

SUMMER  
PROGRAM  
IN  
AMERICAN  
STUDIES

JUNE 17 - JULY 27

JULY 29 - AUGUST 31

1946

# American Studies

The Program in American Studies of the Summer Session of the University of Minnesota is presented jointly by the Committee on American Studies and the departments represented. Credit earned in courses listed below will be accepted for the bachelor of arts and advanced degrees by both the departments concerned and the Program in American Studies.

*B.A. in American Studies*—This interdepartmental degree is granted by the University of Minnesota to students who present 45 credits (equivalent to the work of three quarters) in undergraduate courses dealing with the history and present status of American civilization. These courses must be distributed among four fields: literature, history, fine arts and philosophy, and social science.

*M.A. in American Studies*—This degree is granted for 27 credits of graduate work in American civilization and an appropriate thesis, or 45 credits without thesis.

*Ph.D. in American Studies*—The Doctor's degree is granted for three years' study in five fields (literature, history, fine arts and philosophy, social science, and foreign backgrounds of American civilization) and a dissertation on a topic involving the subject matter of more than one academic department. Candidates who have already specialized in one aspect of American civilization are encouraged to devote themselves to more general considerations, and those who bring a sound general knowledge are asked to give particular attention to one or two fields.

These interdepartmental curricula in American Studies are designed to supplement but in no sense to displace the long-established system of departmental majors. Students may now choose between vertical specialization within a department and horizontal specialization in the area of our national culture. The Program in American Studies is grounded in the belief that a sound knowledge of the United States in its relations with its regions within and its neighbors without contributes directly to the building of human understanding and, ultimately, of a world-state.

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# Summer Faculty

All visiting instructors will conduct regular courses and will be in residence throughout either the first term (June 17-July 27) or the second term (July 29-August 31), with the exception of Mr. Farrell and Mr. Gray, who will be in residence for two weeks. In addition to conducting daily classes, several members of the staff will participate in a series of public lectures on American civilization.

Additions to the faculty will be made before the Summer Session opens, and resignations may occur. For details, see the final bulletin of the Summer Session to be issued in March.

## VISITING INSTRUCTORS

ARTHUR BESTOR, Associate Professor of History, Stanford University; author of articles on American civilization.

DENIS W. BROGAN, Professor of Political Science, Cambridge University; author of *The American Character*, *The English People*, *Government of the People*, etc.

STERLING A. BROWN, Associate Professor of English, Howard University; editor (with others) of *The Negro Caravan*; author of *The Negro in American Fiction* and poems.

J. FRANK DOBIE, Professor of English, University of Texas; author of *Coronado's Children*, *A Texan in England*, etc.

JAMES T. FARRELL, author of *Studs Lonigan*, *Collected Short Stories*, *A Note on Literary Criticism*, etc.

JAMES GRAY, Literary and Dramatic Critic, St. Paul *Dispatch-Pioneer Press*; author of *Shoulder the Sky*, *The Illinois*, and *Pine, Stream, and Prairie*.

W. TURRENTINE JACKSON, Professor of History, Iowa State College; author of articles on the midwest.

CLAUDIUS O. JOHNSON, Professor of Political Science and Head of the Department of Political Science, Washington State College; author of *Government in the United States*, *Borah of Idaho*.

ALFRED KAZIN, author of *On Native Grounds*.

WILLIAM H. KILPATRICK, Emeritus Professor of Philosophy of Education, Teachers College, Columbia University; author of *Foundations of Method*, *Selfhood and Civilization*, etc.

HERBERT W. SCHNEIDER, Professor of Philosophy, Columbia University; editor of *Journal of Philosophy and Review of Religion*; author of *The Puritan Mind*.

RICHARD H. SHRYOCK, Professor of History, University of Pennsylvania; author of *Georgia and the Union, 1850* and *The Development of Modern Medicine*.

J. RUSSELL WIGGINS, Editor, St. Paul Dispatch-Pioneer Press; author of *Editorial Handbook*.

LOUIS B. WRIGHT, Director of the Huntington Library; co-editor of *The American Tradition*; author of *Middle Class Culture in Elizabethan England*.

### RESIDENT INSTRUCTORS

HAROLD B. ALLEN, Assistant Professor of English; formerly assistant editor *Middle English Dictionary* and *Early Modern English Dictionary*.

RALPH D. CASEY, Professor and Director, School of Journalism; author and editor (with others) of *Propaganda and Promotional Activities, Interpretations of Journalism*, etc.

PHILIP D. JORDAN, Associate Professor of History; editor of *Songs of Yesterday*; author of *Ohio Comes of Age, Quaker Lady*, etc.

CLIFFORD J. KIRKPATRICK, Professor of Sociology; author of *Capital Punishment, Nazi Germany—Its Women and Family Life*, etc.

EVORN M. KIRKPATRICK, Associate Professor of Political Science, co-editor of *The People, Politics, and the Politician*.

RODNEY C. LOEHR, Assistant Professor of History; author of articles on economic history.

CLARENCE C. LUDWIG, Professor of Political Science and Chief of the Municipal Reference Bureau; author of articles on municipal administration.

HERBERT McCLOSKEY, Instructor in Political Science; author of articles on problems of democracy.

TREMAINE McDOWELL, Professor of English and Chairman of the Program in American Studies; editor of *The Romantic Triumph, America in Literature*, etc.

RALPH NAFZIGER, Professor of Journalism, author of *International News and the Press*.

ERNEST OSGOOD, Professor of History; author of *The Day of the Cattleman*.

JOSEPH SCHNEIDER, Instructor in Sociology; author of articles on the history of sociology.

LAURENCE SCHMECKEBIER, Professor and Chairman of the Department of Fine Arts; author of *A Handbook of Italian Renaissance Art, John Steuart Curry's Pageant of America, and Modern Mexican Art*.

LLOYD M. SHORT, Professor of Political Science and Director of the Public Administration Training Center; author of *The Development of National Administrative Organization in the United States*, etc.

GEORGE F. STICLER, Professor of Economics, author of *Theory of Price*.

MARY C. TURPIE, Instructor in English; author of articles on Emerson.

ALICE F. TYLER, Associate Professor of History; author of *Freedom's Ferment*.

DALE YODER, Professor of Economics and Industrial Relations; author of *Labor Problems and Labor Economics and Industrial Relations*.



# Summer Courses

## AMERICAN STUDIES

- 10su Humanities in the United States I (see Hum. 10), Mr. McDowell (first term).  
11su Humanities in the United States II (see Hum. 11), Miss Turpie (second term).  
120su The Influence of Europe on American Culture I, Mr. Bestor (first term).  
122su The Negro in American Literature, Mr. Brown (first term).  
132su The Cowboy in History and Literature, Mr. Dobie (second term).  
145su The American Character (see Pol. Sci. 145), Mr. Brogan (second term).  
201su Major Interpretations of American Civilization I, Mr. Bestor (first term).

## ECONOMICS

- 103su Advanced General Economics, Mr. Stigler (first term).  
161su Labor Problems and Trade Unionism, Mr. Yoder (second term).

## ENGLISH

- 73su American Literature I, Miss Turpie (second term).  
74su American Literature II, Mr. Brown (first term).  
122su The Negro in American Literature (see Amer. Stud. 122), Mr. Brown (first term).  
128su Contemporary American Literature, Mr. Farrell, Mr. Gray, Mr. McDowell, and others (first term).  
130su The Emergence of Realism in American Literature, Mr. Kazin (first term).  
131su Literature of the Southwest, Mr. Dobie (second term).  
174su American English, Mr. Allen (first term).  
267su Melville and the Modern World, Mr. Kazin (first term).

