and Gynecology.** (See 160a, first term) McKelvey and staff

**First and Second Terms****COURSES FOR GRADUATE STUDENTS**

201. **Advanced Obstetrics and Gynecology. Part I.** Required of first-year fellows. McKelvey, Lang, Mitchell, and staff  
 205. **Advanced Obstetrics and Gynecology. Part II.** Required of second-year fellows. McKelvey, Lang, Mitchell, and staff  
 209. **Advanced Obstetrics and Gynecology. Part III.** Required of third-year fellows. McKelvey, Lang, Mitchell, and staff  
 216. **Research.** Staff  
 303. **Obstetrics and Gynecologic Histology.** (6 cred.; hr. ar.) McKelvey and staff

**PATHOLOGY****First Term**

104. **Autopsies.** (Cred. and hrs. ar.; prereq. 102) Dawson, McCartney  
 107.† **Diagnosis of Tumors.** (2½ cred.; prereq. 102; hrs. ar.) McCartney  
 107a.† **Surgical Pathology.** (2½ cred.; prereq. 102; 10:00-12:00 MTWThF) McCartney  
 107b. **Diseases of the Heart.** (2½ cred. prereq. 102; 2:00-4:00 TTh) McCartney  
 107f. **Diseases of the Lungs.** (1 cred.; prereq. 102; hrs. ar.) Dawson  
 111. **Conference on Autopsies.** (1 cred.; prereq. 102; 12:30-1:30 T; 104 IA) Dawson  
 201. **Research.** Students with the necessary preliminary training may elect research either as a major or minor in pathology. Permission required. (Cred. and hrs. ar.) Dawson, McCartney

**Second Term**

104. **Autopsies.** (Cred. and hrs. ar.; prereq. 102) Dawson, Hebbel  
 107.† **Diagnosis of Tumors.** (2½ cred.; prereq. 102; hrs. ar.) Hebbel  
 107a.† **Surgical Pathology.** (2½ cred.; prereq. 102; 10:00-12:00 MTWThF) Hebbel  
 107e. **Diseases of Alimentary Tract.** (1 cred.; prereq. 102; hrs. ar.) Hebbel  
 111. **Conference on Autopsies.** (1 cred.; prereq. 102; 12:30-1:30 T; 104 IA) Dawson  
 201. **Research.** Students with the necessary preliminary training may elect research either as a major or minor in pathology. Permission required. (Cred. and hrs. ar.) Dawson, Hebbel

**PEDIATRICS****First Term****REQUIRED COURSES**

Courses 122 (2 cred.) and 124 (6 cred.), which are required work for junior medical students, are continued from the spring quarter through the first term of the Summer Session. Not open to students from other medical schools. Course 135 (3 cred.), which is required work for senior medical students, is continued through both terms of Summer Session. (See *Bulletin of the Medical School*, pages 35, 36.)

† Second term 107 and 107a are not repetitions of the first term but rather continuations.

**First and Second Terms****ELECTIVE COURSES**

- 152.† **Fundamental Principles of Nutrition and Metabolism as Applied to Children.** Seminar course. (1 cred.; hr. ar.; W205Hosp.) Ulstrom, Ziegler
- 154.† **Endocrinology as Applied to Pediatrics.** Seminar course. (1 cred.; hr. ar.; W205Hosp.) McQuarrie, Ulstrom
- 162.† **Common Behavior Disturbances in Childhood.** Their recognition and management. (1 cred.; hr. ar.; W600Hosp.) Jensen and staff
170. **Rheumatic Fever and Heart Diseases in Childhood.** (1 cred.; hr. ar.; 3rd floor VCHH) Thomas, Good, Dwan, Anderson, Denny
- 174A. **Dispensary Externship in Pediatrics.** Patients in Pediatric Dispensary are assigned to individual students for examination, treatment, and "follow-up" observation under supervision. Special clinics in well-baby care, allergy, heart, metabolism, endocrinology, convulsive disorders, cerebral palsy and child psychiatry are attended weekly. (Limited to 10 students) (4 cred. per term; 9:00-12:00 and 1:00-3:00 MTWThF; University Hospitals and Minneapolis General Hospital) Ulstrom, Jensen, Good, Platou, Stoesser, Siegel, Brown, Engel, and other senior staff members
- 174B. **In-Patient Externship in Pediatrics.** Patients in the pediatric wards at the University Hospitals and Minneapolis General Hospital are assigned to individual students for clinical history, physical and laboratory diagnosis, treatment and "follow-up" observation under supervision of the pediatric and consulting staff members. (4½ cred. per term; 9:00-12:00 and 1:00-5:00 MTWThF, 8:00-12:00 S) McQuarrie, Jensen, Thomas, Brown, Good, Ulstrom, Denny, and junior staff members

**COURSES FOR GRADUATE STUDENTS**

200. **Graduate Seminar in Pediatrics.** (1½ cred.; 4:00-5:30 M; Ped.Conf.Rm.) Ziegler, McQuarrie, and senior staff
202. **Pediatric Clinic.** (5 cred.; 9:00-12:00 MTWThF; Out-Patient Departments, Minneapolis General and University Hospitals) Jensen, Brown, Ulstrom, and junior staff
204. **Three-Month Residence in Pediatrics at the University Hospitals or Minneapolis General Hospital.** (7 cred.; 9:00-12:00 and 1:00-5:00 MTWThF) McQuarrie, Jensen, Good, Ulstrom at University Hospitals; Dwan, Huene-kens, Platou, Seham, Stoesser, Richdorf at Minneapolis General Hospital
208. **Pediatric Research.** Special problems. Students may collaborate with members of the staff or with other students. (Cred. ar.; hr. ar.; Ped.Labs.) McQuarrie, Thomas, Good, Jensen, Ziegler
210. **Special Clinics in Pediatrics.** (1 cred.; Out-Patient Departments, Minneapolis General Hospital or University Hospitals) Jensen, Dwan, Engel, Stoesser, Brown, Ulstrom

**PHARMACOLOGY****First Term****REQUIRED COURSES**

102. **General and Experimental Pharmacology.** (Limited to soph. med. students and grad. students. A continuation from spring quarter. Only those students who have registered for this course in the spring quarter may take the continuation in the Summer Session; 3 cred.; lect. II MTF, III Th, 15 Owre, IV M, 214MH; lab. A I-III W, III T, lab. B VI-VIII W, III F, 101MH) Bieter, Wright, Cranston

† Not offered to fewer than 10 students.

## ELECTIVE COURSES

110. **Toxicology.** A study of systemic quantitative toxicological analysis. Lect. and lab. Lect. only may be taken if desired. (Cred. and hrs. ar.) Wright  
 112. **Spectrochemical Toxicology.** (Lect. 22 hrs.; lab. 66 hrs.; 5 cred.; prereq. 110) Wright

*First and Second Terms*

9. **Pharmacology for Nursing Students.** (2 cred.; lect. 22 hrs., VI TTh; 111 Owre) Cranston  
 203. **Research in Pharmacology.** For graduate and advanced students. (Cred. and hrs. ar.) Wright, Bieter

## PHYSIOLOGY

*First Term*

## REQUIRED COURSES

Course 107, which is required work for freshman medical students, is continued from the spring quarter through the first term of the Summer Session. Not open to students from other medical schools. Formerly part of 103-104.

4. **Human Physiology.** An elementary course consisting of lectures and demonstrations for students desiring an introduction to the subject. (4 cred.; all; prereq. high school or college biology and chem.; lect. or dem. II-III TWThF; 214MH) King

## ELECTIVE COURSES

113. **Problems in Physiology.** Each student will be assigned a topic for special laboratory study. Conferences and reading. (Cred. and hrs. ar.) Ar.  
 114. **Seminar in Physiology.** Arranged with qualified students. (Cred. and hrs. ar.) Ar.  
 203. **Research in Physiology.** (Cred. and hrs. ar.) Visscher and others

*Second Term*

## REQUIRED COURSES

60. **Human Physiology.** An elementary course in human physiology. (6 cred.; primarily for med. tech. and 5-year nurs. students; prereq. courses in physiol. chem. and human or mammalian anat.; lect. VI MWF, VII TThF, VIII TTh, 111 Owre; conf. IV TTh, 113 Owre; lab. VII-IX MW) Ar.

## ELECTIVE COURSES

113. **Problems in Physiology.** (See first term)  
 203. **Research in Physiology.** (Cred. and hrs. ar.) Ar.

## PHYSIOLOGICAL CHEMISTRY

*First Term*

## REQUIRED COURSES

100. **Physiological Chemistry.** (7 cred.; jr., sr.; prereq. organic and physical chemistry and physics; lect. IV MTWThF, VI MTWThF, 12 Owre; lab. I-III MTThF, 310MH) Glick, Barnum, Cohen, Dunshee

## ELECTIVE COURSES

153. **Problems in Physiological Chemistry.** Special work arranged with qualified students. May be taken one or both terms. (Cred. and hrs. ar.; prereq. 100, 101) Glick, Barnum, Cohen, Dunshee

- 205. Research in Physiological Chemistry.** (Cred. and hrs. ar.) Glick, Barnum, Cohen, Dunshee

### *Second Term*

#### REQUIRED COURSES

- 101. Physiological Chemistry.** (6 cred.; jr., sr.; prereq. 100; lect. IV MTWThF, VI MWF, 12 Owre; lab. I-III MTWTh, 310MH) Glick, Barnum, Cohen, Carr

#### ELECTIVE COURSES

- 153. Problems in Physiological Chemistry.** (See first term) Glick, Barnum, Cohen, Carr  
**205. Research in Physiological Chemistry.** (See first term) Glick, Barnum, Cohen, Carr

## PSYCHIATRY AND NEUROLOGY

### *First Term*

#### REQUIRED COURSES

The following courses, which are required work for freshman and junior medical students, are continued from the spring quarter through the first term of the Summer Session: 103 and 120. Not open to students from other medical schools.

### *First and Second Terms*

#### ELECTIVE COURSES FOR MEDICAL STUDENTS

- 145. Reading in Psychiatry.** Supervised reading. (Cred. and hrs. ar.) Staff  
**145x. Reading in Neurology.** Supervised reading. (Cred. and hrs. ar.) Staff  
**152. Externship in Psychiatry.** (Limited to ten students) This course offers the opportunity for medical students and physicians in practice to obtain clinical psychiatric training during the Summer Session. The training consists largely of work with patients under supervision and seminar type of discussion of cases. (6 cred.; hrs. ar.) Staff  
**153. Externship in Neurology.** (Limited to ten students) This course offers the opportunity for medical students and physicians in practice to obtain clinical neurological training during the summer quarter. The training consists largely of work with patients under supervision and seminar type of discussion of cases. (6 cred.; hrs. ar.) Staff

#### COURSES FOR GRADUATE MEDICAL STUDENTS

- 208. Clinical Neurology.** Supervised practice, in-patient and out-patient services. (Cred. and hrs. ar.) Baker and staff  
**208x. Clinical Psychiatry.** Supervised practice, in-patient and out-patient services. (Cred. and hrs. ar.) Hastings and staff  
**208y. Clinical Child Psychiatry.** Supervised practice, in-patient and out-patient services. (Cred. and hrs. ar.) Jensen and staff  
**209. Research in Neurology.** (Cred. and hrs. ar.) Baker  
**212. Survey of Neuropathology.** (Cred. ar.; prereq. 210; ar.) Baker  
**221. Psychometric Clerkship.** (Cred. ar.; clinical psychology majors only; ar.) Hathaway, Schofield  
**226. Neurological-Neurosurgical Conference.** (Same as Surgery 318) Review of X-rays, case histories, and neuropathological material on neurological and neurosurgical cases. (1 cred.; hrs. ar.) Baker  
**228. Research in Neuropathology.** (Cred. and hrs. ar.) Baker  
**231. Applied Electroencephalography and Myography.** (Cred. and hrs. ar.) Baker and staff  
**233. Applied Neuropathology.** (Cred. and hrs. ar.) Baker and staff  
**245. Case Conference for Clinical Psychologists.** (Cred. and hrs. ar.) Staff



## SCHOOL OF PUBLIC HEALTH†

## First Term

- 50.¶ **Personal and Community 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.; no prereq.; not open to students who have taken 3, 4, 51, 52, 100 or G.C. 10C; I MTWThF; 214MH) Thomson
- 51.¶ **Community Hygiene.** Elementary concepts of development, spread, and prevention of preventable diseases; community programs for their control. (3 cred.; jr., sr.; prereq. 3, or G.C. 10C; not open to students who have taken 4, 50, 52, or 100; students exempted from P.H. 3 on the basis of military service will not be accepted in this course; III MTWThF; 12 Owre) Thomson
58. **Maternal and Child Hygiene.** Trends in the health care of mothers during the maternity cycle and of the child from conception through the preschool years; health problems, public health programs, and other community facilities. (3 cred.; nurses; prereq. 53 or 100 and 62; IV MTWThF; 129MH) Hauser
62. **Principles of Public Health Nursing I.** Trends, principles, and techniques in public health nursing service including family health guidance. (5 cred.; public health nurses; others admitted by permission; prereq. 100 or equiv. but may be taken concurrently; II, III MTWThF; 113 Owre) Sandve, Hauser
64. **Cancer Nursing and Nursing in Other Chronic Diseases.** Review of the major diseases causing chronic illness; social and psychological factors in chronic illness; nursing responsibilities in prevention, care, and rehabilitation. (3 cred.; public health nurses only; others by permission; no prereq.; VI MTWThF; 129MH) Hauser
- 65.§ **Field Work 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 or 100, 62, and 67) Sandve
- 66.§ **Field Work 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 or 100, 62, and 67) Sandve
- 67.§ **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 or 100, 62) Sandve
95. **Principles of Human Nutrition.** Particular reference to public health. The role of nutrients, nutritional composition of foods, food requirements, nutritional aspects of food production and processing, laws and regulations, food habits. (3 cred.; prereq. 3 cred. in chemistry and 10 cred. in biology; I MTWThF; 129MH) J. Anderson
104. **Epidemiology.** Factors underlying the spread of infectious diseases, with detailed discussion of selected diseases; simple statistical and epidemiologic methods in the study of diseases. Lectures and laboratory. (3 cred.; jr., sr.,

† Room schedule posted on bulletin board outside 121 Millard Hall.

§ Students must maintain a C average in theory completed before they are admitted to any field work.

¶ No credit is granted for this course in the major sequence in public health nursing.

grad.; prereq. 53 or 100 and permission of instructor; P.H. 140 must be taken in conjunction with P.H. 104 unless student has already taken it, or P.H. 110 and 111 or equivalent; III MTWThF; 129MH) Top

145. **Workshop on Nursing in Health Programs for School-Age Children in School, Home and Community.** For nurses (June 23-July 3). To give an opportunity to public health nurses to increase their understanding of the mental health needs of the school-age child and to provide opportunity for discussion of specific responsibilities and activities of the public health nurse in this area. (Limited to 25) (3 cred.; 107TSP) Williams, von Bergen, and others

#### BIOSTATICS

110. **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.; I MWF, 111 Owre, IV MWF, 104 IA) Johnson
111. **Biometry Laboratory.** Practical training in machine calculation and statistical techniques. To be taken concurrently with Course 110. (2 cred.; lab. 12 hrs. ar.; 118MH) Johnson, Erickson
140. **Vital Statistics.** Study of official sources of vital statistics, including population changes, calculation of rates, and graphical exposition of trends. Differentiation and association; tests of significance. (3 cred.; to be taken in conjunction with 104, permission of instructor; VI-VIII MWF; 214MH) Erickson

#### Second Term†

- 59.¶ **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. 3 and 4, or 3 and 51, or G.C. 10C and 4, or G.C. 10C and 51, or 50, or 53 or 100, exemption from 3 on the basis of military service will not be accepted as substitute for suitable course in personal health; III MTWThF; 214MH) Todd
60. **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 or 50 or 51 or 52 or 53, or 100 and 62; IV MTWF; 129MH) Myers
63. **Principles of Public Health Nursing II.** Organization of public health nursing services; program planning; evaluation; professional problems in public health nursing. (5 cred.; public health nurses, others admitted by permission; prereq. 53 or 100 or equiv. but may be taken concurrently; I-II MTWThF; 111 Owre) Field
- 65.§ **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 or 100, 62, and 67) Field

† Room schedule posted on bulletin board outside 121 Millard Hall.

§ Students must maintain a C average in theory completed before they are admitted to any field work.

¶ No credit is granted for this course in the major sequence in public health nursing.