## FINE ARTS

- 109su Regional Art in America, Mr. Schmeckebier (first term).

## HISTORY

- 20su American History I, ar. (first term).  
21su American History II, Mr. Jackson (second term).  
22su American History III, Mr. Osgood (first term).  
83su American Economic History, Mr. Loehr (first term).  
90su and  
120su The West in American History, Mr. Osgood (first term).  
91su The Trans-Mississippi West, Mr. Jackson (second term).  
94su and  
126su American Diplomatic History, Mrs. Tyler (first term).  
131Asu History of American Medicine, Mr. Shryock (second term).

- 132Asu History of the South, Mr. Shryock (second term).  
 142su American Folklore, Mr. Jordan (second term).  
 190su Cultural Heritage of Colonial America, Mr. Wright (first term).

### HISTORY OF EDUCATION

- 176su Conflicting Issues in Modern Education, Mr. Kilpatrick (first term).  
 180su The School and the Social Order, Mr. Kilpatrick (first term).

### HUMANITIES

- 10su Humanities in the United States I, Mr. McDowell (first term).  
 11su Humanities in the United States II, Miss Turpie (second term).

### JOURNALISM

- 112su Current Newspaper Problems, ar. (first term).  
 113su The Press and Foreign Affairs, Mr. Nafziger (first term).  
 119su The Press and the Public, Mr. Wiggins (first term).  
 133su Propaganda and Censorship in the Modern World, Mr. Casey (second term).  
 210su Research in Newspaper Problems, (both terms) Mr. Casey, Mr. Nafziger.

### MUSIC

- 101su American Music, ar. (first term).

### PHILOSOPHY

- 114su American Philosophy from Edwards to James, Mr. Herbert Schneider (first term).  
 180Asu The Religious Tradition in America, Mr. Herbert Schneider (first term).

### POLITICAL SCIENCE

- 100su The Constitution and Social Change, Mr. Johnson (first term).  
 145su The American Character, Mr. Brogan (second term).  
 160su American Political Thought, Mr. McClosky (first term).  
 161su Problems of Democracy, Mr. Evron Kirkpatrick (second term).  
 201su Seminar in American Government, Politics and Administration, Mr. Short, Mr. Johnson, Mr. Ludwig (first term).  
 202su Seminar in American Government, Politics, and Administration, Mr. Evron Kirkpatrick (second term).

### SOCIOLOGY

- 119su The Family, Mr. Clifford Kirkpatrick (first term).  
 145su Theories of Social Reconstruction, Mr. Joseph Schneider (first term).

# Special Events

Several convocation addresses will be delivered during the summer by visiting professors in the Program in American Studies and by other distinguished speakers in the same field. Afternoon lectures on American civilization are scheduled for each week during both terms. These lectures will be free to the University and the general public.

Concerts and recitals of American music are in preparation, to be presented by the Department of Music.

Exhibitions of American art will be staged during the summer.

Revivals of famous American plays will be presented by the University Theatre, and famous American films will be brought to the campus.

*For additional information concerning American Studies, address  
Tremaine McDowell, Chairman, Program in American Studies,  
University of Minnesota, Minneapolis 14, Minnesota*

*For additional information concerning the Summer Session, address  
Thomas A. H. Teeter, Director of the Summer Session,  
University of Minnesota, Minneapolis 14, Minnesota*

## THE SUMMER SESSION FOR 1946

Never in the history of civilization has there been such a great need for intelligence and judgment in the citizenship and government of the country and of the world in general. The war of technology was won in the schoolrooms and college laboratories in the last half century. The battle of the spirit will be won or will be lost in the halls of learning by this and future generations. Now, as the world faces postwar problems, it is more important than ever that we continue to expand our educational programs. This we must do, not only for our own immediate personal improvement, but with the long-range aim that each man shall become a part of the trained citizenship that will save the world from a more destructive cataclysm than that which we have just experienced.

### PROGRAM IN AMERICAN STUDIES

The aim of the interdepartmental Program in American Studies at the University of Minnesota is to guide students to a broad knowledge of their own nation, in relation both to its own regions and to the world. An understanding of one's own region is the basis for a sane rational loyalty. This contributes, in turn, to an enlightened faith in one's own nation. Ultimately, regionalism and its extension, patriotism, contribute to a world-consciousness and a world-loyalty. A well-considered program in American civilization therefore discourages both sectional prejudice and isolationism, and interprets national problems in the world language of the humanities and the social sciences.

The Committee on American Studies, in conjunction with the departments represented on the committee, offers a summer Program in American Studies. During both terms, members of the University staff will teach courses on American topics, and a group of distinguished visiting professors will be brought to the campus to assist them.

The civilization of the United States will be explored through departmental courses in our national history, literature, fine arts and music, philosophy and history of religion, philosophy of education, journalism, political science, and sociology. In addition, interdepartmental courses will be offered in the humanities in the United States and in American civilization.

These courses will carry credit both for students working in the departments concerned, and for students specializing in American Studies, either for the bachelor of arts or for an advanced degree.

In addition to formal instruction, special lectures, exhibitions, and concerts on American themes will be provided.

A special bulletin, listing the courses and the staff for the summer Program in American Studies, will be issued on January 1, 1946.

## GENERAL INFORMATION

The University of Minnesota is located midway between the Twin Cities of Minneapolis and St. Paul on the north bank of the Mississippi River in Minneapolis. The courses in agriculture and home economics are given on the Agricultural Campus in St. Paul, three miles from the Main Campus in Minneapolis.

The University provides an ideal place to enjoy a profitable summer of study. It offers the Summer Session student the advantages of a great educational institution—its faculty, libraries, laboratories, observatories, and museums—and in addition the recreational and cultural resources of two large metropolitan centers. These cities combine to offer attractions for the Summer Session student that are unique with the University of Minnesota.

The College of Agriculture, Forestry, and Home Economics in St. Paul has its own laboratories and recreational facilities, and its campus offers all of the advantages of the Main Campus of Minneapolis, being connected with the latter by an intercampus trolley line which gives regular service free to students enrolled for classes on both campuses. The Como-Harriet interurban line connects both of the campuses with the two cities.

Courses in the various fields of biology are given at the Lake Itasca Forestry and Biological Station, located at Itasca State Park, during the second term of the Summer Session. (See pages 28 and 47.)



Colonnade, Northrop Memorial Auditorium

## DATES OF THE SUMMER SESSION

The Summer Session consists of two terms. With the exception of the Medical School, the first term of six weeks will begin with registration Monday and Tuesday, June 17 and 18. Accelerated programs are continuous through both terms. Other courses of study are complete in a single term. Classes in the first term on the Main Campus will begin Wednesday, June 19, at 8:30 a.m. Classes on the Agricultural Campus will begin fifteen minutes earlier, at 8:15 a.m.

Registration and payment of fees for the second term close at 4:00 p.m. on Monday, July 29, and classes for this term will open Tuesday, July 30. The Summer Session will be brought to a close on Saturday, August 31.

Classes in the Medical School begin on Monday, July 1, and continue through Saturday, September 14.

## FACULTY

The instructional staff for the 1946 Summer Session numbers more than seven hundred members. The University of Minnesota takes for granted the fact that the students planning to attend its classes expect to become acquainted with, and study under, the regular faculty and therefore many of its most outstanding scholars will be present to teach and to direct research.

## COURSES OF STUDY

Approximately 800 subjects of study will be offered during the two terms of the 1946 Summer Session. We have provided a splendid and diversified curriculum in American Studies which will be of great value in enabling the summer student to gain a better understanding of the postwar problems and world reconstruction with which we are confronted at this time. Teachers in particular may find in these courses studies for a reorientation of their knowledge and ideas that will contribute to realistic teaching in their classrooms.

## LIBRARIES

Students in the Summer Session enjoy all of the library privileges of regular session students. The University of Minnesota Library is one of the finest college libraries in existence today. It includes over 1,330,000 volumes and many periodicals and pamphlets, and in scope takes in every subject in the university curriculum. Its large, airy reading rooms provide an excellent place to study, and in addition there is a separate floor with rooms for seminars and discussion groups for graduate students and faculty.

On the Agricultural Campus the library of the Department of Agriculture houses an outstanding collection of material on agri-



Entrance to Main Library

culture, home economics, and allied sciences, as well as many books of general interest.

There are also several departmental libraries on both campuses containing special collections of value to students.

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

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

#### HOUSING AND FOOD SERVICE

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

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

**Sanford Hall**—Sanford Hall affords comfortable living quarters for 275 girls. It is situated on University Avenue, three blocks from the main gate to the campus. Three meals a day are served in the large cool dining rooms. There are two spacious lounges. Both single and double rooms are available.

Reservations should be made as far in advance as possible. Application should be sent directly to Sanford Hall. No application will be recorded until a completed lease is filed. For additional information write Mrs. Grace Nelson, Director of Sanford Hall, University of Minnesota, Minneapolis 14.

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

The rates during the summer are as follows: single rooms, \$20 per term; other rooms, \$16 per term per occupant.

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



Entrance to Comstock Hall





Sanford Hall

Assignment of rooms will be made at the time of registration in Meredith Hall. Payment for the first term of the Summer Session must be made to the cashier at the beginning of the first week. The dormitory will be open Monday, June 17. Rooms will not be available during the second term.

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

**Pioneer Hall**—Pioneer Hall will be available for occupancy by men students in the Summer Session of 1946.

**The Cooperative Village**—The Cooperative Village, now located on University Avenue near Sanford Hall, will be open for the first Summer Session. The houses have been remodeled and redecorated and offer attractive, low-cost housing.

The dining hall will be operated on a cooperative basis provided a sufficient number of girls are interested to make it possible.

Write Mrs. Jane Miller, Cooperative Village Office, University of Minnesota, 212 Twelfth Avenue Southeast, Minneapolis 14, for further information.

**Thatcher Hall**—Thatcher Hall, providing living accommodations for thirty-seven married students registered in the Graduate School, is located on the Agricultural Campus. There are both one-bedroom and non-bedroom quarters. All quarters include a dinette, kitchen-

ette, in-the-wall bed, and a private bathroom with adjoining built-in wardrobe and closet.

Rooms are leased on a twelve-month basis, with the possibility of some of them being sublet for the Summer Session. Graduate students interested in residence at Thatcher Hall should communicate with the Director of Service Enterprises, Room 10, Administration Building, University of Minnesota, Minneapolis 14, regarding application, prices, and other details.

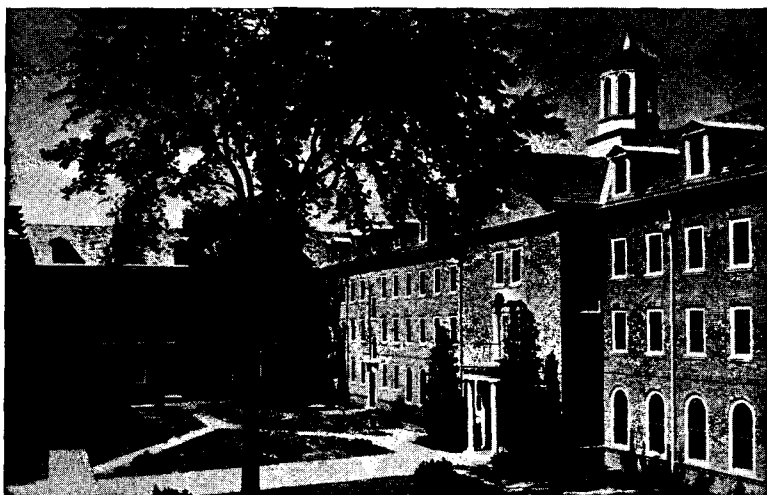
Requirements for residence at Thatcher Hall:

1. Must be carrying a normal load in the Graduate School.
2. Total family income must not exceed \$2,000 during the one year of residence. (Residence is limited to one year.)

**Private Residences**—The Housing Bureau, Room 230, Northrop Memorial Auditorium, Main Campus, is operated by the University for the purpose of assisting both men and women in the securing of suitable living accommodations. Students may obtain lists of approved houses upon request. The houses on these lists have been inspected by the Students' Health Service on the basis of sanitation, fire hazards, heating facilities, and other qualities that might affect the health and welfare of the student.

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

**Food Service**—In addition to the dining halls provided in the dormitories and residence halls, the Union offers a variety of accommodations. The cafeteria, luncheonette, and fountain grille fea-



Pioneer Hall



Recreation at Comstock

ture rapid service. Well-prepared food, moderate prices, and quick, efficient service typify all Union dining accommodations.

#### STUDENTS' HEALTH SERVICE

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

#### SUMMER RECREATION

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

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

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

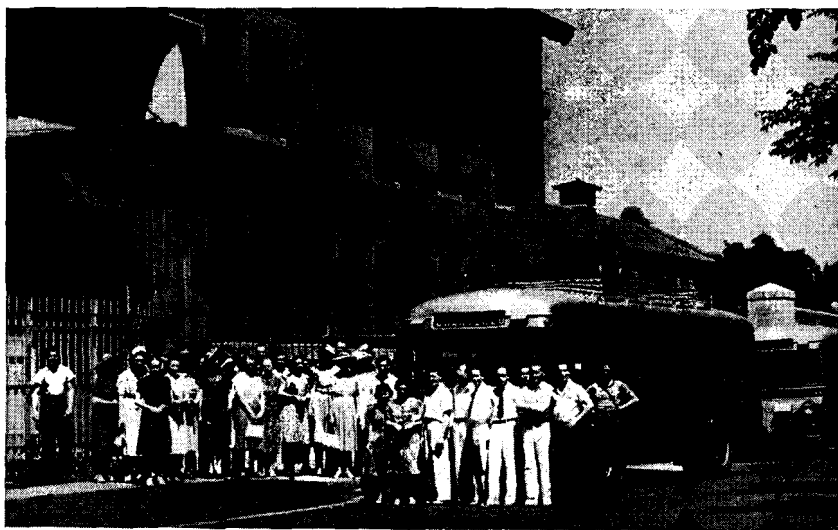
Cities also are made each summer. These tours are usually arranged for Mondays, Fridays, and Saturdays, with the cost only the necessary fare for transportation.