- 66. § 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 or 100, 62, and 67) Field
- 67. § 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 or 100, 62) Field
- 75. Introduction to Environmental Sanitation.** Principles of urban and rural sanitation relating to water, food, wastes, housing, air, insects, rodents. (3 cred.; prereq. 3 cred. in public health; II MTWThF; 129MH) Pierce
- 100. Elements of Preventive Medicine and Public Health.** Susceptibility and resistance to disease; occurrence and prevention of communicable, degenerative, and industrial diseases; protection of food, water, and milk; school health work; vital statistics. This course was formerly P.H. 53. (5 cred.; prereq. 3 or 50 or equiv. and a course in bacteriology; public health nurses and students in social work; lect. III MTWThF, 111 Owre; rec. IV MTWF, 111 Owre) Anderson
- 102. 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; III MTWThF; 129MH) Pierce
- 106. Public Health Administration.** Structure, basic functions, and activities of public health agencies; public health laws and regulations; administrative procedures in public health practice; relationship to other governmental and social activities. (3 cred.; physicians, engineers, nurses, social workers, and others by arrangement; prereq. 53 or 100, or equiv.; I MTWThF; 129MH) Anderson
- 133. Mental Hygiene.** Discussion of emotional factors underlying wholesome family relations and of problems which interfere with successful adjustment in family and community life. Illustrative case material related to problems met by the public health nurse will be used. (3 cred.; prereq. 62 or experience in public health nursing; VI MTWThF; 129MH) von Bergen

## RADIOLOGY

### First Term

#### REQUIRED COURSE

Course 121, which is required work for junior medical students, is continued from the spring quarter through the first term of the Summer Session. Not open to students from other medical schools.

### Second Term

#### ELECTIVE COURSE

- 109. Externship in Roentgen Diagnosis and Radiation Therapy.** Participation in the work of the X-Ray Department both in technic and in interpretation. The student will be given opportunity to observe and do some fluoroscopy,

§ Students must maintain a C average in theory completed before they are admitted to any field work.

to assist in x-ray technic, and to observe x-ray interpretation. (Limited to 8 students. Permission required for registration) (4 cred.; senior medical students)

### First and Second Terms

#### COURSES PRIMARILY FOR GRADUATE STUDENTS

- 111.\* **Medical Roentgenologic Conference.** Weekly meetings with the medical staff at which all the important medical cases which have had x-ray diagnostic procedures are reviewed from both the clinical and roentgenological points of view. (1 cred.; II M; Todd Amphitheater, University Hospitals) Rigler and staff
- 124.\* **Pediatric Roentgenologic Conference.** Weekly meetings with the pediatric staff at which all the important pediatric cases which have had x-ray diagnostic procedures are reviewed from both the clinical and roentgenological points of view. (1 cred.; II T; Eustis Amphitheater, University Hospitals) Rigler and staff
- 135c.\* **Surgical Roentgenologic Conference.** Weekly meetings with the surgical staff at which all the important surgical cases which have had x-ray diagnostic procedures are reviewed from both the clinical and roentgenological view points. (1 cred.; II S; Todd Amphitheater, University Hospitals) Rigler and staff
- 163a.\* **Neurosurgical Roentgenologic Conference.** Weekly meetings with the neurosurgical staff at which all the important neurosurgical cases which have had x-ray diagnostic procedures are reviewed from both the clinical and roentgenological points of view. (1 cred.; VI F; Todd Amphitheater, University Hospitals) Peterson
200. **Research in Roentgenology.** Problems in roentgen diagnosis. (Cred. and hrs. ar.) Rigler and staff
204. **Research Related to Radiation Therapy.** (Cred. and hrs. ar.) Stenstrom and staff
206. **Roentgenoscopy.** The theory and practical application of roentgenoscopy particularly to diseases of the gastrointestinal tract, lungs, and heart. (Cred. and hrs. ar.) Rigler and staff
207. **Roentgen and Radium Therapy.** Treatments of patients under supervision both with medium and high voltage machines and with radium. Problems in connection with these treatments will be thoroughly discussed. (Cred. and hrs. ar.) Stenstrom and staff
209. **Roentgen Diagnosis.** The theory and practical application of roentgen diagnostic methods to medical cases in general. (Cred. and hrs. ar.) Rigler and staff
210. **Roentgen Technic.** A consideration of the theory and practical application of the principles of roentgen technic including the study of x-ray machines and x-ray tubes, exposure, technic and darkroom work. (Cred. and hrs. ar.) Rigler and staff
238. **Roentgen-Surgical Pathology Conference.** Weekly meetings with the surgical pathology staff at which surgical specimens and roentgenograms are reviewed from the pathologic and roentgenologic point of view. (1 cred.; I W; Todd Amphitheater, University Hospitals) Rigler, Hebbel
240. **Conference in Radiation Therapy.** Discussion of methods and dosage used for treatment of patients referred for x-ray and radium therapy and review of the results from previous treatments on patients with similar conditions. (Cred. and hrs. ar.) Stenstrom and staff

#### MEDICAL TECHNOLOGY

Before registering, students should consult special advisers in the Medical Technology Office, W-225, University Hospitals, Minneapolis 14, Minnesota.

**OCCUPATIONAL THERAPY**

Consult Occupational Therapy Office, 211TWH, University of Minnesota, Minneapolis 14, Minnesota.

**PHYSICAL THERAPY**

Consult Physical Therapy Office, 204TWH, University Hospitals, Minneapolis 14, Minnesota.

**SURGERY****First Term****REQUIRED COURSES (UNDERGRADUATE STUDENTS)**

Courses 121, 126, 127, 129 and 135, which are required work for sophomore or junior medical students, are continued from the spring quarter through the first term of the Summer Session. Not open to students from other medical schools.

- 139. Operative Surgery.** The student is permitted to participate in surgical procedures on hospital patients in the operating room. (Cred. and hrs. ar.) Eder, Jones
- 152. Problems in Clinical Investigations.** A study of special case records correlated with literature study. (Cred. and hrs. ar.) Lillehei, Creevy, Smith, Rice
- 167. 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.) Lillehei, Lewis, Creevy, Smith, Rice

**Second Term**

- 135abcdek. Junior Clinical Clerkship.** (Externs) Wangenstein, Varco, Leven, Rice, Lannin
- 139. Operative Surgery.** (Externship) Wangenstein and staff
- 152. Problems in Clinical Investigation.** (Externs) Wangenstein, Varco, Leven, Lannin, Rice
- 167. Problems in Experimental Surgery.** (Externs) Wangenstein, Varco, Leven, Lannin, Rice
- 200. Out-Patient Clinic in Surgery.** Wangenstein, Varco, Leven, Lannin
- 204. Tumor Clinic.** (Externs) Kremen, Hay
- 214. Surgical Ward Conference.** (Externs) Varco and staff
- 215. Roentgenological Conference.** (Externs) Wangenstein, Varco, and staff
- 218. Medical and Surgical Pathology Conference.** (Externs) Wangenstein, Varco, and staff

**DIVISION OF GENERAL SURGERY****First and Second Terms****REQUIRED COURSES FOR GRADUATE STUDENTS**

- 200. Out-Patient Clinic in Surgery.** The student is required to assist in the Out-Patient Surgical Clinic, and to participate in diagnosis and treatment. University Hospitals surgical staff
- 202. Applied Surgical Anatomy on the Cadaver.** Surgical fellows prepare dissections with staff supervision. Rice, Lillehei, Lewis
- 203. Proctoscopy and Sigmoidoscopy.** The diagnosis and treatment of lesions of the lower bowel. University Hospitals surgical staff
- 204. Tumor Clinic.** A combined clinical and pathological consideration of tumors as seen by the general surgeon. Staffs of Departments of Surgery and Biophysics. Stenstrom, Kremen, Hay, Huseby

205. **Surgical Diagnosis.** The surgical fellow assists in the instruction of the clinical clerks and interns, and studies problems in diagnosis in the Out-Patient Department and in the University Hospitals. Wangenstein, Lillehei, Varco, Lewis, Baronofsky, Bernstein
208. **Surgical Service.** The surgical fellow acts as house surgeon at the University Hospitals. Wangenstein, Lillehei, Varco, Lewis, Leven, Kremen
211. **Operative Surgery.** The surgical fellow acts as first assistant at operations in the University Hospitals, and later may be permitted to operate. Wangenstein, Lillehei, Varco, Leven, Lewis, Kremen, Baronofsky, Bernstein
214. **Surgical Ward Conference.** Presentation of interesting cases by the students. University Hospitals surgical staff
215. **Roentgenological-Surgical Conference.** A weekly review of the films of all surgical patients. Staffs of the Departments of Radiology and Surgery
216. **Surgical Research.** Problems in experimental or clinical surgery. University Hospitals surgical staff
217. **Surgical Seminar.** Conferences for review of surgical literature, for presentation of cases, and as research. University Hospitals surgical staff
218. **Medical and Surgical Pathological Conference.** Review of interesting cases by the medical, surgical and pathological staffs

### DIVISION OF NEUROSURGERY

#### REQUIRED COURSES

305. **Neurosurgical Surgery.** The neurosurgical fellow assists in the instruction of the clinical clerks and interns, and studies problems in diagnosis in the Out-Patient Department and in the University Hospitals. Peyton, French
308. **Neurosurgical Service.** The neurosurgical fellow acts as house surgeon at the University Hospitals. Peyton, French
311. **Operative Neurosurgical Surgery.** The neurosurgical fellow acts as first assistant at operations in the University Hospitals, and later may be permitted to operate. Peyton, French
316. **Neurosurgical Research.** Problems in experimental or clinical surgery. University Hospitals surgical staff. Peyton, French
318. **Neurosurgical Conference.** A review of x-rays and case histories on Neurosurgical Service. Peyton

### DIVISION OF UROLOGY

#### REQUIRED COURSES

250. **Urological Surgery.** Creevy, Smith, Feeney
251. **Cystoscopy and Urological Diagnosis.** Creevy, Smith, Feeney
252. **Urological Conference.** Creevy, Smith, Feeney
253. **Research in Urology.** Creevy, Smith, Feeney

### SCHOOL OF NURSING†

#### Courses and Fees

The program of courses in the 1952 Summer Session has been planned primarily to meet the needs of graduate nurses. The student may complete courses totaling up to 9 credits or two 5-credit courses in each term of the Summer Session. Students who have been admitted as candidates for the bachelor of science degree in nursing education register in the College of Education and pay Summer Session fees. See page 15. Graduate nurses planning to register only for Summer Session courses register in the School of Nursing and pay Summer Session fees. See page 15.‡

† For courses in Public Health Nursing, see pages 83-85.

‡ The Summer Session may be used to supplement deficient basic nursing experience.

The following regular offerings are given in the Summer Session :

**Curriculum for Graduate Nurses Leading to the Degree of  
Master of Education in Nursing Education**

Elective courses in this program are available during the Summer Session. Students registering for this program for the first time in the summer of 1952 should complete their application prior to the beginning of the Summer Session. Summer Session students planning to register for the academic year 1952-53 should consult the major adviser early, preferably during the first term of the Summer Session. Students register in the College of Education and pay Summer Session fees. See page 15.

**Curriculum for Graduate Nurses Leading to the Degree of  
Master of Nursing Administration**

The fourth quarter of this program is offered during the Summer Session. Students are admitted to the major sequence at the beginning of the fall quarter. Elective courses in this program are available during Summer Session. Students register in the School of Nursing and pay Summer Session fees. See page 15.

**Curriculum for Graduate Nurses Leading to the Degree of Bachelor  
of Science**

Nursing education majors may register for courses during Summer Session. College graduates who have completed a basic professional program in nursing may begin the nursing education major in Summer Session.

Prerequisites to the minor in advanced clinical nursing—medical, obstetrics, operating room, nursing of children, psychiatric, rural, surgical, tuberculosis—may be taken in the Summer Session.

Students register in the College of Education and pay Summer Session fees. See page 15.

**Basic Curriculum in Professional Nursing Leading to a Degree  
of Bachelor of Science**

High school graduates and transfer students from colleges or universities may register for prenursing courses§ in the Summer Session. Students register in the College of Science, Literature, and the Arts and pay Summer Session fees. See page 15.

Students in the professional portion of the curriculum§ register in the School of Nursing and pay regular School of Nursing fees. Residents \$33, nonresidents \$50, plus \$18 incidental fee for the summer quarter.

**Curriculum in Practical Nursing Leading to a Certificate†¶**

The fourth quarter of the four-quarter program leading to a certificate in practical nursing is offered during the Summer Session. Applicants are admitted at the beginning of the fall quarter only. Students register in the School of Nursing and pay regular practical nursing fees. Residents \$33, nonresidents \$50, plus \$18 incidental fee for the summer quarter.

*First Term*

**Nurs.Ed.60. 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. (5 cred.; sr., grad. nurse; no prereq.; III MTWThF; 111 Owre) Grainger

† For additional information see *Bulletin of the School of Nursing*, 1951-53, pages 24 and 25.

§ *Bulletin of the School of Nursing*, 1951-53, pages 14-16.

¶ For program in Home Management and Practical Nursing see *School of Agriculture Bulletin*, 1950-52, pages 24-26.

- Nurs.Ed.62. Introduction to Personnel Work in Nursing.** An introduction to the principles, techniques, and application of the personnel point of view to nursing through consideration of such topics as psychological principles; the nature, measurement, evaluation, and recording of individual differences in intelligence, special abilities, motivation, and personality; and study of counseling techniques appropriate for the nursing staff and faculty to use. (3 cred.; sr., grad. nurse; no prereq.; I MTWThF; 113 Owre) Johnston
- Nurs.Ed.68. Construction and Use of Examinations and Other Measurements in Basic Nursing Courses.** Study of criteria for judging and improving methods of educational measurement; discussion of examinations as aids to student progress; relation of examination scores to grading systems. Practice in making and scoring course examinations. (3 cred.; sr., grad. nurse; no prereq.; II MTWThF; 111 Owre) Johnston
- Nurs.Ed.73. 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.; sr., grad. nurse; no prereq.; VI TTh; 113 Owre) Holmquist
- Nurs.Ed.190. The Survey in Nursing Education.** Introduction to the use of survey techniques in evaluating an educational situation, as a basis for improvement of an existing program, expansion of a program, establishment of a new program; as a basis for justification of proposed changes involving such areas as budget, facilities, organizational relationships, curriculum. (3 cred.; sr., grad. nurse, grad.; prereq. consent of instructor; IV MTWThF; 113 Owre) Harrington
- N.A.193. Principles of Administration Applied to Nursing Service Administration.** Budgeting: principles of budget making; formulation; execution; evaluation; appreciation of the meaning of fiscal terms; cost accounting; economy and efficiency on the utilization of manpower and materials; participation in community health programs; legal problems in nursing. (3 cred.; hrs. ar.; 207TSP; open only to students registered in the Master of Nursing Administration Program.) Goodale
- N.A.197. Problems in Nursing Service Administration.** (1 cred.; hrs. ar.; 207TSP; open only to students registered in the Master of Nursing Administration Program.) Goodale
- Nurs.103. The Role of Nursing in Cancer Care and Control.** Consideration of nursing responsibilities in the prevention and early diagnosis of cancer, and in the treatment and rehabilitation of the cancer patient. Emphasis on the emotional, social and economic problems of the patient with cancer, and the utilization of community resources in working toward a solution of these problems. (3 cred.; jr., sr., grad., grad. nurse; no prereq.; VII-VIII MW and 1 hr. ar.; 111 Owre) Hanson
- Nurs.104. The Nurse's Role in Maintaining Emotional Health.** Study of the mental health principles and techniques involved in carrying out complete nursing care. (3 cred.; jr., sr., grad., grad. nurse; no prereq.; VII-VIII TTh and 1 hr. ar.; 111 Owre) (Cannot be taken for credit by students who have received credit for Nurs.Ed.79) Lediger

**Note:** See also *Ed.T 51A, The Teaching of Nursing, College of Education, Methods and Directed Teaching, page 107.*

### Second Term

- Nurs.Ed.75. Fundamentals of Administration in Schools of Nursing.** Study of principles of administration applied to the operation of schools of nursing. Organization; administrative relationships; personnel policies, practices, relationships; income and expenditure, budgeting, salary schedules; public relations; records and reports. (3 cred.; sr., grad. nurse; prereq. consent of instructor; VI MTWThF; 113 Owre) Densford, faculty, and guest instructors



**Nurs.Ed.85. Fundamentals of Nursing Service Administration.** Study of principles of administration applied to the operation of nursing service in hospitals. Organization; administrative relationships; personnel policies, practices, relationships; staff education; income and expenditure, budgeting, salary schedules; public relations; records and reports. (3 cred.; sr., grad. nurse; prereq. professional nursing experience or consent of instructor; VII-VIII TTh and 1 hr. ar.; 113 Owre) Goodale

**Nurs.102. The Role of Nursing in Gerontology.** Population statistics with special emphasis upon changing percentage of persons in the older age groups and implications for the health field. Social and economic status of older persons: relationship to health; trends in provision of facilities for improvement. Health status of older persons; needs during acute and chronic illness. Role of the nurse in relation to all aspects of preventive, supportive and therapeutic care. (3 cred.; jr., sr., grad. nurse; no prereq.; VII-VIII MW and 1 hr. ar.; 113 Owre) Coe

**N.A.193. Principles of Administration Applied to Nursing Service Administration.** Budgeting: principles of budget making; formulations; execution; evaluation; appreciation of the meaning of fiscal terms; cost accounting; economy and efficiency on the utilization of manpower and materials; participation in community health programs; legal problems in nursing. (2 cred.; hrs. ar.; 207TSP; open only to students registered in the Master of Nursing Administration Program.) Goodale

**Note:** See also *Ed.T. 51A, The Teaching of Nursing, College of Education, Methods and Directed Teaching, page 108.*

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## SCHOOL OF DENTISTRY

The School of Dentistry will not offer courses regularly scheduled in the dental curriculum unless the necessity arises to offer instruction for students who may fail and will need to remove such failures before being promoted to the next succeeding class. The clinic will remain open, however, for those who wish to receive instruction in clinical work or for those who may not have completed specified clinical or laboratory requirements for promotion.