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

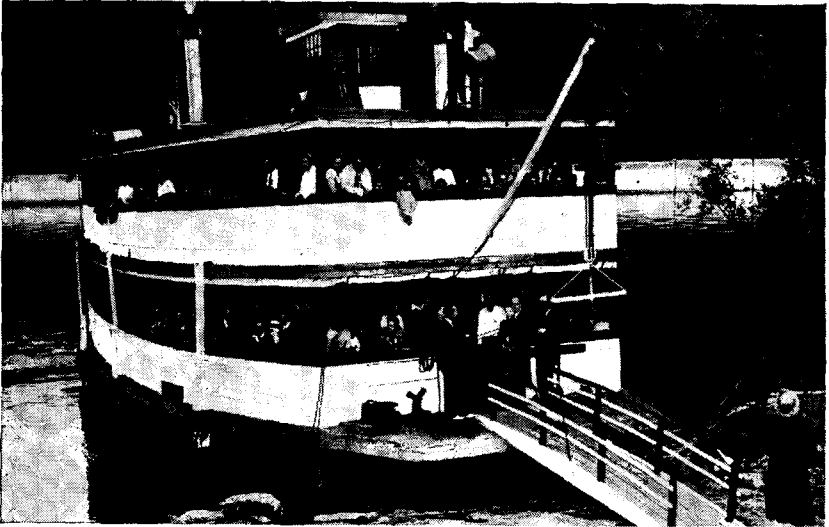
A program of tennis and golf tournaments as well as other competitive sports is arranged each summer.\* In addition, the swimming pools with attendants and instructors in charge are available at scheduled times for men in Cooke Hall and for women in Norris Gymnasium. All of these facilities are available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

**Tennis and golf tickets**—Tennis tickets will be issued to regularly enrolled students of the Summer Session upon payment of a fee of \$1 and presentation of the bursar's receipt for fees. Such tickets entitle the holder to 15 sessions of play. Without tickets, a charge

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



Sight-seeing Excursion



Donna Mae Boat Trip

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

#### SPECIAL FEATURES

In connection with the curriculum in American Studies, a number of visiting professors will be invited to deliver a series of special lectures which will be of interest to all students in the Summer Session. The Department of Music will present a program in American music.

The Coffman Memorial Union features informal recreational opportunities for developing new skills in the arts and crafts.

One of the principal features of the Summer Session program is the series of weekly convocation addresses by speakers of more than usual prominence. Scientists, literary figures, artists, and observers of national and international affairs are among those who visit the campus to address the Summer Session audiences.

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

Another weekly feature which is popular with the student body is the Newsreel Theater, directed by the Department of Visual Education of the University of Minnesota. Motion pictures of current events, travel pictures, and educational films of various kinds form the subject matter of the theater. This department usually carries a program of *Films for Teachers* of a type which can be used in the classroom. A program of *Information and Interest Films* is regularly shown in the Coffman Memorial Union Ballroom.

#### COFFMAN MEMORIAL UNION

The Coffman Memorial Union building has been designed to provide for the social life of university students. Summer Session students will find it a pleasant respite from the rigors of classroom activities. All students are eligible to enjoy the informal, friendly spirit which dominates the Union. Quiet and comfortable lounges, colorful dining rooms, and interesting recreation rooms make the Union the natural "living room" for members of the university family. Here spacious, airy rooms overlooking the broad Mississippi provide a pleasant setting for informal social and recreational experiences.

**Recreation facilities**—Popular with men and women students are the sixteen bowling lanes and the modern billiard room for recreation; the large cafeteria and interesting fountain grille for dining; the men's, women's, and coeducational lounges for resting and



Workers in Union Arts and Crafts Room

studying; the spacious open terrace for lounging or dining; the University Post Office and the neighboring Union Bookstore, and barber and beauty shops for convenient utilitarian services.

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

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

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

#### UNIVERSITY FARM UNION

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



Social Dance

## ADMISSION AND REGISTRATION

### ADMISSION

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

The procedure for admission of Graduate students is discussed on pages 16 and 17.

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

### REGISTRATION

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

The regular registration days are:

For the first term	Monday, June 17, 8:30 a.m. to 4:00 p.m.
	and
	Tuesday, June 18, 8:30 a.m. to 4:00 p.m.
For the second term	Monday, July 29, 8:30 a.m. to 4:00 p.m.

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

Wednesday, June 19 .....	\$2.00
Thursday, June 20 .....	3.00
Friday, June 21 .....	4.00
Monday, June 24 .....	5.00



No registrations are allowed for the first term after Monday, June 24, 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 30 .....	\$2.00
Wednesday, July 31 .....	3.00
Thursday, August 1 .....	4.00
Friday, August 2 .....	5.00

No registrations will be accepted for the second term later than Friday, August 2, without the special permission of the dean of the school or college concerned, and the payment of the late registration fee of \$5.

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

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

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

#### CHANGES IN REGISTRATION

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

#### FEEES

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

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

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

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

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

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

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

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

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

**AUDITORS**

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

**CREDIT**

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

**AMOUNT OF WORK**

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

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

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

## GRADUATE SCHOOL

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

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

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

Students must make application for admission to the Graduate School at least two weeks before the opening of the Summer Session which they expect to attend, in order to avoid delay and possible penalty for late registration. All applications for admission, except for graduates of the University of Minnesota, must be accompanied by an *official transcript* in duplicate of all undergraduate work, including degrees earned, and by a single official transcript of all graduate work completed. In certain departments, such as those conducting clinical or laboratory work, it will be necessary



River Flats, University of Minnesota

for students to check individually with the head of the department concerned as well as with the Graduate School office before their application for admission may be approved. In any case, admission to the Graduate School does not necessarily imply admission to a given major department, and students, therefore, before their arrival at the University, should secure assurance either from the Graduate School or directly from the department concerned that they are adequately prepared and will be accepted as majors in their chosen field.

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



Doorway, Murphy Hall

## COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

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

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

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

### DEPARTMENT OF MUSIC

Special features of the Music Department are courses in American music and Gregorian Chant. The latter will be taught by a nationally-known authority on the subject, the Reverend Dominic Keller, O.S.B. Plans are under way to sponsor a festival of American music to be played by members of the Minneapolis Symphony Orchestra. In the music education field, workshops in band, orchestra, and chorus will be conducted by nationally-known professors. Regular courses in applied music including all orchestral and band instruments together with those in theoretical subjects on the graduate as well as undergraduate levels will be offered for music and music education majors.

### INSTITUTE OF TECHNOLOGY

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

Included in the curriculum of the College of Engineering and Architecture will be courses in architecture, freehand drawing, painting and modeling, aeronautical, civil, electrical and mechanical engineering, drawing and descriptive geometry, geology, mathematics and mechanics. In the School of Chemistry, inorganic chemistry, analytical chemistry, organic chemistry, physical chemistry, and chemical engineering will be offered again this summer. Sufficient graduate courses in chemistry are now offered in the Summer Session so that students may acquire a Master's degree in this field by attending in the summer only. Students entering the

Institute of Technology with a deficiency in higher algebra (Mathematics and Mechanics 9) or solid geometry (Drawing 10) have an opportunity to remove this deficiency during the Summer Session preceding their entrance into the University in the fall.

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

The College of Agriculture, Forestry, and Home Economics offers a limited number of courses to college undergraduates interested in these fields. It offers a larger number of courses from most of the agricultural divisions for graduate students. For high school teachers of agriculture there are opportunities for advanced courses in many of the agricultural fields which are supplementary to the courses offered by the Department of Agricultural Education (see College of Education, page 54). For courses offered at the Biological Station at Lake Itasca see pages 46, 47.