The following instructors will be available:

**First Term**—Listiak, Wittich, Hall, Clark, Simon, Speidel, Zander, Yock, Mitchell, Jensen, Holland, Tam, Serr, Chernausek, Zwisler, Schaffer

**Second Term**—Wittich, Hall, Clark, Simon, Speidel, Zander, Yock, Mitchell, Hillmann, Jensen, Holland, Tam, Serr, Chernausek, Zwisler, Schaffer

Dentistry fees during the summer quarter are: full-time tuition, resident \$84, nonresident \$145; half-time tuition, resident \$42, nonresident \$72.50. Credit hour fee: resident \$7, nonresident \$12.25. There will be the usual incidental fee of \$18 for the Coffman Memorial Union, the Health Service, the *Minnesota Daily*, etc. Deposit fee for the summer quarter only, \$2.

## COLLEGE OF EDUCATION

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 should consult the advisers in elementary and secondary education or the dean's office, College of Education, concerning a program for renewal of certificates.

Students should note that under the titles Curriculum and Instruction, Educational Administration, Educational Psychology, and Methods and Student 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 two-year curriculum of Minnesota state teachers colleges is accepted as equivalent. Students in the College of Education 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 *Bulletin of the College of Education*, 1950-52.

Summer Session students who are not candidates for a degree do not need to make application for admission nor present credentials (see page 13).

However, students expecting to become candidates for a Bachelor's degree should apply for admission as regular students in the College of Education by filling out the application form in the Office of Admissions and Records and filing in that office any credentials on the basis of which they wish to request advanced standing. They should also seek as early as possible the advice of the major adviser in the department concerned in order to learn the requirements of the curriculum they will need to complete. Adult special students are not regular degree candidates.

### Counseling Services

The staff of the Student Personnel office of the college will be available during the Summer Session terms for consultation concerning admission, requirements of the teaching profession, and for counseling. Appointments should be made in 206 Burton Hall.

### Committee on Students' Work

Undergraduate students with questions concerning program adjustments and substitutions for required work should consult their advisers or the chairman of the Committee on Students' Work. The office of the chairman in the first term will be 210A Burton Hall (Miss Alexander), and in the second term, 214 Burton Hall (Mr. Donovan Johnson).

### Workshops

**Graduate Credit for Workshops**—The amount of graduate credit in workshops which may be used on a Master's degree program is limited. Graduate students planning to register for any workshop should consult their advisers concerning the possibility of using credit for the workshop in their graduate programs.

**Workshops in Home Economics Education**—Two three-week workshops are planned for teachers of home economics during the first summer term. The first one, scheduled from June 16 to July 3, will be for experienced teachers who want help in newer materials for instruction. (See H.E.Ed. 196D)

The second workshop will be for teachers who want help in teaching foods and nutrition. It will be scheduled from July 7 to 26. (See H.E.Ed. 196C)

Application blanks for these workshops may be obtained by writing to the Director of the School of Home Economics, University Farm, St. Paul 1.

**Workshops in Higher Education**—Two workshops in higher education will be jointly sponsored by the College of Education and the North Central Association of Colleges and Secondary Schools. In the first term, the workshop will be scheduled from June 16 to July 11 for the study of problems in the liberal arts related to teacher education. In the second term, the workshop, scheduled from July 28 to August 22, has been planned for teachers colleges staff members studying the problems of teacher education. Applicants for either workshop should write to the Dean, College of Education, University of Minnesota, Minneapolis 14. (See Ed.C.I. 228)

**Workshop in Rural and Village School Problems**—A workshop for teachers, supervisors, and school administrators, dealing with the problems of education in county schools and villages, will be offered during the second summer term. Consultants from the State Department of Education and the university staff will be used. Problems of education pertaining to the needs of children in rural areas will be studied. Registration is limited to thirty students. (See Ed.C.I. 187 and 117) Application should be made to the Dean, College of Education, University of Minnesota, Minneapolis 14.

**Workshop in Economic Education**—A three-week workshop in economic education has been scheduled for August 4 to 22, sponsored by the Upper Midwest Council on Economic Education, and the School of Business Administration and the College of Education of the University of Minnesota. This project will provide opportunity for twenty to thirty participants, selected from those attending one of the three previous Economic Education Workshops, to work on materials and plan for improving economic education in Minnesota schools and communities. Those admitted to this workshop will receive scholarships including board, room, and tuition. (See Ed.C.I. 173B) Application blanks may be secured from the Dean, College of Education, University of Minnesota, Minneapolis 14.

### Marriage and Family Life Education

Several departments of the University, interested in education for marriage and family living, have cooperated in planning coordinated summer offerings for teachers and other professional workers concerned with this area. The basic course, open in the second term for thirty students, will be Materials and Procedures in Marriage and Family Life Education. (See Ed.C.I. 112) Students in this course will plan a full summer term program of nine credits, after consultation with an adviser, adding to the basic course other offerings, selected in terms of the individual's background and interests, from the fields of sociology, child welfare, public health, counseling, psychology, education, home economics, and others. Students of senior or graduate standing with background in psychology and sociology may apply for registration in Ed.C.I. 112, securing application blanks from the Dean, College of Education, University of Minnesota, Minneapolis 14.

### Driver Education

A two-week course in Driver Education will be offered from June 23 to July 7. This course, scheduled for afternoons, will include materials and methods for teaching driver education and behind-the-wheel instruction. It will meet the requirements for approval by the State Department of Education for driver education in the schools. (See Ed.C.I. 101)

### 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, industrial arts, mathe-

matics, general science, history and social studies, typing, art, speech, German, 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 University High School 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 Principal, University High School, Minneapolis 14.

Students registered in Ed.T. 52 will be assigned to observation and student teaching in the classes of the high school. The facilities of the school are available to the college classes in special methods and to other classes for demonstration purposes. (I, II, III, IV MTWThF)

### **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 cooperative 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. 186) (I, II, III, IV TWThF; Tuttle School, Talmadge Avenue and Eighteenth Avenue Southeast)

### **Psycho-Educational Clinic**

The Psycho-Educational Clinic will be in operation during both terms of the Summer Session for purposes of training, research, and service. During both terms, remedial reading classes will be operated for children whose difficulties have been previously diagnosed and for whom special remedial work has been recommended. These children will attend school three hours daily, Monday through Friday, with one hour per day being used for individualized instruction. In addition, the Psycho-Educational Clinic will provide diagnosis and recommendation for school problem cases from the state during the summer, on the same basis as during the school year. The services of the clinic, including the remedial reading classes, will provide demonstrations for various College of Education classes, as well as clinical practice opportunities for advanced students registered under Ed.Psy. 150. Information may be obtained from the Director, Psycho-Educational Clinic, Pattee Hall, University of Minnesota, Minneapolis 14.

### **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 121. These schools are also available for demonstration and observation. Courses offered by the institute and listed on page 121 are given for teachers who wish nursery school and kindergarten training and for others 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 \$9.50 per term plus a \$2 deposit.

### Course Fees

Course fees are 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. (See Course Fees, pages 16-19.)

### Detailed Description of Courses

For detailed description of courses and curricula in education see the *Bulletin of the College of Education*, 1950-52.

### 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 23.)

## AGRICULTURAL EDUCATION

### First Term

- Agr.Ed.82. Methods in Teaching Agriculture.** Fundamentals of teaching methods as related to vocational agriculture at the secondary school level. Use of the Minnesota Vo-Ag Planning and Record Book. Determining needs and organizing learning experiences based on the FFA program of work. Problems of evaluation. Observation and participation in learning-teaching situations. (3 cred.; jr., sr.; prereq. 81; II MTWThF; 301Hr[StP]) Swanson
- Agr.Ed.105. FFA Program of Work.** Developing a program of instruction organized within the framework of the FFA program of work. Determining objectives, developing instructional guides, preparing units of instruction, and evaluating outcomes. (3 cred.; prereq. 81, 82; III-IV MTWThF first 3 weeks; ar. second 3 weeks; 301Hr[StP]) Swanson
- Agr.Ed.165. Techniques of Instruction in Mechanized Farming.** A study of the problems and opportunities in teaching resulting from the mechanization and electrification of agriculture. Farm and home improvements, rural sanitation, farm power and machinery, electricity on the farm, soil and water management, and farm shop. Teaching aids and implications for programs of rural education. (3 cred.; prereq. consent of instructor; III-IV MTWThF for the first 3 weeks; ar. second 3 weeks; 16En[StP]) Kitts, Johnson
- Agr.Ed.167. Techniques of Instruction in Farm Power and Machinery.** Developing a program of instruction in farm power and machinery. Teaching aids, development of units of instruction, job sheets and demonstrations, facilities and materials for instruction of adult, young farmer, and high school classes. (Limited to 30 students) (3 cred.; prereq. 165, consent of instructor; VI-VII MTWThF first 3 weeks; ar. second 3 weeks; 16En[StP]) Johnson, Hollenberg
- Agr.Ed.221. Field Problems.** The development and study of special problems in the field of the individual student's choice. (3 cred.; grad.; ar.) Peterson, Kitts
- Agr.Ed.232.\* Research in Agricultural Education.** (Designed especially for students meeting the Plan B requirement.) Investigation in problems of education for farm people. Selecting research problems, preparing bibliographies, analyzing and interpreting data, and preparing manuscripts. (3 to 9 cred.; grad.; ar.) Peterson, Kitts

### Second Term

- Agr.Ed.91. Supervised Student Teaching.** Observation and participation in the learning-teaching process. Teaching experience and program analysis under supervision of selected teachers. Organization and execution of activities necessary to successful teaching of agriculture in Minnesota high schools. (6 cred.; jr.; ar.) Kitts, Swanson
- Agr.Ed.221. Field Problems.** (See first term) Peterson, Kitts
- Agr.Ed.232.\* Research in Agricultural Education.** (See first term) Peterson, Kitts

### ART EDUCATION

The Department of Art Education offers professional training and guidance for teaching and supervisory positions in the field of art. The Art Education curriculum provides opportunities to combine a creative art career with a teaching position, a combination popular with many outstanding contemporary artists. The department also provides courses for general teachers who will integrate art with other educational experience.

#### First Term

- ArtEd.17. Pictorial Expression for Elementary Education.** For elementary, child welfare, and other education majors. A combination lecture and laboratory course for the layman, designed to develop understanding and appreciation of aspects of art important in contemporary life and education. Pictorial expression for elementary education. (3 cred.; no prereq.; I-II MTWThF; 109J) Bratlee
- ArtEd.18. Design Activities for Elementary Education.** (See 17) (3 cred.; no prereq.; VI-VII MTWThF; 109J) Bratlee
- ArtEd.152. Curriculum Building in Art Education.** Courses emphasizing analysis of the functions of art in society for educational potentialities toward social improvement. Exercises in selection, evaluation, and organization of subject matter for purpose of creating original teaching units, projects, etc., to enrich the curriculum through the adaptation of general art materials not available to educators in convenient form for school purposes. Utilization of research materials and procedures developed on the Owatonna Art Education Project and related research in art education testing late Dean Haggerty's hypothesis, "Art a Way of Life." (3 cred.; III MTWThF; 109J) Gayne
- ArtEd.184. Advanced Course in the Teaching and Supervision of Art in the Elementary School.** (For teachers in service and advanced students) Analysis of the elementary school as an important institution for the dissemination of art education in our society. Emphasis on improving current practices through critical evaluation and utilization of research findings and introduction of new materials. The role of the supervisor, and opportunities to develop closer cooperative relationships between classroom teachers and art education specialists. (3 cred.; sr., grad.; prereq. Ed. 55A-B or Ed. 71A-B-C, or consent of instructor; IV MTWThF; 109J; and observation in Tuttle Demonstration School) Gayne
- ArtEd.295. Problems in Art Education.** The content of this course is determined by the individual specialization and creative projects selected. These projects may include advanced studio practice or technical solution of problems involving research or reading in a chosen field. Registration by special consent of major adviser. (Cred. ar.; grad.; ar.) Gayne and staff

#### Second Term

- ArtEd.18. Design Activities for Elementary Education.** (See first term) (I-II MTWThF; 109J) Crump

**ArtEd.84. Teaching of Art in the Elementary School.** (Required of elementary education majors.) The place and content of art in the curriculum of the elementary school. Appropriate methods for securing optimum educational outcomes from art activities. Demonstration lessons provide a realistic basis for discussion of important problems in the teaching of art. (3 cred.; IV MTWThF; 109J) Hastie

**ArtEd.295. Problems in Art Education.** (See first term) Hastie and staff

## EDUCATIONAL ADMINISTRATION†

### First Term

#### GENERAL COURSES

**Ed.Ad.124. 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 education; I MTWThF; 211NH) Davidson

**Ed.Ad.210.\* 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. 124 and 125 or 225; II MTWThF; 3F) Swenson

**Ed.Ad.225. Pupil Personnel Administration.** Child accounting records and reports, attendance department, school census, pupil adjustment and progress, pupil health and safety, and legal aspects of pupil personnel administration. (3 cred.; grad.; prereq. 15 hrs. in education including 124; III MTWThF; 15ForH) Cramer

**Ed.Ad.226. School Plant Planning and Management.** Plant program planning and financing, including operation and maintenance of public school buildings. (3 cred.; grad.; prereq. 124 and 125 or 225; III MTWThF; 11F) Friswold

**Ed.Ad.227. Teacher and Employee Administration.** Employment practices, salary schedules, personnel records and reports, welfare procedures, improvement in service and legal aspects of instructional and noninstructional school employee administration. (3 cred.; grad.; prereq. 15 hrs. in education including 124; IV MTWThF; 202WuH) Swenson

**Ed.Ad.228.\* Special Problems in Educational Administration.** Recent research in the field of school administration. Superintendents may work on research problems in connection with their own school systems. (1 to 6 cred.; grad.; prereq. 124, 225; II TTh; 20ForH) Neale

**Ed.Ad.229. Problems in Planning School Buildings.** Superintendents may work in this course on specific plans for buildings in their own districts. Standards and space facilities for elementary, junior high and senior high school buildings with respect to classrooms, laboratories, physical and health education, industrial education shops, music, home economics. (Limited to forty students) (4 cred.; grad.; June 16 to July 3; prereq. 226 or equiv.; I-II MTWThF; 309, 306JohH) Friswold, Hammel

**Ed.Ad.230.\* 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. (3 cred.; grad.; III MTWThF; 102F) Davidson

**Ed.Ad.233. The Administration of Reorganized School Districts.** Problems connected with the initial organization of school districts formed under the reorganization legislation of 1947, 1949, and 1951; curriculum and school plant development; community organization; transportation; state aid; financial accounting. (4 cred.; grad.; July 7 to 25; I-II MTWThF; 307, 309JohH) Williams and ar.

† For an advanced four-credit course primarily for school administrators on Improvement of Instruction in the Elementary School see Ed.C.I. 240, page 100.

- Ed.Ad.234. Problems in State School Administration.** State legislative program; state aid; district reorganization; transportation; area vocational schools; and other problems of state school administration. A practicum intended primarily for school superintendents who have completed the work for a Master's degree with a major in school administration. (4 cred.; grad.; July 7 to 25; III-IV MTWThF; 306, 309JohH) Schweickhard, Berning, and ar.
- Ed.Ad.235. Seminar in Educational Administration.** Required of all candidates for Master's degree under Plan A and for all Ph.D. degree candidates with a major in general school administration. (No cred.; prereq. consent of instructor; II W; 105JohH) Neale

## ELEMENTARY EDUCATION

- Ed.Ad.115. 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 education; I MTWThF; NHAud) Cramer

## SECONDARY EDUCATION

- Ed.Ad.133. Basic Procedures in Student Personnel Work.** (Also listed as Ed.Psy. 133) (3 cred.; sr., grad.; prereq. 9 cred. in education; III MTWThF)  
 Sec. 1 (for administrators), 207NH, Hill      Sec. 3 (for counselors-teachers), 206WeH,  
 2 (for counselors-teachers), 150Ph,      Gerritz  
 K. Hoyt
- Ed.Ad.218. Recent Literature in Secondary Education.** (No cred.; seminar for grad. students; VII-VIII W; 202TNUH) R. Keller, Stout
- Ed.Ad.264. Administration of the Instructional Activities in the Secondary School.** (3 cred.; grad.; IV MTWThF; 122JohH) Stout
- Ed.Ad.265. Administration of the Noninstructional Activities in the Secondary School.** (3 cred.; grad.; II MTWThF; 110P) Fisher
- Ed.Ad.270.\* Special Problems in Secondary Education.** (Cred. ar.; prereq. consent of instructor; VII-VIII W; 202TNUH) R. Keller, Stout

## HIGHER EDUCATION

- Ed.Ad.274. The Junior College.** (3 cred.; grad.; III MTWThF; 3F) R. Keller

## Second Term

## GENERAL COURSES

- Ed.Ad.124. Public School Administration.** (See first term) (I MTWThF; 80ForH) Farley
- Ed.Ad.210.\* Financial Aspects of Public School Business Administration.** (See first term) (I MTWThF; 308F) Newell
- Ed.Ad.225. Pupil Personnel Administration.** (See first term) (III MTWThF; NHAud) Cramer
- Ed.Ad.226. School Plant Planning and Management.** (See first term) (III MTWThF; 102FraH) Newell
- Ed.Ad.227. Teacher and Employee Administration.** (See first term) (III MTWThF; 122JohH) Kearney
- Ed.Ad.228.\* Special Problems in Educational Administration.** (See first term) (II Th; 6F) Neale
- Ed.Ad.230.\* Public Relations for Schools.** (See first term) (IV MTWThF; NHAud) Farley
- Ed.Ad.235. Seminar in Educational Administration.** (See first term) (II T; 307JohH) Neale

## ELEMENTARY EDUCATION

- Ed.Ad.115. Organization of the Elementary School.** (See first term) (I MTWThF; 207NH) Cramer



## SECONDARY EDUCATION

- Ed.Ad.133. Basic Procedures in Student Personnel Work.** (See first term) (I MTWThF; 211NH) Dugan
- Ed.Ad.263. Organization of the Secondary School.** (3 cred.; grad.; III MTWThF; 107NH) Boardman
- Ed.Ad.270. Special Problems in Secondary Education.** (See first term) (Time and place ar.) Boardman

## CURRICULUM AND INSTRUCTION

*First Term*

## GENERAL COURSES

- Ed.C.I.101. Driver Education.** Materials and methods for driver education; building a plan for driver education for a specific school; behind-the-wheel training. Valid Minnesota driver's license required. Content planned to meet requirements of State Department of Education for driver education in the schools. (Limited to thirty-two students) (2 cred.; no prereq.; 1:00 to 5:00 p.m., June 23 to July 7; 20, 30ForH) Sandell and ar.
- Ed.C.I.105. Visual Materials in Education.** (3 cred.; jr., sr., grad.; II MTWThF; 166Ph) Pearson
- Ed.C.I.106. Coordinating a Visual Education Program.** (3 cred.; jr., sr., grad.; I MTWThF; 206WeH) Pearson
- Ed.C.I.129. 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. (Limited to thirty students) (3 cred.; jr., sr., grad.; prereq. 9 hrs. in education; III MTWThF; 360SBH) Ferguson
- Ed.C.I.145. Reading Difficulties.** (3 cred.; IV MTWThF; 110P) Bond, Reynolds
- Ed.C.I.151. Diagnosis and Treatment of Learning Difficulties.** (3 cred.; IV MTWThF; 2F) Brueckner
- Ed.C.I.152. Adjustment of Schools to Individual Differences.** (3 cred.; jr., sr., grad.; prereq. 10 hrs. in ed.; I MTWThF; 122JohH) Van Wagenen
- Ed.C.I.174-175-176. Clinical Methods and Practice in Speech Pathology.** (3 cred. each; prereq. Spch. 61, 67, 119, 162, 163, or concurrent registration; ar.; ar.) Bryngelson
- Ed.C.I.205. Problems of Visual Education.** (Cred. ar.; ar.) Pearson
- Ed.C.I.271.\* Problems in Curriculum Construction.** (Cred. ar.; prereq. cred. or concurrent enrolment in 113, 119, 170, or equiv. and consent of instructor; ar.) Cook, Goossen
- Ed.C.I.273.\* Problems in Reading.** (Cred. ar.; prereq. consent of instructor; ar.) Bond, Reynolds

## ELEMENTARY EDUCATION

- Ed.C.I.102. Teaching the Social Studies in the Elementary School.** (3 cred.; prereq. Ed. 71A-B-C or equiv.; IV MTWThF; 2P) Jarolimek
- Ed.C.I.103. Teaching of Science in the Elementary School.** Emphasis on resources and materials, and their application to the elementary grades. (3 cred.; sr., grad.; prereq. Ed. 71A-B or teaching experience; II MTWThF; 55ForH) Boeck
- Ed.C.I.119. Elementary School Curriculum.** (3 cred.; sr., grad.; prereq. Ed. 71C or equiv.)

- Ed.C.I.121. Selecting Literature for the Elementary School.** Course will deal with research backgrounds in curriculum units, children's interests in reading, difficulty of reading materials, and principles of selection and use of books in the elementary school. Opportunity will be given to survey books available and to apply the principles and information learned. Course is recommended for majors in reading, for elementary teachers with degrees who want to go beyond mere acquaintance with the field of children's books, and for those who have already graduated without needed background in children's literature. (3 cred.; I MTWThF; 2P) D. V. Smith
- Ed.C.I.123. Speech in the Elementary School.** Lectures; discussion; individual projects. The role of the elementary teacher in the promotion of good speech, the prevention of speech problems, and the handling of speech defects. Projects related to the teacher's own teaching situation. (3 cred.; sr.; no prereq.; I MTWThF; 2F) Henrikson
- Ed.C.I.143. Teaching and Supervision of Reading in the Elementary School.** (3 cred.; jr., sr., grad.; prereq. 9 hrs. in education including Ed. 71A or equiv.; III MTWThF; 211NH) Bond
- Ed.C.I.149. Teaching and Supervision of Arithmetic in the Elementary School.** (3 cred.; jr., sr., grad.; prereq. 9 hrs. in education including Ed. 55B or 71A; II MTWThF; 102FraH) Brueckner
- Ed.C.I.150. Supervision and Improvement of Instruction.** (3 cred.; sr., grad.; prereq. Ed. 71C or equiv.; IV MTWThF; 211NH) Goossen
- Ed.C.I.153. Supervision and Teaching of English in the Elementary Schools.** (3 cred.; sr., grad.; prereq. Ed. 71A-B-C or equiv.; IV MTWThF; 206WeH) Archer
- Ed.C.I.162. Laboratory in Nursery School and Kindergarten Instructional Practices.** Open to experienced teachers; other professional workers admitted by special permission. (3 cred.; IV MWF and hrs. ar.; 102F) Fuller
- Ed.C.I.163. Plastic Materials, Story Telling, and Social Studies for Young Children.** Open to experienced teachers; other professional workers admitted by special permission. (3 cred.; VI MTWThF and observation hrs. ar.; 202Pt) Headley
- Ed.C.I.181. Foundations of Elementary School Methods.** A survey of the current philosophy and research which form the basis for improvement of elementary school instruction. Observation in the demonstration school. (3 cred.; prereq. 9 cred. in education; III MTWThF; 216NH) Archer
- Ed.C.I.186. 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 ar. MTWThF, Tuttle School; lect. VI WTh, 216NH) Staudenmaier
- Ed.C.I.240. Improvement of Instruction in the Elementary School.** A graduate practicum intended for those who have a Master's degree in School Administration; study of current programs and procedures in the improvement of instruction in the elementary school; examination of current research on instructional methods in the major instructional fields; planning programs for the improvement of instruction; instructional materials. (4 cred.; grad.; June 16 to July 3; I-II MTWThF; 307, 309JohH) McNally and Kremer
- Ed.C.I.261.\* Special Problems in the Improvement of Instruction.** (Cred. ar.; prereq. consent of instructor; ar.; ar.) Brueckner, Goossen

## SECONDARY EDUCATION

- Ed.C.I.113. High School Curriculum.** (3 cred.; sr., grad.; prereq. 10 hrs. in education including Ed. 55A-B or equiv.; VII MTWThF; 213NH) Birkmaier

- Ed.C.I.122. Literature for Adolescents.** (3 cred.; jr., sr., grad.; prereq. Ed. 55B or junior-senior high school teaching experience; I MTWThF; 216NH) Frogner
- Ed.C.I.125. Occupational Information Laboratory.** (Limited to twenty-five students) (3 cred.; sr., grad.; I MTWThF; 107NH) Ar.
- Ed.C.I.131. Advanced Course in Teaching the Technical Business Subjects.** (3 cred.; I MTWThF; 5F) Price
- Ed.C.I.132. Teaching the Basic Business Subjects.** (3 cred.; II MTWThF; 5F) Bahr
- Ed.C.I.135. Group Procedures in Guidance.** (Limited to thirty-five students) (3 cred.; sr., grad.; prereq. Ed.Psy. 133 or consent of instructor; IV MTWThF; 3F) Hill
- Ed.C.I.137A. Materials and Methods in Cooperative Part-Time Classes.** (3 cred.; prereq. consent of instructor; I MTWThF; 5ShH) Meyer
- Ed.C.I.138. Training Store and Office Supervisors.** (3 cred.; I MTWThF; 213TNUH) Fairbrother, Latterell
- Ed.C.I.139. Coordination Techniques.** (3 cred.; IV MTWThF; 5ShH) Meyer
- Ed.C.I.144. Teaching of Reading in Secondary Schools.** (3 cred.; sr., grad.; prereq. 9 hrs. in education including Ed. 55B; II MTWThF; 207NH) Frogner
- Ed.C.I.154. Materials and Methods in Adult Distributive Education Classes.** (3 cred.; III MTWThF; 213TNUH) Fairbrother, Latterell
- Ed.C.I.156. Trends in Business Education.** (3 cred.; III MTWThF; 5F) Price
- Ed.C.I.191. Advanced Course in the Teaching of Secondary School Mathematics.** (3 cred.; prereq. Ed. 55B or consent of instructor; VI MTWThF; 105UHS) D. Johnson
- Ed.C.I.199E. Internship.** (Cred. ar.; grad.; available for M.Ed. students in recreation; ar.) Fitzgerald
- Ed.C.I.201.\* Problems in Teaching the Social Studies.** (Cred. ar.; prereq. 168 and 204 or consent of instructor; ar.) McCune
- Ed.C.I.204. Social Studies Curriculum.** (3 cred.; I MTWThF; 114JohH) McCune
- Ed.C.I.225.\* Special Problems in Supervision of Instruction in Secondary Schools.** (Cred. ar.; prereq. consent of instructor; VII-VIII W; 202TNUH) R. Keller, Stout
- Ed.C.I.238.\* Problems in Distributive Education.** (Cred. ar.; grad.; prereq. consent of instructor; ar.) Meyer
- Ed.C.I.239.\* Problems in Business Education** (Cred. ar.; grad.; ar.) Price
- Ed.C.I.266. Supervision of High School Instruction.** (3 cred.; grad.; III MTWThF; 110P) Fisher
- Ed.C.I.287.\* Advanced Course in the Teaching of Science.** (3 cred.; grad.; IV MTWThF; 3UHS) Boeck
- Ed.C.I.294.\* Advanced Course in Methods of Teaching English.** (3 cred.; prereq. Ed.T. 66A-B-C or equiv.; II MTWThF; 216NH) D. V. Smith
- Ed.C.I.296.\* Special Problems in Teaching English.** (Cred. ar.; ar.) D. V. Smith

## HIGHER EDUCATION

- Ed.C.I.228.\*§ Workshop: Problems of Higher Education and Teacher Education.** (6 cred.; grad.; June 16 to July 11, ar. MTWThF; CCS) Cooper, Page, Flanders, Furrow, Pace, and consultants
- Ed.C.I.250. Higher Education in the United States.** (3 cred.; grad.; prereq. 18 hrs. in education or consent of instructor; III MTWThF; 210P) McCune

§ Graduate students planning to register for any workshop should consult their advisers concerning the possibility of using credit for the workshop in their graduate program.

### Second Term

#### GENERAL COURSES

- Ed.C.I.105. Visual Materials in Education.** (See first term) (I MTWThF; 166Ph) Pearson
- Ed.C.I.107. Radio in Education.** (3 cred.; jr., sr., grad.; III MTWThF; 302MurH) Tyler
- Ed.C.I.109. Audio-Visual Materials and Equipment Laboratory.** (Limited to thirty students) (3 cred.; prereq. 105 or consent of instructor; III MTWThF; 206WeH) Pearson
- Ed.C.I.112. Materials and Procedures in Marriage and Family Life Education.** (See page 93) (Limited to thirty students) (3 cred.; sr., grad.; admission by advance application to dean's office, College of Education, and consent of instructor; VI MTWThF; 107TNM) Dyer
- Ed.C.I.117. Rural Education for Administrators and Teachers.** (3 cred.; sr., grad.; prereq. consent of instructor; II MTWThF; 303, 304HE[StP]) Archer
- Ed.C.I.133. Consumer Education in the Schools.** (3 cred.; sr., grad.; II MTWThF; 110F) Price
- Ed.C.I.145. Reading Difficulties.** (See first term) (IV MTWThF; 110P) Tinker
- Ed.C.I.152. Adjustment of Schools to Individual Differences.** (See first term) (I MTWThF; 201WuH) Van Wagenen
- Ed.C.I.205.\* Problems in Visual Education.** (Cred. ar.; ar.) Pearson
- Ed.C.I.207.\* Problems in Radio Education.** (1 to 3 cred.; ar.) Tyler
- Ed.C.I.227.\* Problems of Rural Education.** (Cred. ar.; prereq. Ed.C.I. 117; ar.) Archer
- Ed.C.I.271.\* Problems in Curriculum Construction.** (See first term) Bossing, Cook, Goossen
- Ed.C.I.273.\* Problems in Reading.** (See first term) Tinker

#### ELEMENTARY EDUCATION

- Ed.C.I.102. Teaching the Social Studies in the Elementary School.** (See first term) (I MTWThF; 110P) Jarolimek
- Ed.C.I.103. Teaching of Science in the Elementary School.** (See first term) (II MTWThF; 6FraH) Boeck
- Ed.C.I.119. Elementary School Curriculum.** (See first term)  
 Sec. 1, II MTWThF, 308F, Goossen    Sec. 2, III MTWThF, 308F, Jarolimek
- Ed.C.I.143. Teaching and Supervision of Reading in the Elementary School.** (See first term) (VII MTWThF; 211NH) Reynolds
- Ed.C.I.150. Supervision and Improvement of Instruction.** (See first term) (IV MTWThF; 308F) Goossen
- Ed.C.I.187.§ Workshop in Rural and Village School Problems.** Students in the workshop must also be registered for Ed.C.I. 117, Rural Education for Administrators and Teachers, 3 cred., which will be used as a core course in connection with the workshop. Special group and individual projects in the workshop will supplement the core course, emphasizing the problems of the registrants and the improvement of rural teaching. (Limited to thirty students) (6 cred.; prereq. consent of dean, College of Education; not open to those who have received cred. in 187 or 188 in previous sessions; 10:00 to 4:00 MTWThF; 303, 304HE[StP]) Archer, Olson
- Ed.C.I.261.\* Special Problems in the Improvement of Instruction.** (See first term) Goossen

§ Graduate students planning to register for any workshop should consult their advisers concerning the possibility of using credit for the workshop in their graduate program.