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

**Graduate study**—Opportunity is offered in 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 eleven weeks. In other divisions thesis or course work



Buildings on Agricultural Campus

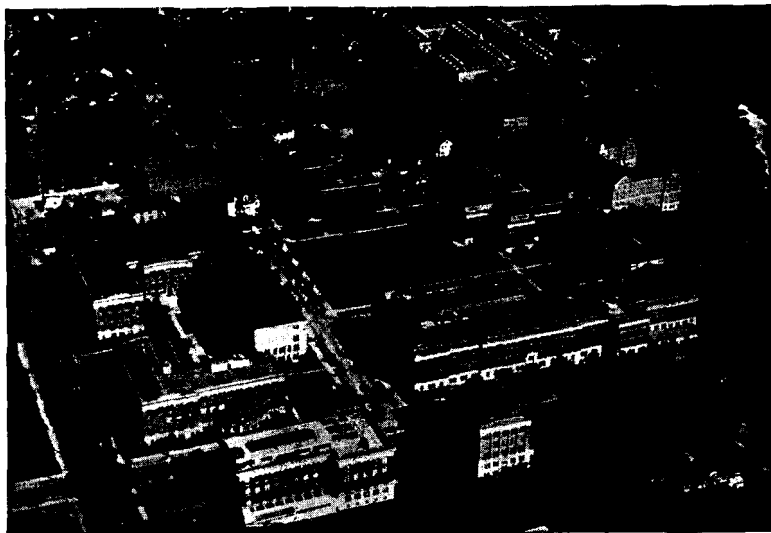
may be pursued only through the first term. Information concerning graduate work during the summer in any division should be obtained from the head of the division. Thesis and problem work are correlated in most divisions with the work in the Experiment Station, and the facilities offered during the summer are in most divisions especially attractive because of the field work possible only at that time. In Home Economics graduate course work is given in the first term only. Home Economics students are able to take courses in certain related fields in other departments.

### MEDICAL SCHOOL

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

The Summer Session in the Medical School begins July 1. The two terms of the Summer Session make up a regular quarter of instruction in the Medical School with required attendance of all medical students. Where facilities permit, special Summer Session students may be admitted to certain of the classes in the Medical School as well as to special elective courses and graduate courses. Arrangements are to be made through individual departments.

Training programs for the following groups of professional health workers are offered under the Medical School: physicians, nurses,



Air View of Medical Group, Minneapolis Campus

medical and X-ray technologists, medical officers of health, public health nurses, and public health engineers. Courses in all of these fields are offered during the Summer Session. For more detailed information regarding courses, fees, etc., consult the regular Bulletin of the Summer Session.

#### SCHOOL OF NURSING

The School of Nursing offers undergraduate courses leading to the degrees of bachelor of science and graduate in nursing. During the Summer Session it will also offer courses in ward administration, personnel work, clinical instruction, and fundamentals of administration in schools of nursing.

#### SCHOOL OF PUBLIC HEALTH

During the 1946 Summer Session the School of Public Health will offer a broad program of study for professional personnel at both the undergraduate and graduate levels extending through both terms of the Summer Session.

Courses will be available for public health engineers, public health nurses, health educators or other professional personnel who are studying toward a special professional degree in public health work. Public health nurses engaged in or preparing for supervisory work, as well as those who are seeking introduction to the field, will find courses to meet their needs. The basic courses for public health nurses again will be divided between the two summer terms.

A two-week intensive course in Problems of Administration in Public Health Nursing will be offered during the first term. This course has been planned for directors or supervisors of nursing services or for experienced public health nurses who are carrying similar administrative responsibilities. Consideration will be given to problems of administrative relationships, program planning, budgeting and cost accounting, and personnel practices.

#### MEDICAL TECHNOLOGY AND X-RAY TECHNOLOGY

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

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

#### PHYSICAL THERAPY

The twelve-month course for physical therapy technicians leads to a certificate in physical therapy. Several of the courses in this curriculum are offered in the Summer Session. For information rela-



tive to admission requirements, programs, etc., write to the Physical Therapy Office, W-300, University Hospitals, University of Minnesota, Minneapolis 14.

### SCHOOL OF DENTISTRY

The School of Dentistry will discontinue its regular accelerated schedule in the summer of 1946. Fall quarter freshman dental subjects will be offered, however, for those freshman dental students who started their freshman work with the winter quarter, 1946. The clinic will be open to those who wish instruction in the clinical phases of dentistry.

The following regular freshman fall quarter subjects will be offered:

59su	Gross Anatomy	50su	Oral Anatomy
61su	Histology and Embryology	50su	Prosthetic Dentistry

### COLLEGE OF PHARMACY

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

Those students who are desirous of completing some or all of the academic subjects included in the first year of the pharmacy curriculum, (q.v.), may do so by registering for such courses during the Summer Session.

Those who wish to engage in study at the graduate level with a major in Pharmaceutical Chemistry or Pharmacognosy during the summer should communicate with the Office of the Dean of the Graduate School, University of Minnesota, Minneapolis 14. Research laboratories will be open during the summer for research work. The dean of the College of Pharmacy will be glad to confer with any prospective pharmacy student or with high school principals.

### COLLEGE OF EDUCATION

The staff of the College of Education for the 1946 Summer Session will include outstanding visiting lecturers in administration, philosophy of education, elementary education, and other fields. The regular graduate faculty group strengthened by the return of staff members who have been away in recent years for military service, also will be in residence. The current problems of American education are critical, and the full energy of the College of Education will be turned toward the training of better teachers and other school workers, in-service education of present workers through graduate



Burton Hall

and undergraduate offerings, and the development of educational specialists and leaders through the graduate program. In planning programs for the 1946 Summer Session, teachers should take full advantage of the outstanding special offering of the University on American life and institutions. Courses on current problems in American life will be offered in many departments, including those of the College of Education.

Several special workshops are tentatively planned for the 1946 terms. These will include a workshop on problems of childhood education, listed under the College of Education and also under the Institute of Child Welfare; a workshop on home economics education problems, scheduled for the second summer term; and another session of the annually offered workshop in higher education and teacher training problems. Discussions are under way for additional workshops on guidance problems, rural education, intercultural education, and music education. Anyone interested should address inquiries to the Office of the Dean, College of Education, University of Minnesota, Minneapolis 14. In addition to these workshops, the College of Education will sponsor a special short term institute for superintendents. Leaders in educational administration from other institutions, as well as from our own, will be scheduled for this institute, for which a special announcement will be issued later.

The regular undergraduate program of the College of Education will be in operation during the summer term so that teachers in

service completing degree requirements, as well as returned veterans who wish to attend through the summer, may find the courses they need. As part of this program, the offerings of the second term have been strengthened through the addition of work in Art Education, Physical Education, Industrial Education, and other fields.

An extensive program of graduate work in all fields of education will be offered during the summer, as well as the special programs for the master of education degree administered by the College of Education. Graduate students planning to work toward the M.A. and Ph.D. degrees with a major in education should follow the procedure outlined by the Graduate School for admission and program planning.

Present and prospective education workers reading this preliminary announcement are urgently requested to send in to the College of Education any questions they may have about the 1946 Summer Session offerings or suggestions of ways in which we may better serve the needs of the schools. Other plans for courses and workshops not yet definitely determined may be included in the final announcement to be issued later in the year.

### **PHYSICAL EDUCATION FOR MEN**

A full program of professional courses will be offered on the undergraduate and professional levels leading to the bachelor of science or the master of education degrees. It will also be possible to complete courses that will satisfy the Minnesota requirement for part-time teaching. Students who contemplate taking courses for the master of education degree should contact Mr. C. L. Nordly, Cooke Hall, University of Minnesota, Minneapolis 14.