## SECONDARY EDUCATION

- Ed.C.I.113. High School Curriculum.** (See first term) (II MTWThF; 102FraH) Bossing
- Ed.C.I.134. Materials and Methods in Consumer Education.** (3 cred.; prereq. 133 or consent of instructor; IV MTWThF; 201F) Price
- Ed.C.I.135. Group Procedures in Guidance.** (See first term) (III MTWThF; 110F) K. Hoyt
- Ed.C.I.136. Business and Distributive Education under Vocational Acts.** (3 cred.; sr., grad.; I MTWThF; 5ShH) Meyer
- Ed.C.I.140. Teaching of Speech.** (3 cred.; jr., sr., grad.; prereq. Spch. 1-2-3 or Spch. 5-6 or equiv. or consent of instructor; II MTWThF; 209F) D. Smith
- Ed.C.I.141. Cooperative Part-Time Work Experience Programs.** (3 cred.; sr., grad.; prereq. consent of instructor; III MTWThF; 5ShH) Meyer
- Ed.C.I.144. Teaching of Reading in Secondary Schools.** (See first term) (II MTWThF; 207NH) Tinker
- Ed.C.I.168. Current Developments in the Social Studies.** (3 cred.; grad.; I MTWThF; 209NH) McCune
- Ed.C.I.170B. Curriculum and Course of Study Construction.** (3 cred.; prereq. 113 or 119, 170, consent of instructor; I MTWThF; 102FraH) Bossing
- Ed.C.I.173B. Organizing Units of Instruction in the Secondary School.** Writing and revision of instructional units in economic education. (See page 93) (Limited to thirty students) (4 cred.; sr., grad.; admission only on approval of dean's office, College of Education, with advance application required; ar. MTWThFS, August 4 to 22; ar.) Haefner and ar.
- Ed.C.I.199E. Internship.** (See first term) Fitzgerald
- Ed.C.I.225.\* Special Problems in Supervision of Instruction in Secondary Schools.** (See first term) (Time and place ar.) Boardman
- Ed.C.I.238.\* Problems in Distributive Education.** (See first term) Meyer
- Ed.C.I.239.\* Problems in Business Education.** (See first term) Price
- Ed.C.I.266. Supervision of High School Instruction.** (See first term) (IV MTWThF; 107NH) Boardman

## HIGHER EDUCATION

- Ed.C.I.228.\*§ Workshop: Problems of Higher Education and Teacher Education.** (See first term) (July 28 to August 22; ar. MTWThF; CCS) Grim, Hill, Jacobs, Mahan, Mork, Potthoff, and consultants
- Ed.C.I.252. Effective College Teaching.** (3 cred.; grad.; prereq. 18 hrs. in education or consent of instructor; III MTWThF; 6F) McCune

## EDUCATIONAL PSYCHOLOGY

*First Term*

## GENERAL COURSES

- Ed.Psy.60. Introduction to Measurement and Statistics.** (3 cred.; jr., sr.; prereq. 6 cred. in psychology; VII MTWThF; 209NH) C. Hoyt
- Ed.Psy.120. Basic Principles of Measurement.** (3 cred.; sr., grad.; prereq. 60 or equiv.; VI MTWThF; NHAud) C. Hoyt
- Ed.Psy.140. Instruments and Techniques of Measurement.** (3 cred.; sr., grad.; prereq. 120 or equiv.; IV MTW and IV-V ThF; 111AH) Cook
- Ed.Psy.150. Clinical Practice in Remedial Teaching.** Practice in remedial tutoring of individual children who have experienced difficulty in school learning. (3 cred.; prereq. Ed.C.I. 145 or 151 and consent of instructor; V W and hrs. ar.; 202TNUH) Reynolds

§ Graduate students planning to register for any workshop should consult their advisers concerning the possibility of using credit for the workshop in their graduate program.

- Ed.Psy.159. Personality Adjustment and Mental Hygiene.** (3 cred.; sr., grad.; prereq. 9 hrs. in education and psychology including one recent course in psy.; I MTWThF; 110P) Gjerde
- Ed.Psy.183. Education of Gifted Children.** (3 cred.; prereq. Ed. 55B or 71C or equiv.; II MTWThF; 122JohH) Van Wagenen
- Ed.Psy.208.\* Methods in Educational Research.** A study of the methods and techniques employed in the investigation and reporting of educational problems. Designed to aid students in the preparation of theses and of reports for projects under Plan B. Suggested for all candidates for graduate degrees. (3 cred.; grad.; II MTWThF; 111AH) P. O. Johnson
- Ed.Psy.216. Statistical Methods in Education.** (3 cred.; grad.; I MTWThF; 111AH) P. O. Johnson, Moonan
- Ed.Psy.216a. Statistical Methods in Education Laboratory.** (Limited to fifteen students) (2 cred.; grad.; concurrent registration in 216; VII-VIII MWF; 221Bu) Moonan
- Ed.Psy.225.\* Diagnosis and Counseling in a Student Personnel Program.** (3 cred.; grad.; prereq. 133 and 140 or consent of instructor; IV MTWThF; 216NH) Gjerde
- Ed.Psy.233.\* Problems in Guidance and Personnel Work.** (Cred. ar.; grad.; prereq. consent of instructor; individual work ar.) Dugan
- Ed.Psy.253.\* Research Problems.** (Cred. ar.; grad.; prereq. consent of instructor; individual work ar.) Cook, Dugan, P. O. Johnson, C. Hoyt, Van Wagenen, Flanders, Mork
- Ed.Psy.290. Individual Differences.** A study of group and individual differences and their relations to educational practice. (3 cred.; grad.; VII MTWThF; 207NH) Flanders
- Ed.Psy.293.\* Psychology of Learning.** (3 cred.; grad.; prereq. 12 cred. in psychology and educational psychology; II MTWThF; 211NH) Mork
- Ed.Psy.294.\* Recent Theory and Research in Human Learning.** (3 cred.; prereq. consent of instructor; III MTWThF; 314JohH) Mork

#### SECONDARY EDUCATION

- Ed.Psy.133. Basic Procedures in Student Personnel Work.** (Also listed as Ed.Ad.133) (3 cred.; sr., grad.; prereq. 9 cred. in education; III MTWThF)  
 Sec. 1 (for administrators), 207NH, Hill Sec. 3 (for counselors-teachers), 206WeH,  
 2 (for counselors-teachers), 150Ph, Gerritz  
 K. Hoyt
- Ed.Psy.134. School Counseling Procedures.** (Limited to thirty students) (3 cred.; prereq. 120, 133, and consent of instructor; II MTWThF; 2F) Dugan
- Ed.Psy.282. Practice in High School Personnel Work.** (3 cred.; prereq. consent of instructor; individual assignments ar.; ar.) Dugan, Carlson

#### Second Term

##### GENERAL COURSES

- Ed.Psy.60. Introduction to Measurement and Statistics.** (See first term) (II MTWThF; 201WuH) Van Wagenen
- Ed.Psy.120. Basic Principles of Measurement.** (See first term) (IV MTWThF; 211NH) Cook
- Ed.Psy.150. Clinical Practice in Remedial Teaching.** (See first term) (V T and hrs. ar.; 101Pt) Reynolds
- Ed.Psy.159. Personality Adjustment and Mental Hygiene.** (See first term) (II MTWThF; 202WeH) Mahler
- Ed.Psy.182. Education of Exceptional Children.** Overview of the field of special education at all levels and for all degrees of exceptionality. Especially for classroom teachers, counselors, supervisors, and administrators; also the

initial course for students working for special class certificates. Reports on individual work equivalent to one credit. (3 cred.; sr., grad.; prereq. Ed.55B or 71C or equiv.; VI TWTh; 202Pt) Reynolds

**Ed.Psy.217. Statistical Methods in Education.** (3 cred.; grad.; I MTWThF; 111AH) Moonan

**Ed.Psy.217a. Statistical Methods in Education Laboratory.** (Limited to fifteen students) (2 cred.; grad.; concurrent registration in 217; VII-VIII MWF; 221Bu) Moonan

**Ed.Psy.226.\* Diagnosis and Counseling in a Student Personnel Program.** (3 cred.; grad.; prereq. 133, 140, and 225 or consent of instructor; II MTWThF; 5ShH) Wrenn

**Ed.Psy.233.\* Problems in Guidance and Personnel Work.** (See first term) Dugan, Wrenn

**Ed.Psy.253.\* Research Problems.** (See first term) Cook, Dugan, Wrenn, Van Wagenen, Mork

**Ed.Psy.293.\* Psychology of Learning.** (See first term) (VI MTWThF; 211NH) Mork

#### SECONDARY EDUCATION

**Ed.Psy.133. Basic Procedures in Student Personnel Work.** (See first term) (I MTWThF; 211NH) Dugan

### HISTORY AND PHILOSOPHY OF EDUCATION

#### First Term

##### GENERAL COURSES

**H.Ed.141. Critical Issues in Contemporary Education.** (3 cred.; sr., grad.; no prereq.; not open to students who have completed 176; II MTWThF; 110F) Beck

**H.Ed.155. History of Education in the United States.** (3 cred.; III MTWThF; 2F) Alexander

**H.Ed.180. The School and the Social Order.** (Limited to eighty students in each section) (3 cred.; jr., sr., grad.; prereq. 6 hrs. in psychology)

Sec. 1, III MTWThF, 301F, Beck      Sec. 2, VI MTWThF, 211NH, Kosaki

**H.Ed.241.\* Problems in the History and Philosophy of Education.** (Cred. ar.; prereq. consent of instructor; ar.) Beck, Alexander

#### Second Term

##### GENERAL COURSES

**H.Ed.131. Comparative Education.** (3 cred.; II MTWThF; 216NH) Beck

**H.Ed.180. The School and the Social Order.** (See first term) (III MTWThF, 211NH) Beck

**H.Ed.241.\* Problems in the History and Philosophy of Education.** (See first term) Beck

### HOME ECONOMICS EDUCATION

#### First Term

**H.E.Ed.196C. Workshop: Foods and Nutrition.** A study of problems in teaching foods and nutrition at high school and adult levels; use of new materials and techniques; group and individual projects to meet the needs and interests of experienced teachers. (Limited to twenty-five students) (4 cred.; grad.; hrs. ar.; 114HE[StP]) Ford and consultants

**H.E.Ed.196D. Workshop: Materials for Instruction.** A study of problems in the selection and use of newer materials for instruction in home economics. (Limited to twenty-five students) (4 cred.; grad.; hrs. ar.; 114HE[StP]) Ford, Esteros

## INDUSTRIAL EDUCATION

(See course descriptions, *College of Education Bulletin*, 1950-52, pages 113-116)

**First Term**

- Ind.1. Basic Woodwork.** (Limited to twenty-four students) (3 cred.; no prereq.; VI-VII MTWThF; 6Pt) La Berge
- Ind.3. Shop Finishing.** (Limited to twenty-four students) (3 cred.; prereq. 1-2 or equiv.; III-IV MTWThF; 6Pt) La Berge
- Ind.21. Craftwork—B.** (Limited to twenty-four students) (3 cred.; prereq. 20 or equiv.; I-II MTWThF; 1 TNUH) McIntosh
- Ind.50A†-50B-50C. Student Teaching.** (Limited to six students) (3 cred. any letter; prereq. 70, 80, and Ed. 55B with a C+ average in industrial education classroom and manipulative courses; days and hrs. ar.; 6Pt) Anderson
- Ind.100. Industrial Instruction.** (Denied to those with credit in 70) (3 cred.; prereq. Ed. 55B and Ind. 42 or equiv.; II MTWThF; 202TNUH) Smith
- Ind.101. Tests in Industrial Subjects.** (3 cred.; prereq. Ed. 55B or equiv.; IV MTWThF; 202TNUH) Karnes
- Ind.109. Conference Leading for Industry.** (3 cred.; prereq. consent of instructor; I MTWThF; 116TNUH) Widdowson
- Ind.115. Supervision of Industrial Education.** (3 cred.; prereq. 60, 80, 105 or 125 or equiv.; III MTWThF; 202TNUH) Widdowson
- Ind.200.\* Research Problems.** (3-6-9 cred.; for grad. with approval of candidacy; not open to persons whose programs include thesis projects; individual conferences with advisers) Smith, Anderson
- Ind.250. Literature of Industrial Education.** (3 cred.; grad. only; I MTWThF; 202TNUH) Karnes
- Dunwoody—Shopwork and Drawing.** (Courses and cred. ar.; special form used. Those interested should inquire at Dunwoody Institute as to whether desired courses will be offered and as to the days and hours of their availability) Smith

**Second Term**

- Ind.15. Basic Graphic Arts.** (Limited to twenty-four students) (3 cred.; no prereq.; I-II MTWThF; 14TNUH) Anderson
- Ind.50A†-50B-50C. Student Teaching.** (See first term) Nelson
- Ind.102. The General Shop.** (Not a shop course) (3 cred.; prereq. 80 or equiv.; IV MTWThF; 202TNUH) Nelson
- Ind.135. Industrial Course Construction.** (3 cred.; denied to those with credit in 40-42; II MTWThF; 202TNUH) Micheels
- Ind.150. Vocational Education Surveys.** (3 cred.; jr., sr., grad. or consent of instructor; III MTWThF; 202TNUH) Karnes
- Ind.200.\* Research Problems.** (See first term) Micheels and Nelson
- Ind.251. Literature of Industrial Education.** (3 cred.; continuation of first term 250; I MTWThF; 202TNUH) Karnes
- Dunwoody—Shopwork and Drawing.** (See first term) Micheels

**Notes**

See this bulletin for manipulative courses in Agricultural Engineering, Art, Art Education, Drawing and Descriptive Geometry, and Mechanical Engineering. The Department of Industrial Education, 103 TNUH, University of Minnesota, Minneapolis 14, will provide a copy of the four-year curriculum (B.S. degree) and a statement concerning patterns for Master's programs (M.A. and M.Ed.). Those interested in work toward the Ph.D. degree are invited to initiate corres-

† Students registering for this course must make out the application required for methods courses and practice teaching. Forms are available in the office of the director of student teaching, 210C Burton Hall.



pondence or consultation as to their educational and experience backgrounds and their professional intentions. They should write to the Office of Admissions and Records for bulletins of the Graduate School and of the College of Education.

The limit of shopwork and drawing credit for use toward the B.S. degree is 48 quarter credits (32 semester credits). More may be earned and recorded. Graduate students may take any amount of such work for recorded credit but these earnings will not be counted toward advanced degree requirements at Minnesota.

The University is designated by the Minnesota State Board for Vocational Education for the offering of courses leading to certification for Industrial Education positions federally aided under provisions of the Smith-Hughes, George-Barden and allied acts or regulations. Similar designations apply in the fields of agriculture, home-making, business and distributive education, and in occupational guidance and counseling. Some students may appreciate the convenience of planning programs that combine certain of these areas.

## METHODS AND STUDENT TEACHING

### First Term

#### NURSING EDUCATION

**Ed.T.51A. The Teaching of Nursing.** (2 cred.; sr., grad.; prereq. 69, Ed. 55B; open only to students who will also be registered for 2 credits in this course in the second term; see instructor; VI MWF; 2317PoH) Boyle

#### ELEMENTARY EDUCATION

**Ed.T.77.† Student Teaching in the Nursery School.** Five half-days each week spent in classroom participation under supervision. (3 cred.; sr.; prereq. 55, 56, 57, and 58 plus consent of instructor; ar.; ar.) Fuller

**Ed.T.78.† Student Teaching in the Kindergarten.** Five half-days each week spent in classroom participation under supervision. (3 cred.; sr.; prereq. 55, 56, 57, and 58 plus consent of instructor; ar.; ar.) Headley

#### SECONDARY EDUCATION

**Ed.T.52.† Student Teaching.** Open only to students who need a limited number of credits in student teaching to graduate at the end of the first summer term or to students who wish to qualify for the junior high school endorsement. (Limited to forty students) (Cred. ar.; prereq. consent of instructor; ar.; UHS) Grim

**Ed.T.67M. The Teaching of Secondary School Mathematics.** (3 cred.; sr.; VI MTWThF; 105UHS) D. Johnson

**Ed.T.68M. The Teaching of Secondary School Science.** (3 cred.; sr.; IV MTWThF; 3UHS) Boeck

**Ed.T.69M. The Teaching of the Social Studies in the Secondary School.** (3 cred.; sr.; VI MTWThF; 210UHS) Knox

**Ed.T.75M. The Teaching of the Language Arts.** (3 cred.; sr.; VI MTWThF; 110UHS) Alwin

**Ed.T.84A-B-C. Practice and Field Work in Recreation Leadership.** (2 cred. for majors, 1 cred. for minors; jr.; ar.; ar.) Fitzgerald

**Ed.T.85A-B-C. Practice and Field Work in Recreation Leadership.** (2 cred. for majors, 1 cred. for minors; jr.; ar.; ar.) Fitzgerald

† Students registering for this course must make out the application required for methods courses and student teaching. Forms are available in the office of the director of student teaching, 210C Burton Hall.

**Second Term****NURSING EDUCATION**

**Ed.T.51A. The Teaching of Nursing.** (See first term) (IV MWF; 2317PoH)  
Boyle

**SECONDARY EDUCATION**

**Ed.T.84A-B-C. Practice and Field Work in Recreation Leadership.** (See first term) Fitzgerald  
**Ed.T.85A-B-C. Practice and Field Work in Recreation Leadership.** (See first term) Fitzgerald

**MUSIC EDUCATION****First Term**

**Mu.Ed.4. Applied Instrumental Technique (Strings).** (2 cred.; all; no prereq.; I MTWThF; 5NMA) Ivory  
**Mu.Ed.50A. Teaching Music in the Primary Grades.** (2 cred.; jr.; prereq. Music 1; IV MTWTh; 4Sch) Ar.  
**Mu.Ed.50B. Teaching Music in the Intermediate Grades.** (2 cred.; prereq. 50A or equiv.; III MTWTh; 4Sch) Ar.  
**Mu.Ed.60†-61-62. Supervision and Teaching of Music.** (3 cred.; sr.; prereq. Ed. 55A-B, 50A, 50B, 53 and a C plus average in the major; ar.; 213Sch) Ar.  
**Mu.Ed.104E. Advanced Topics in Vocal Music Education.** (3 cred.; sr.; prereq. consent of instructor; I MTWThF; 2Sch) Ar.  
**Mu.Ed.105E. Advanced Topics in Instrumental Music Education.** (3 cred.; prereq. consent of instructor; III MTWThF; 2Sch) Ivory  
**Mu.Ed.224E. Seminar and Individual Research Problems in Music Education.** (2-6 cred.; grad.; prereq. consent of instructor; ar.; 213Sch) Ivory  
**Mu.Ed.225E. Advanced Applied Music.** (2-4 cred.; prereq. entrance exam.; ar.; ar.) Ar.

**Second Term**

**Mu.Ed.4. Applied Instrumental Technique (Strings).** (See first term) (I MTWThF; 4NMA) Ivory  
**Mu.Ed.50A. Teaching Music in the Primary Grades.** (See first term) (II MTWTh; 4Sch) Ar.  
**Mu.Ed.50B. Teaching Music in the Intermediate Grades.** (See first term) (III MTWTh; 4Sch) Ar.  
**Mu.Ed.59. Choral Literature and Conducting.** (2 cred. sr., 1 cred. others; I MTWTh; 4Sch) Ar.  
**Mu.Ed.65. Instrumentation.** (3 cred.; jr.; prereq. Music 6T; IV MTWThF and 1 hr. ar.; 2Sch) Ivory  
**Mu.Ed.224E. Seminar and Individual Research Problems in Music Education.** (See first term) (Ar.; ar.) Ivory  
**Mu.Ed.225E. Advanced Applied Music.** (See first term)

**PHYSICAL EDUCATION FOR MEN****First Term**

**Phys.Ed.1C. Sports Education.** (1 cred.; no prereq.) Bolstad and staff  
Sec. 1, Beginning Swimming, VI MTWThF, CH  
2, Beginning Golf, V-VI MW, Golf Course  
3, Advanced Golf, V-VI, TTh, Golf Course

**Phys.Ed.4A,B,C. Fundamentals of Football, Basketball, Track.** (1 cred. each; no prereq.; 7:30-9:00 a.m. MTWThF; CH) Svendsen, Cowles, Kelly

† Students registering for this course must make out the application required for methods courses and student teaching. Forms are available in the office of the director of student teaching, 210C Burton Hall.

- Phys.Ed.5A. Physical Education Activities.** Includes touch football, six-man football, calisthenics, posture exercises, and grass drills. (1 cred.; no prereq.; II MTWThF; CH) Svendsen
- Phys.Ed.5C. Softball and Stunts.** (1 cred.; no prereq.; III MTWThF; CH) Svendsen
- Phys.Ed.7C. Individual and Dual Sports.** (1 cred.; Phys.Ed. majors; VII MTWThF; CH) Piper
- Phys.Ed.9A. Folk Dancing.** (1 cred.; no prereq.; VII MTWThF; NGW) Piper
- Phys.Ed.9B. American Country and Ballroom Dancing.** (1 cred.; no prereq.; VI MTW, VIII-IX Th; NGW) Piper
- Phys.Ed.51. 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.; prereq. anatomy; III MTWThF; 206CH) Osell
- Phys.Ed.60A. Prevention and Care of Injuries.** Policies for conditioning of athletes in interscholastic and intercollegiate sports, safety controls, care and prevention of injuries in physical education. (3 cred.; prereq. 50, 51; V MTWThF; 215CH) Stein
- Phys.Ed.67-68-69. Coaching of Football, Basketball, Track.** (2 weeks each) Study of the theory, strategy, and generalship. Styles of offense and defense, methods of organizing practice periods, training of squads, etc. (1 cred. each; jr., sr.; prereq. 4A-B-C; II MTWThF; 215CH) Fesler, Cowles, Kelly
- Phys.Ed.73-74-75. Directed Teaching.** Actual practice in teaching physical education activities. (2 cred. each; prereq. 55, Ed. 55A-B, junior comprehensive tests, C plus average in major courses, and consent of director of student teaching in the College of Education; 10 to 12 hours a week ar.; 220CH) Piper
- Phys.Ed.101. Principles of Physical Education.** A study of the aims, scope, and biological aspects of physical education with special consideration of the place of physical activity in education. (3 cred.; jr., sr., grad.; prereq. 32, 55, and 9 cred. of activity courses; IV MTWThF; 215CH) Keller
- Phys.Ed.135. Tests and Measurements in Physical Education.** Analysis of physical education tests, methods of testing, use of results. (3 cred.; prereq. sr. or grad.; III MTWThF; CH) Keller
- Phys.Ed.233. Administrative Problems in Physical Education in Secondary Schools.** (3 cred.; grad.; I MTWThF; 214CH) Nordly
- Phys.Ed.234. The Secondary School and College Curriculum in Physical Education.** Theory and principles of curriculum construction applied to physical education. Practical application in constructing a curriculum. (3 cred.; grad.; II MTWThF; 214CH) Nordly
- Phys.Ed.241. The Administration and Supervision of Public Recreation.** The organization for recreation; policies and procedures relating to finance, program, facilities, office management, legislation, and public relations. (3 cred.; grad.; IV MTWThF; 214CH) Fitzgerald

### Second Term

- Phys.Ed.2C. Sports Education.** (1 cred.; no prereq.) Staff  
 Sec. 1, Beginning and Intermediate Swimming, VI MTWThF, CH  
 2, Beginning and Intermediate Tennis, V MTWThF, 4th Ave. Courts
- Phys.Ed.6B. Handball and Squash.** (1 cred.; no prereq.; III MTWThF; CH) Bartelma
- Phys.Ed.7A. Active and Social Games.** (1 cred.; no prereq.; VII MTWThF; CH) Piper
- Phys.Ed.8. Tennis and Golf.** (1 cred.; no prereq.; V-VI MWF; CH) Piper, Bolstad

- Phys.Ed.55. Methods in Physical Education.** Application of the principles of methodology to physical education, analysis and study of the techniques of measurement devices for grading and classifying pupils. Technique of lesson planning. (4 cred.; jr.; prereq. 6 cred. in activity courses or equiv.; VI MTWThF and 6 hours ar.; 214CH) Piper
- Phys.Ed.65. The Adapted Physical Education Program.** Philosophy, principles and techniques of adapting the physical education program to the needs of handicapped students. (3 cred.; prereq. Anatomy 57 or P.E. 50, P.E. 51; IV MTWThF; 206CH) Osell
- Phys.Ed.110. Recreation Surveys.** Methods and techniques of conducting recreation surveys. (3 cred.; sr., grad.; I MTWThF; 214CH) Fitzgerald
- Phys. Ed.121. Principles of Recreation Methods.** This course studies recreation technique and methods as applied to the individual leader, the group, the community, and to all the areas in community recreation—the arts and crafts, music, drama, nature, social activities, and games and sports. (3 cred.; prereq. Ed.T. 84A-B-C, Ed.T. 85A-B-C; II MTWThF; 214CH) Fitzgerald
- Phys.Ed.155. Instructional Aids in Health, Physical Education and Recreation.** A survey and evaluation of instructional materials in these fields with emphasis on audio-visual aids; lecture and laboratory. (3 cred.; sr., grad.; IV-V MTWThF first 4 weeks; 215CH) Ar.
- Phys.Ed.236. Recent Literature and Research in Physical Education and Recreation.** Directed readings and class discussions of recent literature; critical analysis of research in physical education and recreation; selection and presentation of an outline for the solution of a problem. (3 cred.; grad.; III MTWThF; 214CH) Nordly
- Phys.Ed.247.\* Problems in Health Education, Physical Education and Recreation.** Individual projects and conferences related thereto. (Cred. ar.; grad.; VI MTWThF; 214CH) Nordly

## PHYSICAL EDUCATION FOR WOMEN

### 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 know her health status. 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, recreational swimming, team sports, and modern dance.

### Fees

The rental fee for suits and towels for open swimming is 10 cents. There will be a nominal fee charged for the use of the tennis courts and the golf course. Towels for shower baths may be procured from the matron for 5 cents apiece.

### Facilities for Recreation

The swimming pool is open for recreational use from 2:45 to 4:30 p.m. Monday through Friday during the first term.

The university tennis courts and the university golf course are open to students.

### Teaching Qualifications

Those interested in teaching physical education in the State of Minnesota must qualify in one of the following professional programs:

1. Courses applying this summer to the nine-credit endorsement for teaching in the State of Minnesota are: Phys.Ed. 4, 5, 13, 18 (82 and 95 by correspondence). The 1952 Summer Session is probably the last opportunity for qualifying for

teaching physical education through the nine-credit endorsement plan in the State of Minnesota.

2. Courses applying this summer to the state minor in physical education are: Phys.Ed. 4, 5, 13, 18, 33, 90.
3. Courses applying this summer to the undergraduate major in physical education are: Phys.Ed. 4, 5, 11, 13, 18, 33, 114.
4. Courses applying to advanced and graduate degrees with a major in physical education are: Phys.Ed. 114, 118E, 123, 124, 130, 224; also certain courses over 100 in Physical Education for Men.

### Student Teaching

The opportunity of teaching in the University Demonstration School is presented to those who find it possible only in the Summer Session to satisfy the student teaching requirement of the minor. 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.

#### First Term

**Phys.Ed.4. Fundamentals of All Rhythmic Work and Methods.** The fundamental elements of rhythm are applied to all types of rhythmic activity usable in the grade and junior high school; special applications are made to rhythms for little children, folk and tap dancing, and ballroom dancing. Not a skills course primarily. Methods appropriate to fundamentals of rhythm and to age level will be studied and experienced. (2 cred.; no prereq.; practical work, IV MWF, lect. IV TTh; 151NGW) Bell

**Phys.Ed.5.† Methods of Coaching and Conducting Organized Games for Junior and Senior High Schools.** Special techniques for team games such as field ball, speed ball, 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.; practical work I MWF, lect. I TTh; 151NGW) Hauptfuehrer

**Phys.Ed.7. Tennis for Beginners.** 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. (1 cred.; no prereq.; V MTWTh; 151NGW) Eibner

**Phys.Ed.8. Golf for Beginners.** 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. (Limited to twenty) (1 cred.; no prereq.; 7:30 a.m. MTWTh; 60NGW) Lampe

**Phys.Ed.11.† Modern Dance and Methods.** Elementary modern dance skills usable in an average high school. Simple adaptations of modern principles of composition. Methods appropriate to the teaching of modern dance at the secondary level will be studied and experienced. (2 cred.; no prereq.; practical work V MWF, lect. V TTh; 153NGW) Bell

**Phys.Ed.12. Social Recreation—Ballroom and American Country Dance.** Ballroom dance skills and country dances selected for use in high school teaching. Simple mixers for social groups will be included. (1 cred.; no prereq.; VI MTW, VIII-IX Th; 151NGW) Ar.

† Health Service approval must be secured for participation in this course.

- Phys.Ed.13. Tumbling, Stunts, Pyramids, and Methods.** 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. Teaching methods appropriate to this activity area will be discussed and experienced. (2 cred.; no prereq.; practical work II MWF, lect. II TTh; 153NGW) Hauptfuehrer
- Phys.Ed.18. Elementary Folk Dancing, Games, and Methods.** Graded folk dances and games usable at the elementary and secondary levels; teaching methods suited to the different age levels and the content will be discussed and experienced. (2 cred.; no prereq.; practical work VII MWF, lect. VII TTh; 151NGW) Bell
- Phys.Ed.32.† Elementary Swimming.** For those who are unable to swim in deep water. Instruction includes: orientation activities, water safety skills, crawl, side stroke, backstroke, and diving. (1 cred.; no prereq.; VII MTWTh; 58NGW) Eibner
- Phys.Ed.33.† Intermediate Swimming and Methods.** For those who can swim in deep water. Instruction includes: the crawl, side stroke, back crawl, breast stroke, personal water safety skills, diving. The class will be divided into groups according to ability, interests, and experience of the swimmers. Methods will be treated from the standpoints of high school and college groups. (2 cred.; prereq. consent of instructor; VI MTWThF; 58NGW) Eibner
- Phys.Ed.115. Recent Literature and Research in Mechanics of Movement.** An analysis of techniques of mechanics and kinesiology of movement; consideration of a variety of skills as well as those of particular interest to the class; an evaluation of pertinent methods and devices used in current research; an application of analyses and evaluations to an individual project. (3 cred.; prereq. undergraduate course in kinesiology or consent of instructor; II MTWThF; 3NGW) Wilson
- Phys.Ed.118E.§ Problems in Teacher Education in Health, Physical Education, and Recreation.** For M.Ed. students who are interested and participating in the conduct and development of professional teacher education programs in the fields of school health education, physical education, and the recreational function of physical education. Individual projects and conferences. (3 cred.; prereq. consent of departmental graduate advisers) Ar.
- Phys.Ed.124. Supervision of Physical Education.** Presents a consideration of the function, organization, and administration of supervision in physical education; adaptations of accepted procedures for observation, guidance, and training of teachers in the field; standards for qualifications of supervisors; problems peculiar to supervision of physical education. (3 cred.; III MTWThF; 3NGW) Baker
- Phys.Ed.130. Contributions of Basic Sciences to Physical Education.** A course planned to provide stimulation and assistance to the student in the understanding of recent research in basic sciences pertinent to physical education and in the interpretation, integration and wider application of the scientific principles derived from these sciences. Intensive exploration of at least one topic and its relationship to physical education by each student. (3 cred.; grad.; prereq. consent of instructor; IV MTWThF; 3NGW) Wilson
- Phys.Ed.224.\* Research Problems in School Health Education and Physical Education for Women.** Individual problems and conferences. (Cred. ar.; consent of departmental graduate advisers)

† Health Service approval must be secured for participation in this course.

§ Courses marked "E" carry credit toward the degree of master of education.

**Second Term****SHORT COURSE IN SCHOOL HEALTH EDUCATION**

A practical approach short course in School Health Education, *Health Needs of Elementary School Children*, will be conducted by the Department of Physical Education for Women and the Extension Division. This short course will be of special interest to supervisors as well as to classroom teachers. Laboratory experiences in screening procedures will be offered. National, state, and local leaders will present current information on the determination of children's health needs.

**Phys.Ed.7. Tennis for Beginners.** (See first term) (II MTWTh; 151NGW) Ar.

**Phys.Ed.8. Golf for Beginners.** (See first term) Ar.

**Phys.Ed.32.† Elementary Swimming.** (See first term) (VI MTWTh; 58NGW) Ar.

**Phys.Ed.114. School Health Education Program.** A study of the program of health education in public elementary and secondary schools with special reference to curriculum construction, health supervision and guidance, relationships between the public schools and governmental health organizations and agencies, and evaluation of the school health program. Students are given guidance in the solution of individual professional problems. (3 cred.; sr., grad.; prereq. 83, P.H. 50 or equiv. or consent of instructor; IV MTWThF; 201NGW) Ericson

**Phys.Ed.123. An Advanced Course in Methods of Teaching Physical Education.** Overview of the activity program in relation to instructional procedures. Discussion of methods problems common in the various activities, as well as those peculiar to each activity; possible solutions for current instructional problems. (3 cred.; sr., grad.; prereq. permission of instructor; VI MTWThF; 201NGW) Ericson

**Phys.Ed.224.\* Research Problems in School Health Education and Physical Education for Women.** (See first term)

† Health Service approval must be secured for participation in this course.