### **PHYSICAL EDUCATION FOR WOMEN**

#### **INSTITUTE ON THE "POSTWAR PROGRAM FOR HIGH SCHOOL GIRLS"**

#### **Theme: Fitness for better living in America**

A two-day institute is to be held on the emerging problems of today in health, physical education, and recreation. The focus will be upon the girls' program in the average high school. The problems of expansion from two or three days to five, the interrelationship of health, physical education, and recreational aspects of the program, as well as other problems suggested by the conferees will be treated by an expert conference personnel. The institute will be held at the Center for Continuation Study on June 21 and 22 and may be attended either in connection with regular Summer Session work or as a separate feature.

## PROFESSIONAL PROGRAMS FOR TEACHERS

1. **The master of education program**—The degree may be secured by pursuing a five-year curriculum or by taking 45 credits in courses numbered over 100 in addition to possessing the equivalent of a four-year major. The program for the master of education degree is set up for each individual in terms of background and professional interests.

2. **The four-year major in physical education**—A number of courses required in the undergraduate major are available this summer; they lead to the bachelor of science in education.

3. **The undergraduate minor in physical education**—Several courses required in the undergraduate minor are available this summer. Those who have met the requirements for the nine-quarter-hour endorsement have thereby met 9 of the 26 credits required for the minor in this field.

4. **The nine-quarter-hour endorsement**—This endorsement is required by the State Department of Education for those who wish to teach physical education part time in Minnesota. It is possible to meet this endorsement entirely in the first term.

5. **Minor in school health education**—Several courses required for this minor are available this summer.



Modern Dance

### COLLEGE PHYSICAL EDUCATION REQUIREMENT

An opportunity is given for choice among several courses that will satisfy the physical education requirement in any of the university colleges.

Questions concerning any of the above offerings should be addressed to the Department of Physical Education for Women, University of Minnesota, Minneapolis 14, Minnesota.

## SCHOOL OF BUSINESS ADMINISTRATION

Reconversion problems of peacetime employment have emphasized the need for more highly trained personnel in business administration. The School of Business Administration offers a broad foundation in the several management functions in a business organization, together with specialized courses which develop the individual's special interest or objective. The location of the University in the leading metropolitan area of the Northwest presents opportunities for close and convenient observation of business in action.

Admission to the School of Business Administration follows completion of a two-year pre-business course in the College of Science, Literature, and the Arts, the College of Agriculture, Forestry, and Home Economics, or the Institute of Technology. Special provision has been made for veterans of World War II for modifying the requirements for admission where it is in the best interests of the student. For details of the requirements and their modification, the prospective student is invited to consult the bulletin of the School of Business Administration, or write to the dean.

High school graduates who have reached the age of twenty-four and can furnish evidence to the effect that they have had business experience in an executive capacity may be admitted as special students. World War veterans aged twenty-one or over, with special objectives in business, may also be admitted as special students.

## INSTITUTE OF CHILD WELFARE

There is a continuing need for trained people in the fields of child development, early childhood education, and parent education. The summer courses offered by the Institute of Child Welfare are designed both to prepare workers in these fields and to refresh the training of those with previous experience.

In addition to the regular program of courses for undergraduate and graduate students, two workshops in Childhood Education and Child Development will also be offered in the first term. The Nursery School and Kindergarten will be in operation during the first term in order to provide observation and directed teaching facilities.

### WORKSHOPS IN CHILDHOOD EDUCATION AND CHILD DEVELOPMENT

Two workshops carrying nine credits each will be offered in the first term of the 1946 Summer Session. The first one, Ed.T. 78 will be open to teachers without a degree, and the second, C.W. 186 (Ed.C.I. 131) to those who already have a Bachelor's degree. In each workshop the students will be required to attend one lecture course for the equivalent of three credits. For the remaining six credits the students will be divided into special interest groups, but also will



Children in the Nursery School, Child Welfare Institute

work as a whole. Opportunities for independent study, conferences, observations, and group work under supervision will be provided.

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

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

### LIBRARY INSTRUCTION

Beginning with the 1946 Summer Session, the Division of Library Instruction is offering the first of a series of integrated eight-week terms, which will allow a student to complete the full library course in four summers in place of the five or more required formerly. During these eight weeks, basic courses for beginners and advanced courses for students who have already partially completed the program will be offered jointly. The same procedure will be followed in succeeding summers.

Students training for librarianship as a career will find it possible to take:

1. Courses enabling them to take positions as teacher-librarians (i.e., part-time teaching, part-time library work) in schools.
2. Courses leading to the degree of bachelor of science (B.S.) or of bachelor of science in library science (B.S. in L.S.), and preparing them for full-time library positions in school, public, college and university libraries.

Juniors, seniors, or postgraduate students may enroll for courses in the Division of Library Instruction, either in the College of Science, Literature, and the Arts, in the University College, or in the College of Education, and should meet the admission requirements for the respective college in which they enroll. Under certain conditions, students not meeting the admission requirements may enroll as special students, upon the recommendation of the Director of the Division of Library Instruction.

Forty-five quarter credits constitute a major in the Division of Library Instruction, all of which must be taken in residence. A student becomes eligible for either a bachelor of science degree or a degree of bachelor of science in library science at the completion of these forty-five credits, under the conditions as set forth in the Announcement for the Years 1945-47 of the Division of Library Instruction, published July 10, 1945.

## **BIOLOGICAL STATION OF THE UNIVERSITY OF MINNESOTA**

The Biological Station at Itasca Park will offer an extensive curriculum in the several fields of biology during the second term of the Summer Session which begins on July 30, 1946. This attractive station is well equipped with the necessary laboratories for instruction and adequate living accommodations for students. The courses offered conform to the usual university standards at both the undergraduate and graduate levels. There are unusual opportunities for independent graduate work.

Courses in botany, wildlife, vertebrate zoology, entomology, mycology, parasitology, and limnology will be offered. The enrolment is limited to one hundred students. More detailed information will be furnished in a special bulletin which will be issued in the winter quarter. Application for registration should be filed with the Director of the Summer Session, University of Minnesota, Minneapolis 14, not later than July 15, 1946. Early registration is recommended.



Scene Near Itasca Park

## **A TRAINING PROGRAM IN VOCATIONAL DIAGNOSIS AND COUNSELING FOR REHABILITATION WORKERS**

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



will be worked out by the student and his adviser, with the student's needs and future plans being the point of reference. Summer Session students interested in rehabilitation counseling should write for the bulletin, "Vocational Diagnosis and Counseling for Rehabilitation Workers," or to Mr. H. P. Longstaff, Co-ordinator, 112 Psychology Building, University of Minnesota, Minneapolis 14, Minnesota.

## THE CREATIVE ARTS

New plans for the development of the creative arts bring to the University of Minnesota a number of outstanding artists for the Summer Session of 1946. A nationally known American painter will teach classes in oil and watercolor painting and will be available to advanced students for individual criticism and advice. John Rood will offer again courses in wood sculpture as well as ceramics and basic design in handcrafts. Hudson Roysher, well-known silver-smith and West Coast industrial designer in San Francisco, will offer special courses in jewelry and metal work as well as basic courses in commercial and industrial art. Mr. Roysher will be here on leave from the Chouinard School of Art in Los Angeles where he is chairman of the Department of Industrial Design.

In addition to these special offerings, the University presents a rich and varied program of art studies through its special departments.

The department of Art Education offers courses in design and studio practice with particular emphasis on the development of specific teaching skills as well as a wider cultural outlook. Mr. Gaynes' beginning and advanced courses in Art for Elementary Teachers and Miss Lien's Intercultural Education through Art are especially designed for this purpose.

Regular courses in architectural design, freehand drawing, painting, and modeling are available in the School of Architecture.