# SCHOOL OF BUSINESS ADMINISTRATION

## GENERAL INFORMATION

### Admission

For admission to the School of Business Administration a student must have satisfied the requirements as listed in one of the two-year prebusiness courses either in the College of Science, Literature, and the Arts, the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine, or the Institute of Technology. These requirements may be completed at another institution. 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.

Courses fulfilling the requirement of independent work and the preparation of written reports for the Master's degree, Plan B, shall be of graduate level and shall be made part of an approved program only upon recommendation of the candidate's adviser and the instructor for the course.

### First Term

**Econ.3. Elements of Money and Banking.** The basic principles of money and a description of the various types of financial institutions, their functions and relation to the whole economic organization. (3 cred.; 2nd and 3rd qtr. fr., soph., jr., sr.; no prereq.) Koefod

Sec. 1, II MTWThF, 205VH      Sec. 2, IV MTWThF, 6VH

**Econ.5.§ Elements of Statistics.** Elementary concepts in statistical methods: averages, ratios, errors, sampling, index numbers, graphic representation, collection of material. (3 cred.; 3rd qtr. fr., soph., jr., sr.; no prereq.) Olson

Sec. 1, III MTWThF, 205VH      Sec. 2, V MTWThF, 6VH

**Econ.6. 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.) Ar.

Sec. 1, I MTWThF, 6VH      Sec. 3, V MTWThF, 207VH  
2, III MTWThF, 6VH

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§ Not open to students who have received credit in Soc. 45 or B.A. 70.



**Econ.24. Principles of Accounting.** The balance sheet, profit and loss statement, the recording process, special journals, control accounts, adjustments, closing entries, work sheet, and the voucher system. (3 cred.; soph.; no prereq.)  
Lund

Sec. 1, I MTWThF, 205VH

Sec. 2, II MTWThF, 306VH

**Econ.25. Principles of Accounting.** Bank reconciliation, interest and discount, notes and drafts, classification and codification of accounts, partnership organization, dissolution, profit sharing, goodwill, corporation accounting; stock, surplus, dividends, reserves, treasury stock, funds, and bonds. (3 cred.; soph.; prereq. 24 or equiv.; IV MTWThF; 306VH) Reighard

**Econ.32. Beginning Typewriting.** Personal use factors; keyboard technique for touch typing; letter arrangement; speed development. (1 cred.; fr., soph., jr., sr.; no prereq.; IV MTWThF and VII MWF; 209VH) Ar.

**Econ.50. Insurance Principles.** An introductory course dealing with the nature and measurement of risk and the development and uses of personal, property, and liability insurance. Forms of protection; policy contracts; social insurance and government regulation. (3 cred.; jr., sr.; prereq. 7 or equiv.; III MTWThF; 207VH) Muirhead

**B.A.51. § Business Law: Contracts.** A discussion of the law of contracts. (3 cred.; jr., sr.; prereq. Econ. 7 or equiv.; I MTWThF; 113VH) Wright

**B.A.56. Business Law: Property Rights and Obligations.** Legal principles governing the transfer of title to, control of, and mortgaging of property, real and personal, including abstract examination; also related principles of trusts and liquidation. Some time will be reserved for current statutory developments. Case method and special readings. (3 cred.; jr., sr.; prereq. 52 or 53; II MTWThF; 113VH) Wright

**B.A.65. Analysis of Financial Statements.** Interpretation and analysis of financial statements. Credit, investment, and managerial analysis of financial statements. Consolidated statements. Industrial, public utility, railroad statements. (3 cred.; no cred. if B.A. 139 completed; jr., sr.; prereq. Econ. 26 or equiv.; I MTWThF; 306VH) Reighard

**B.A.66. Managerial Costs.** 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.; no credit if B.A. 130 completed; jr., sr.; prereq. Econ. 26 or equiv.; IV MTWThF; 205VH) Lund

**B.A.71. Transportation: Service and Charges I.** Survey and economic aspects of national transportation policy, rail, highway, air, and water transportation facilities, services, rates, regulation, and current transportation problems. (3 cred.; no cred. if Econ. 172 completed; jr., sr.; prereq. Econ. 7 or equiv.; V MTWThF; 2VH) Nightingale

**Econ.73. Manpower Economics and Labor Problems.** This course deals with: (1) the marketing of manpower resources; (2) the institutional structure of labor markets; (3) economic and social problems arising out of labor marketing processes; (4) methods, procedures and proposals for solving these problems. (3 cred.; no cred. if Econ. 161 completed; jr., sr.; prereq. Econ. 7 or equiv.; I MTWThF; 207VH) Cheit

**Econ.75. Corporation Finance.** The corporation in comparison with other types of business units. Attention is given to such subjects as organization and capital structure, raising fixed and circulating capital, treatment of corporate earnings, incentives to and forms of combination, and trusteeship and reorganization. (3 cred.; no cred. if Econ. 155 completed; jr., sr.; prereq. Econ. 3 and 7 or equiv.; IV MTWThF; 207VH) Stehman

§ To receive credit a student must complete 51 and either 52 or 53.

- B.A.77. Survey in Marketing.** Survey course including descriptive analysis of: (1) marketing institutions and their control; (2) market areas; (3) marketing costs; (4) the operation of supply and demand in marketing. (3 cred.; no cred. if Econ. 185 completed; jr., sr.; prereq. Econ. 7 or equiv.; III MTWThF; 2VH) Vaile
- Econ.80. Intermediate Economic Analysis.** The development and the application of methods of economic analysis to problems of price and production under conditions of competition, monopoly, and monopolistic or imperfect competition. (3 cred.; no cred. if Econ. 103 completed; jr., sr.; prereq. 20 cred. in social science including 7 or equiv.) Linse, Durfee  
 Sec. 1, I MTWThF, 1 VH                      Sec. 2, V MTWThF, 1 VH
- Econ.85. 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.; prereq. 80 or equiv.; II MTWThF; 2VH) Papandreou
- Econ.103.† Advanced Economic Theory.** An advanced course in general economic theory with special emphasis on the systematic development of the tools of modern economic analysis, and the application of analytical methods to problems of price and production under conditions of competition, monopoly, and monopolistic or imperfect competition. (3 cred.; no cred. if Econ. 80 completed; jr., sr. by consent of instructor, grad.; prereq. 20 cred. in social science including 7 or equiv.; III MTWThF; 113VH) Papandreou
- B.A.114. Retail Store Management.** A comprehensive treatment of retailing principles and methods for an understanding of the structure of retailing; its relation to other parts of the economy; and the variety of problems associated with the operation of stores of various types. (3 cred.; jr., sr., grad.; prereq. 77 or equiv.; IV MTWThF; 113VH) Canoyer
- Econ.125. Current Economic Problems and Their Analysis.** This course will deal with problems that have developed as a result of the heavy impact of the defense production program upon the entire economy. Some of the problems given major attention will include: inflation; the argument of direct price and wage controls versus the use of indirect and general controls; the effect of the industrial boom in the United States upon the western European countries and countries in the Point Four Program; the measures of world economic recovery and economic potential; the economics of European integration and Trans-Atlantic union. This course is especially suitable for noneconomics majors, particularly for graduate students in education. (3 cred.; jr., sr., grad.; prereq. 7 or equiv.; III MTWThF; 1 VH) Uppgren
- B.A.130. Managerial Cost Accounting.** Cost accounting and analysis from the point of view of its use by management in making decisions and setting policies, and in establishing controls over costs. (3 cred.; no credit if B.A. 66 or 152 completed; jr., sr. with consent, grad.; prereq. Econ. 26 or equiv.; IV MTWThF; 205VH) Lund
- B.A.133. Standard Costs.** The methods of standard costs. The meaning of standards. The setting of standards for materials, labor, and overhead. The analysis of and accounting for variations. The development and application of standards to distribution as well as to production activities. (3 cred.; jr., sr., grad.; prereq. 153; V MTWThF; 205VH) Ostlund
- B.A.139. Corporate Statements.** Preparation of corporate statements and analysis from management, investment and credit viewpoint. Report required analyzing statement of an assigned corporation. (3 cred.; no cred. if B.A. 65 or 151 completed; jr., sr. with consent, grad.; prereq. Econ. 26; I MTWThF; 306VH) Reighard

† Credit may not be received for Econ. 103 until Econ. 104 is completed.

- B.A.144. Current Trends in Marketing.** This course meets as a seminar group once a week for discussion of recent trends in such matters as retail locations, legal controls of market institutions, and integration between manufacturing and marketing. In connection with each topic the interdependence between such fields as geography, law, psychology, and economics will be considered. Reading assignments will be in current periodicals and monographs. (1 cred.; jr., sr., grad.; prereq. B.A.77 or equiv.; ar.; ar.) Ar.
- Econ.149. Business Cycles.** Analysis of factors involved in business fluctuations. Comparison of theories of their causes. Examination of proposals for the stabilization of employment, production, and capital formation. Introduction to the statistical data and methods of business forecasting. (3 cred.; sr., grad.; prereq. 64 or 142 or consent of instructor; IV MTWThF; 1 VH) Upgren
- B.A.150. Intermediate Accounting I.** Principles and procedures involved in the valuation of assets and the determination of periodic income. (3 cred.; jr., sr., grad.; prereq. Econ. 26 or equiv., Math. 20; I MTWThF; 307VH) Nelson
- B.A.152. Cost Accounting.** The basic principles of cost accounting with special reference to the job order cost system. (3 cred.; no cred. if B.A. 66 or 130 completed; jr., sr., grad.; prereq. Econ. 26 or equiv.; III MTWThF; 306VH) Ostlund
- Econ.155. The Modern Corporation.** Incorporation. The various types of corporate securities and their uses. Financial plans for industrial, utility, and other types of corporations. Financial affairs of an established business. General financial problems of the holding company, consolidations, mergers, and reorganizations. (3 cred.; no cred. if Econ. 75 completed; jr., sr., grad.; prereq. 3 and 7 or equiv.; IV MTWThF; 207VH) Stehman
- B.A.156. Finance Management.** The duties of the financial manager of a modern business. The various sources from which capital may be secured, the best use of a company's funds, and special financial problems which arise in the typical business. (3 cred.; jr., sr., grad.; prereq. Econ. 75 or 155; II MTWThF; 207VH) Stehman
- Econ.161. General Manpower Economics and Labor Problems.** This course deals with: (1) the marketing of manpower resources; (2) the institutional structure of labor markets; (3) economic and social problems arising out of labor marketing processes; (4) methods, procedures and proposals for solving these problems. (3 cred.; no cred. if Econ. 73 completed; jr., sr. with consent, grad.; prereq. 7 or equiv.; I MTWThF; 207VH) Ar.
- Econ.165. Current Trends in Industrial Relations.** This course meets once each week for one hour to discuss new developments in various phases of industrial relations. Discussion of trends, new problem areas, new research studies and findings, and other up-to-date happenings in industrial relations in management, unions, and the government. Sessions are led by staff members of the University's Industrial Relations Center who are actively engaged in research and consultation. (1 cred.; jr., sr., grad.; prereq. B.A. 167; ar.; ar.)
- B.A.167. Introduction to Industrial Relations.** An elementary survey of policy and practice in the management of manpower. The course seeks to provide a professional point of view toward, and an introduction to, the major functions of manpower management, including the formulation of policy, determination of labor needs, job analysis and classification, methods of recruiting employees, selective devices, training and safety programs, service rating, employment stabilization, collective bargaining, and wage and salary administration. (3 cred.; jr., sr., grad.; prereq. Econ. 73 or 161; I MTWThF; 2VH) Turnbull
- Econ.169. Labor Legislation: Economic Security.** This course is designed to provide an analysis of: (1) the origins and development of economic and social problems of the individual worker, (2) executive, legislative, and judicial

attempts to deal with these problems, and (3) economic and social consequences of the developments. The course centers upon treatment of the area of so-called "protective labor legislation," involving child labor, hours and wages, industrial accidents and illness, old age, and unemployment. (3 cred.; jr., sr., grad.; prereq. Econ. 73 or 161; II MTWThF; 6VH) Turnbull

**Econ.172. Economics of Transportation.** An analysis of the economics of the agencies of modern transportation, including rail, water, highway, air, and pipe line. Relative advantage of each agency, national transportation policy, regulation, rate-making, taxation, coordination of services. (3 cred.; no cred. if B.A. 71 completed; jr., sr. with consent, grad.; prereq. 20 cred. in social science, including 7 or equiv.; V MTWThF; 2VH) Nightingale

**B.A.174. Transportation: Services and Charges II.** Principles of traffic management and their application within the individual firm. Analysis of the principles relating to construction, interpretation, and application of rail, water, express, and air freight classifications and tariffs. Analysis of railway freight structures. Problems relating to the determination of charges on typical movements within and between major railway freight-rate territories. (3 cred.; jr., sr., grad.; prereq. B.A. 71 or Econ. 172; IV MTWThF; 2VH) Nightingale

**Econ.178. Economics of Consumption.** A descriptive and analytical treatment of: the nature of human wants; the origins and the personal distribution of money income and purchasing power; demand and price; standards and levels of living; relationship of consumption to the population problem and possibilities for improvement in the plane of consumption. (3 cred.; jr., sr., grad.; prereq. 7 or equiv.; II MTWThF; 1 VH) Canoyer

**Econ.185. Economics of Marketing.** A course dealing with (1) the role of market distribution in our total economy; (2) the costs of market distribution; (3) regional specialization and market distribution; (4) public, quasi-public, and corporate control of market distribution; (5) the role of the consumer in market distribution. (3 cred.; no cred. if B.A. 77 completed; jr., sr., grad.; prereq. 7 or equiv.; III MTWThF; 2VH) Vaile

**Econ.252. Seminar in Industrial Relations.** (3 cred.; grad.; ar.; ar.) Yoder

**B.A.264. Seminar in Accounting Theory: Income Determination and Statement Presentation.** (3 cred.; grad.; ar.; ar.) Nelson

### Second Term

**Econ.3. Elements of Money and Banking.** (See first term) (I MTWThF; 205VH) Sutton

**Econ.5. Elements of Statistics.** (See first term) (II MTWThF; 205VH) Randolph

**Econ.7. Principles of Economics.** (Continuation of 6) (3 cred.; soph., jr., sr.; prereq. 6) Borak, Mitton

Sec. 1, III MTWThF, 6 VH

Sec. 2, V MTWThF, 1 VH

**Econ.25. Principles of Accounting.** (See first term) (IV MTWThF; 2VH) Wheeler

**B.A.52.† Business Law: Agency, Partnership, and Corporations.** The law of agency and a consideration of problems of partnerships and corporations. (3 cred.; jr., sr.; prereq. 51; I MTWThF; 1 VH) Larson

**B.A.53.† Business Law: Sales and Negotiable Instruments.** A discussion of the law of sales and negotiable instruments. The case method is used in B.A. 51, 52, and 53. (3 cred.; jr., sr.; prereq. 51; II MTWThF; 1 VH) Larson

**B.A.58. Elements of Public Finance.** Public expenditures, revenues, debts, fiscal policy and financial administration. Special attention is given to tax principles, practices, and burdens. This is a condensed course given especially for School of Business Administration students. (3 cred.; no cred. if Econ. 189 or 191-192 completed; jr., sr.; prereq. Econ. 7 or equiv.; IV MTWThF; 207VH) Heller

† To receive credit a student must complete 51 and either 52 or 53.

‡ Not open to students who have received credit in Soc. 45 or B.A. 70.