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

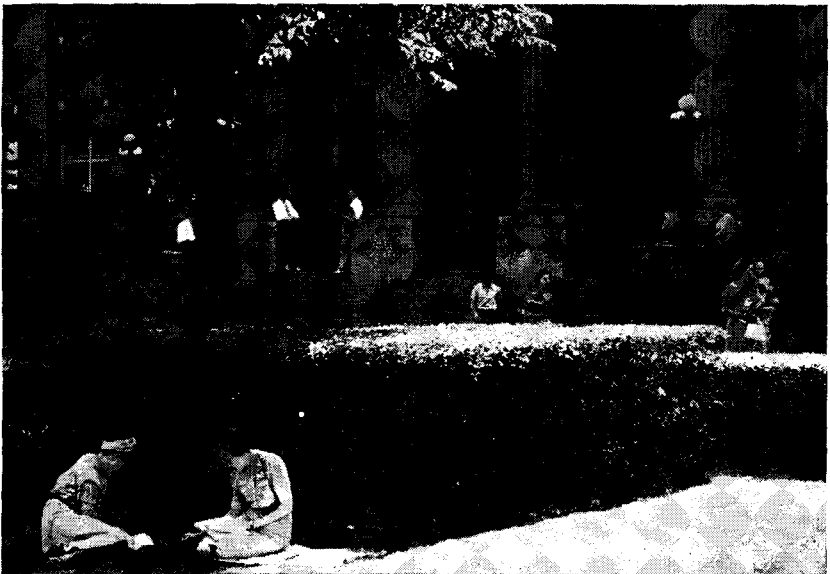
In the Division of Home Economics, courses in related art are planned to integrate art with home economics training, and to develop discriminating taste in connection with the home and family life.

Introductory courses in art appreciation and the history of art are given by the Department of Fine Arts. These aim to provide a general cultural and historical background both for professional students and teachers of art as well as those interested primarily in history and the humanities. Specialized studies in American Re-

gional Art and Great Masters of the Renaissance are available to students of more advanced standing.

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

Special curricula for professional training in the arts are laid out in the College of Science, Literature, and the Arts through the Department of Fine Arts. These programs include preliminary work in occupational therapy offered in conjunction with the Medical School, a four-year course in commercial art, professional studio work, as well as graduate work in historical and creative research. Further information on these curricula may be had by writing directly to the Director of the Summer Session or to the Department of Fine Arts, University of Minnesota, Minneapolis 14, Minnesota.



Campus Scene

## Program

The following list of courses will be revised and amplified in the Complete Bulletin to meet the developments and changing needs of the postwar reconstruction period. This program is subject to change without notice.

### EXPLANATION OF COURSE NUMBERS

Courses 1 to 49 carry credit in the Junior College.  
 Courses 50 to 99 carry credit in the Senior College.  
 Courses 100 to 199 carry Senior College credit and graduate credit for those registered in the Graduate School.  
 Courses 200 and above are open only to those registered in the Graduate School.

## COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

### AMERICAN STUDIES

#### FIRST TERM

10su	Humanities in the United States I (see Humanities 10).....	Mr. McDowell
120su	The Influence of Europe on American Culture I .....	Mr. Bestor
122su	The Negro in American Literature (see English 122) .....	Ar.
201su	Major Interpretations of American Civilization .....	Mr. Bestor

#### SECOND TERM

11su	Humanities in the United States II (see Humanities 11) .....	Miss Turpie
132su	The Cowboy in History and Literature (see English 132).....	Mr. Dobie
145su	The American Character .....	Mr. Brogan

### ANTHROPOLOGY

#### FIRST TERM

40su	Introduction to Anthropology .....	Mr. Cline
118su	Indian Civilizations of Mexico and Peru .....	Mr. Cline
122su	Problems in Anthropology .....	Mr. Cline

### ASTRONOMY

#### FIRST TERM

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

#### SECOND TERM

20su	Astronomy for Navigation .....	Mr. Luyten
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### BOTANY

#### FIRST TERM

4su	General Botany .....	Mr. Abbe
197su	Problems .....	Ar.

#### SECOND TERM

5su	General Botany .....	Ar.
198su	Problems .....	Ar.

### CLASSICS

#### FIRST TERM

42su	Greek Mythology .....	Mr. Heller
171su	Independent Reading Courses (in Latin and Greek).....	Mr. Heller

## ECONOMICS

For courses in Economics, see School of Business Administration offerings listed on page 61.

### ENGLISH

#### FIRST TERM

##### *Courses in Literature*

22su	Introduction to Literature .....	Mr. Hessler
37su	Twentieth Century Literature .....	Ar.
55su	Shakespeare .....	Miss Christie
56su	Shakespeare .....	Ar.
62su	Milton .....	Mr. Dunn
74su	American Literature .....	Ar.
75su	Chaucer .....	Mr. Clark
100su	Old English .....	Mr. Clark
109su	Romantic Poets .....	Ar.
111su	Seventeenth Century Prose .....	Mr. Dunn
122su	The Negro in American Literature .....	Ar.
126su	Restoration and Eighteenth Century Drama .....	Mr. Hillhouse
128su	Contemporary American Literature .....	Mr. McDowell and others
129su	Modern Drama .....	Mr. Hillhouse
130su	The Emergence of Realism in American Literature .....	Mr. Kazin
136su	Advanced Shakespeare .....	Ar.
165su	Historical Study of Modern English .....	Mr. Allen
174su	American English .....	Mr. Allen
267su	Herman Melville and the Modern World .....	Mr. Kazin

##### *Courses in Composition*

4su	Freshman Composition, Sec. 1, 2, 3, 4 .....	Ar.
5su	Freshman Composition, Sec. 1, 2 .....	Ar.
6su	Freshman Composition, Sec. 1 .....	Ar.
27su	Advanced Writing .....	Ar.
28su	Advanced Writing .....	Ar.

#### SECOND TERM

##### *Courses in Literature*

56su	Shakespeare .....	Ar.
73su	American Literature .....	Miss Turpie
107su	Eighteenth Century Prose .....	Ar.
110su	Romantic Poets .....	Miss Jackson
131su	Literature of the Southwest .....	Mr. Dobie
132su	(See American Studies 132) .....	Mr. Dobie
151su	Recent Poetry .....	Miss Jackson

##### *Courses in Composition*

4su	Freshman Composition .....	Ar.
5su	Freshman Composition, Sec. 1, 2 .....	Ar.
6su	Freshman Composition, Sec. 1 .....	Ar.
	Sec. 2 .....	Mrs. Phelan
28su	Advanced Writing .....	Mrs. Phelan

### ENGLISH FOR THE INSTITUTE OF TECHNOLOGY

#### SUMMER QUARTER

4su	Composition (4 sections) .....	Mr. Guthrie and others
5su	Composition .....	Ar.
6su	Composition .....	Ar.