- Econ.64. The Economics of Money and Banking.** A second course in money and banking. Banking policy viewed from the social standpoint with primary reference to the problems of the Federal Reserve System. Selected problems in monetary policy; monetary reconstruction and monetary reform. (3 cred.; no cred. if Econ. 142 completed; jr., sr.; prereq. 3 and 7 or equiv.; II MTWThF; 113VH) H. Smith
- Econ.73. Manpower Economics and Labor Problems.** (See first term) (IV MTWThF; 1 VH) Ulman
- B.A.74. Business Statistics.** Explanation and criticism of statistical techniques for dealing with time series; measurements of trend, seasonals, cycles; index numbers. Statistical control of quality in manufacturing operations. (3 cred.; no cred. if B.A. 112 completed; jr., sr.; prereq. Econ. 5 or equiv.; I MTWThF; 2VH) Randolph
- Econ.75. Corporation Finance.** (See first term) (III MTWThF; 1 VH) Borak
- B.A.77. Survey in Marketing.** (See first term) (I MTWThF; 113VH) Lewis
- Econ.81. Intermediate Economic Analysis.** The development and the application of methods of economic analysis to problems of income distribution and employment of resources. (3 cred.; no cred. if Econ. 104 completed; jr., sr.; prereq. 80) Benewitz  
 Sec. 1, III MTWThF, 2VH      Sec. 2, V MTWThF, 113VH
- B.A.89. Production Management.** Location and layout of industrial plants; types of operating organizations; shop personnel; standards of operation; purchasing and inventory control; routing, scheduling, and dispatching of product; scientific management; practical problems in production control. (3 cred.; no cred. if 187 completed; jr., sr.; prereq. Econ. 7 or equiv.; II MTWThF; 207VH) Mitton
- Econ.104. Advanced Economic Theory.** Advanced course in general economic theory with special emphasis on the systematic development of the tools of modern economic analysis, and the application of analytical methods to problems of income and employment determination. (3 cred.; no cred. if Econ. 81 completed; jr., sr. by consent of instructor, grad.; prereq. 103; IV MTWThF; 6VH) H. Smith
- B.A.112. Time Series Analysis and Quality Control.** An intermediate course dealing with (1) the explanation and criticism of statistical techniques applied to time series analysis including measurements of trend and seasonal and cyclical movements, (2) index numbers, and (3) statistical control of quality in manufacturing operations. (3 cred.; no cred. if B.A. 74 completed; jr., sr. with consent, grad.; prereq. Econ. 5 or equiv.; I MTWThF; 2VH) Ar.
- B.A.113. Sales Management.** A basic course which covers the major functions and responsibilities of sales executives including sales policies and planning, sales promotion, sales organization and channels of distribution, selection and training of salesmen, methods of compensation, supervision and control of sales performance, sales budgets and cost control. Extensive use of case materials. (3 cred.; jr., sr., grad.; prereq. 77 or equiv.; II MTWThF; 6VH) Lewis
- Econ.142. Monetary and Banking Policy.** An advanced course in money and banking policy viewed from the social standpoint with primary reference to the problems of the Federal Reserve System. Selected problems in monetary policy, monetary reconstruction, and monetary reform. (3 cred.; no cred. if Econ. 64 completed; jr., sr., grad.; prereq. 3 and 7 or equiv.; II MTWThF; 113VH) H. Smith
- B.A.146. Investments.** A general or "cross cut" survey of the external and internal factors influencing the prices of securities, and of the principles of an investment policy for the individual investor. Emphasis is placed upon objec-

- tive analysis from source materials of factors explaining price differentiation. (3 cred.; jr., sr., grad.; prereq. Econ. 75 or equiv.; III MTWThF; 113VH) Sutton
- B.A.151. Intermediate Accounting II.** Principles and procedures involved in the valuation of liabilities and stockholders' interests, formation and dissolution of partnerships, analysis of financial statements. (3 cred.; jr., sr., grad.; prereq. 150; II MTWThF; 2VH) Heilman
- B.A.153. Cost Accounting.** (A continuation of 152) Procedures of a process cost system. An introduction to budgetary control, standard costs, and distribution cost accounting. Analysis and interpretation of cost data for specialized uses. (3 cred.; jr., sr., grad.; prereq. 152; III MTWThF; 207VH) Wheeler
- Econ.155. The Modern Corporation.** (See first term) (III MTWThF; 1 VH) Borak
- B.A.159. Advanced Accounting.** Branch accounting, consolidated statements, estates and trusts, concerns in financial difficulties, and other specialized problems. (3 cred.; jr., sr., grad.; prereq. 151; I MTWThF; 6VH) Heilman
- Econ.161. General Manpower Economics and Labor Problems.** (See first term) (IV MTWThF; 1 VH) Ulman
- Econ.163. Union Organization and Administration.** This course is designed to provide an analysis of: (1) the structural nature and (2) the operation of contemporary American unions. In the latter connection the course deals with the nature of the internal administration and government of unions, and with the economic and social issues arising out of relationships with managements as found in matters of hours, wages, and other conditions of employment. (3 cred.; jr., sr., grad.; prereq. 73 or equiv.; V MTWThF; 207VH) Ulman
- B.A.180D. Senior Topics: Industrial Relations.** A study of employee communication, including principles, techniques and methods of evaluation. Discussion of oral and written devices including house organs, employee manuals, letters, comic books, bulletin boards, annual reports, and others. Class procedure is based on group project method designed to prepare the student for employment in industrial relations at the staff level. (3 cred.; sr., grad.; prereq. 167; IV MTWThF; 113VH) Heneman
- Econ.185. Economics of Marketing.** (See first term) (I MTWThF; 113VH) Lewis
- B.A.187. Administration of Production.** This course develops the production function of business from the general management viewpoint. It is nontechnical in character. Students satisfying the requirements may use this course as a prerequisite for any of the advanced courses for which B.A. 89 is a prerequisite. (3 cred.; no cred. if B.A. 89 completed; jr., sr. with consent, grad.; prereq. Econ. 7 or equiv.; II MTWThF; 207VH) Ar.
- Econ.189. Principles of Public Finance.** Public expenditures, revenues, debts, fiscal policy, and financial administration. Special attention is given to tax principles, practices, and burdens. (3 cred.; no cred. if B.A. 58 or Econ. 191-192 completed; jr., sr., grad.; prereq. 7 or equiv.; IV MTWThF; 207VH) Heller
- Econ.235. Federal Tax Policy.** The major policy problems relating to taxes on individual and corporate incomes, on estates, and on commodities will be examined in both a short-run and long-run setting, with emphasis on economic and distributional effects of alternative policies. Acquaintance with methods and materials of research in this area, and a working knowledge of the characteristics of each tax base are major aims of the course. (3 cred.; grad.; ar.: ar.) Heller

## INSTITUTE OF CHILD WELFARE

The Institute of Child Welfare was organized for three purposes: research in child development; training future workers with children; and bringing information to parents on the care and training of children. The Institute offers graduate and undergraduate courses 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 8:00 a.m. to 12:00 noon, beginning June 18 and closing July 25. Applications for the enrolment of children will be received at the office of the Institute. The fee will be \$35 for tuition, which includes orange juice and lunch at noon.

Responsibility for transportation to and from schools must be taken by the parents.

#### *First Term*

- 80. **Child Psychology.** (3 cred.; jr., sr.; prereq. Psy. 1-2; I MTWThF; 207NH) Ar.
- 131. **Personality, Emotional and Social Development of the Child.** (3 cred.; sr., grad.; prereq. 12 cred. in psychology or equiv.; I MTWThF; 202Pt) Templin
- 140. **Behavior Problems in Younger Children.** (3 cred.; sr., grad.; prereq. 12 cred. in psychology, educational psychology, or sociology; III MTWThF; 202Pt) Blodgett
- 142. **Psychology of Atypical Children.** (3 cred.; sr., grad.; prereq. 12 cred. in psychology; IV MTWThF; 202Pt) Blodgett
- 150. **Childhood Education.** Survey of early childhood education. (3 cred.; sr., grad.; prereq. 12 cred. in education; II MTWThF; 202Pt) Fuller
- 270.\* **Readings and Research in Child Development.** Independent readings and reports in any field such as physical growth, mental development, social behavior, nursery school theory, parent education, etc., which meets the approval of instructor. (Cred. ar.; grad. students only; hrs. ar.) Staff

The following courses, Ed.T. 77, Student Teaching in the Nursery School, and Ed.T. 78, Student Teaching in the Kindergarten, listed under Methods and Directed Teaching, page 107 in the College of Education; Ed.C.I. 162, Laboratory in Nursery School and Kindergarten Instructional Practices, and Ed.C.I. 163, Plastic Materials, Story Telling and Social Studies for Young Children, listed under Curriculum and Instruction, page 100 in the College of Education, are also offered by the Institute of Child Welfare.

#### *Second Term*

- 40. **Child Training.** The development and training of young children. Observations in the Nursery School. (3 cred.; soph., jr., sr.; prereq. Psy. 1-2; II MTWThF; 202Pt) Cummings
- 130. **Motor, Linguistic, and Intellectual Development of the Child.** (3 cred.; sr., grad.; prereq. 12 cred. in psychology or equiv.; I MTWThF; 202Pt) Deno
- 141. **Behavior Problems in Older Children.** (3 cred.; sr., grad.; prereq. 12 cred. in psychology, educational psychology, or sociology; IV MTWThF; 202Pt) Deno
- 170. **Parent Education.** (3 cred.; sr., grad.; prereq. 15 cred. in psychology, education, home economics, or sociology; III MTWThF; 202Pt) Cummings
- 270.\* **Readings and Research in Child Development.** (See first term) Staff

## LIBRARY INSTRUCTION

Students taking work in the Division of Library Instruction should register in the College of Education, the College of Science, Literature, and the Arts, or the Graduate School. For complete information about the programs offered and degree requirements in Library Science, see the *Announcement of the Division of Library Instruction*. Basic courses in Library Science are usually offered in alternate summers.

Fees for the eight-week term include: tuition \$60, incidental fee \$12, deposit \$2, total \$74; part-time tuition (4 credits or less) \$43, incidental fee \$12, deposit \$2, total \$57.

### 8-Week Term, June 16-August 9

#### BASIC COURSES

- Lib.Sci.50. Libraries and Society.** History and types of libraries, agencies, and services; librarianship as a profession. (3 cred.; III MWF and 1 hr. ar.; 5Lib.) Shove
- Lib.Sci.53. School Library Management.** Principles and methods. (3-4 cred.; III MWF and 1 hr. ar.; 3Lib.) Marfell
- Lib.Sci.60. Sources of Information about Library Materials.** (3 cred.; II MWF and 1 hr. ar.; 5Lib.) Wezeman
- Lib.Sci.61. Practice Work.** The time and character of the practice will be individually arranged to suit student aptitudes and needs. (3 cred.; prereq. 18 cred. in Lib.Sci. or satisfactory library experience; ar.) Shove, Marfell
- Lib.Sci.62. Reference I.** General reference tools and other sources of information in reference work. (2 cred.; II TTh and 1 hr. ar.; 5Lib.) Kingsley
- Lib.Sci.85. Special Problems.** Individual study on library problems for advanced students in library science. (1-3 cred.; prereq. approval of adviser; ar.) Shove

#### COURSES FOR UNDERGRADUATE AND GRADUATE STUDENTS

The following, as well as courses in the 200 series, may be counted as graduate courses in meeting the requirements for the Master's Degree in Library Science. See the *Announcement of the Division of Library Instruction and Graduate School Bulletin* for full information on this program.

- Lib.Sci.151. Invention and Spread of Printing.** History of the development of printing and its spread to the end of the sixteenth century. (2 cred.; III TTh and 1 hr. ar.; 5Lib.) Shove
- Lib.Sci.154. Principles of Public Library Administration.** (3 cred.; I MWF and 1 hr. ar.; 3Lib.) Wezeman
- Lib.Sci.157. School Library Problems.** Service in large units, relationships with public libraries, planning library quarters, budgets, training for school librarianship. (3 cred.; I MWF and 1 hr. ar.; 5Lib.) Fitch
- Lib.Sci.164. Reference III.** Specialized reference tools; government publications; administration of the reference department; special problems in large libraries. (2 cred.; prereq. 62, 63; I TTh and 1 hr. ar.; 5Lib.) Ostvold
- Lib.Sci.172. Principles and Problems in Reading Guidance for Adolescents.** (3 cred.; prereq. 70; IV MWF and 1 hr. ar.; 5Lib.) Fitch
- Lib.Sci.173. Principles and Problems in Adult Reading Guidance.** (3 cred.; prereq. 70; IV MWF and 1 hr. ar.; 3Lib.) Wezeman

#### COURSES FOR GRADUATE STUDENTS

- Lib.Sci.257.† Seminar in Library Administration.** (3 cred.; ar.) McElderry
- Lib.Sci.260.† Seminar in Advanced Bibliography.** (3 cred.; ar.) Shove
- Lib.Sci.273.† Seminar in Library Work with Children and Young People.** (3 cred.; ar.) Fitch

† This course is for six weeks only.



# GENERAL COLLEGE

## GENERAL INFORMATION

Admission to the General College requires graduation from an accredited high school or satisfactory performance on university entrance tests, but no specific pattern of high school subjects is required. Students who do not qualify for admission to other colleges of the University because of inadequate preparation or poor high school record may remedy these deficiencies or demonstrate their ability to handle work of college caliber through a careful selection of courses in the General College. Students who successfully demonstrate this ability may make application to transfer to another college of the University without undue loss of time or credit.

The degree of associate in arts is conferred by the University upon students who successfully complete a two-year program in the General College.

The regular *Bulletin of the General College*, which may be received upon request from the Office of Admissions and Records of the University, indicates in detail the requirements for the associate in arts degree, general regulations, and additional general information. All students entering the General College for the first time are required to take an over-all comprehensive examination, the results of which will be useful to the student and his adviser in planning his program for subsequent quarters.

For more complete description of the courses during the summer terms, see the regular *Bulletin of the General College*.

### First Term

3. **Home Life Orientation.** Consideration of the biological, psychological, and sociological foundations of family life. Discussion of adjustment and human relations in present and future home life and factors associated with success or failure in marriage. (3 cred.; all; no prereq.; IV MTWThF; 207NH) Anderson
- 10A. **Human Biology: The Fundamental Similarities in the Living World.** A study of the variety and relationship of living organisms serves to illustrate the general principles in biology. Special emphasis is given to man's place in the world of living organisms. Man's embryonic development, heredity, racial characteristics, and evolution are considered. Films and demonstration laboratories supplement the lectures. (3 cred.; all; no prereq.; II MTWThF; 213NH) Cieslak
- 10C. **Human Biology: Healthful Living.** The preservation and improvement of health is emphasized in this course. Such topics as cause and prevention of disease, dieting, care of skin and hair, pregnancy, mental health, medical costs, and public health are considered. (3 cred.; all; no prereq.; IV MTWThF; 213NH) Cieslak
- 19A. **Problems of Business Transactions.** This course provides the student with skill in handling business figures and with a better understanding of taxes, prices, and profits, bank loans, notes, and risk insurance. Arithmetic only is used to develop methods of solution and to solve many practical money problems. (4 cred.; all; no prereq.; I-II MTWTh; 209NH) Rassweiler
- 30C. **Literature Today: Themes in Current Literature.** Three or four books of fiction, drama, or nonfiction are studied intensively, both as interpretations of life and society and as specimens of literature. Each is a representative book by a prominent present-day author and is used as a basis for comparison with other authors who have dealt with similar themes or used similar techniques. (3 cred.; all; no prereq.; III MTWThF; 213NH) Draxten
- 31A. **Writing Laboratory: Practice in Effective Writing.** The student's writing abilities are used as a basis for individual instruction in effective written expression. (3 cred.; all; no prereq.; III-IV MTWTh; 209NH) Appel

- 44B. Current History.** The main objective is to encourage students to develop skill in interpreting the news—foreign, government, political, economic, and social—and its relationship to the current of history; news magazines and newspapers serve as points of departure; background materials are stressed to provide historical perspective. (3 cred.; all; no prereq.; I MTWThF; 213NH)  
F. Harris

### *Second Term*

- 10B. Human Biology: How the Living Machinery in Man Works.** This course deals with the body functions of man. The activities of cells, organs, and systems are considered from the point of view of both normal and abnormal physiology. (3 cred.; all; prereq. 10A; II MTWThF; 213NH) Cieslak
- 31D. Writing Laboratory: Business Writing.** Attention centers on factors important for effective business writing. Business situations serve as a basis for the various types of letters the student writes. The student receives individual instruction as he plans and writes his letters. (3 cred.; all; prereq. 31A; III-IV MTWTh; 209NH) Kivits
- 32A. Speech Laboratory: Basic Principles of Oral Communication.** Readings and discussions on speech hygiene, analysis of causes and treatment of stage fright, study of language problems, and training in explanatory speaking. (3 cred.; all; no prereq.; I MTWThF; 107NH) Olson
- 37. Social Trends and Problems.** A study of the major trends which are affecting American life, and the impact of culture, conflict, religion, economic changes, population trends, and family status upon individual problems and development of personality. (3 cred.; all; no prereq.; III MTWThF; 213NH)  
Anderson

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## AIR FORCE ROTC

Air Force Reserve Officer Training will be offered in the 1952 Summer Session. All applicants must have an interview at the Armory before being accepted.

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