## FINE ARTS

### FIRST TERM

1su	Introduction to Modern Art .....	Mr. Schmeckebier
109su	Regional Art in America .....	Mr. Schmeckebier

### SECOND TERM

3su	Introduction to Renaissance and Baroque Art .....	Mr. Schmeckebier
155su	Great Masters of the Renaissance .....	Mr. Schmeckebier

## GENERAL STUDIES

### FIRST TERM

#### How to Study

1su	How to Study .....	Ar.
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#### Humanities

4su	Humanities in the Modern World .....	Mr. Castell, Mr. McClosky
10su	Humanities in the United States .....	Mr. McDowell
100su	Humanities Proseminar .....	Mr. Castell

#### Social Science

1su	Introduction to Social Science .....	Mr. Lindblom
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### SECOND TERM

#### Humanities

4su	Humanities in the Modern World .....	Miss Shaw
11su	Humanities in the United States .....	Miss Turpie

#### Social Science

2su	Introduction to Social Science .....	Mr. Sewrey
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## GEOGRAPHY

### FIRST TERM

53su	Historical Geography .....	Mr. Brown
110su	Geography of South America .....	Mr. Brown

### SECOND TERM

11su	Human Geography .....	Mr. Davis
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## GEOLOGY AND MINERALOGY

### FIRST TERM

1su	General Geology .....	Mr. Thiel
100su	Field Work (Northern Minnesota) .....	Mr. Gruner
150su	Field Geology (Black Hills) .....	Mr. Schwartz
170su	Geologic Problems .....	Mr. Thiel

## GERMAN

### FIRST TERM

1su	Beginning A .....	Mr. Genschmer
3su	Intermediate German .....	Mr. Holske
4su	Intermediate German .....	Mr. Holske
130su	The Age of Luther .....	Mr. Genschmer
143su	Schiller: Poetry and Drama .....	Mr. Holske

### SECOND TERM

2su	Beginning B .....	Mr. Downs
3su	Intermediate German .....	Mr. Pfeiffer
4su	Intermediate German .....	Mr. Pfeiffer
259su	Direction of Graduate Work .....	Mr. Pfeiffer

## HISTORY

### FIRST TERM

1su	Civilization of the Modern World (Part I) .....	Mr. Wolf
3su	Civilization of the Modern World (Part III) .....	Ar.
20su	American History (Part I) .....	Ar.
22su	American History (Part III) .....	Mr. Osgood
64su	European Overseas Expansion (Modern Imperialism) .....	Mr. Willson
67su	Twentieth Century Europe .....	Mr. Wolf
73su	English History (Tudor-Stuart Periods) .....	Mr. Willson
79su	World War II: Foundations of National Power .....	Mr. Loehr
83su	American Economic History .....	Mr. Loehr
90su	The West in American History .....	Mr. Osgood
94su	American Diplomatic History .....	Mrs. Tyler
95casu	Latin-American History .....	Mrs. Tyler
109su	European Expansion .....	Mr. Willson
109su	Twentieth Century Europe .....	Mr. Wolf
110su	English History .....	Mr. Willson
122su	The West in American History .....	Mr. Osgood
126su	American Diplomatic History .....	Mrs. Tyler
136su	Latin-American History .....	Mrs. Tyler
149su	World War II .....	Mr. Loehr
190su	Cultural Heritage of Colonial America .....	Mr. Wright

### SECOND TERM

2su	Civilization of the Modern World (Part II) .....	Ar.
21su	American History (Part II) .....	Mr. Jackson
55su	Medieval European History (Part III) .....	Mr. Krey
55casu	The Renaissance and Reformation (Part III) .....	Mr. Krey
58casu	Russian History: Late Empire and Soviet Union .....	Mr. Steefel
59su	Continental Europe: Reconstruction after Napoleonic Wars .....	Mr. Steefel
86su	Social and Intellectual Development of America .....	Ar.
91su	The Trans-Mississippi West .....	Mr. Jackson
106su	Medieval History .....	Mr. Krey
106su	The Renaissance and Reformation .....	Mr. Krey
109su	Russian History .....	Mr. Steefel
109su	Continental Europe .....	Mr. Steefel
124su	The Trans-Mississippi West .....	Mr. Jackson
131su	Social and Intellectual Development of America .....	Ar.
142su	American Folklore .....	Mr. Jordan
191su	Readings in American Folkways .....	Mr. Jordan

### HOW TO STUDY

See page 34.

### HUMANITIES

See page 34.

### JOURNALISM

#### FIRST TERM

13su	Introduction to Reporting .....	Mr. Charnley
51su	News Editing .....	Mr. Emery
55su	Advertising and Newspaper Typography .....	Mr. Barnhart
73su	Magazine Writing and Editing .....	Mr. Charnley
82su	Supervision of School Publications .....	Mr. Barnhart
113su	The Press and Foreign Affairs .....	Mr. Nafziger
117su	The Press and the Public .....	Mr. Wiggins
210su	Research in Newspaper Problems .....	Mr. Nafziger

SECOND TERM

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

LINGUISTICS AND COMPARATIVE PHILOLOGY

See Russian, page 39.

MATHEMATICS

FIRST TERM

1su	Higher Algebra .....	Miss Hepworth, Miss Owchar
6su	Trigonometry .....	Ar.
7su	College Algebra .....	Mr. Donsker
15su	Elementary Mathematical Analysis I .....	Miss Gibbens
30su	Analytic Geometry .....	Mr. Campaigne, Ar.
50su	Calculus I—Differential Calculus .....	Miss Carlson, Mr. Donsker
106su	Differential Equations .....	Mr. Campaigne
110su	Tutorial Course in Advanced Mathematics .....	Mr. Cameron
122su	Theory of Probability .....	Mr. Cameron
124su	Modern Analytic Geometry .....	Miss Carlson

SECOND TERM

1su	Higher Algebra .....	Miss Hepworth
6su	Trigonometry .....	Miss Owchar
7su	College Algebra .....	Mr. Donsker
16su	Elementary Mathematical Analysis II .....	Mr. Olmsted, Miss Hepworth
51su	Calculus II—Integral Calculus .....	Mr. Brink, Mr. Donsker
110su	Tutorial Course in Advanced Mathematics .....	Mr. Brink
170su	Introduction to Modern Algebra .....	Mr. Olmsted

MUSIC

FIRST TERM

1su	Ear Training .....	Miss Kendall
1Tsu	Music Theory .....	Mr. Oberg
4Tsu	Music Theory .....	Ar.
11su	Piano .....	Miss Kendall, Mr. Stevens
12su	Voice .....	Miss Hull, Mr. Schirmer
13su	Violin .....	Mr. Peterson
14-26su	Instruments of the Orchestra .....	Ar.
27su	Organ .....	Mr. Jennings
31su	Music Appreciation .....	Mr. Oberg
35su	History of Music .....	Mr. Ferguson
45su	University Chorus .....	Ar.
46su	Gregorian Chant .....	Rev. Keller
76su	Form and Analysis .....	Mr. Stephens
77-78-		
79su	Composition-Orchestration .....	Mr. Ferguson
83-84-		
85su	Advanced Composition .....	Mr. Ferguson
101su	American Music .....	Ar.
200-201-		
202su	Basis of Musical Expression .....	Mr. Ferguson

205-206- 207su	Composition in Larger Forms .....	Mr. Ferguson
209-210- 211su	Advanced Topics in Musical Analysis .....	Mr. Oberg

#### SECOND TERM

2Tsu	Music Theory .....	Ar.
5Tsu	Music Theory .....	Ar.
11su	Piano .....	Ar.
12su	Voice .....	Ar.
13su	Violin .....	Mr. Peterson
14-26su	Instruments of the Orchestra .....	Ar.
27su	Organ .....	Mr. Berryman
32su	Music Appreciation .....	Ar.

#### PHILOSOPHY

##### FIRST TERM

1su	Problems (Sec. 1) .....	Mr. Oliver
2su	Logic .....	Mr. Oliver
63su	Principles of Mature Thinking .....	Mr. Feigl
153su	Philosophy of Science .....	Mr. Feigl
180Asu	American Religious Traditions .....	Mr. Schneider
191su	Seminar .....	Mr. Feigl
191Asu	Seminar (Research Problems in American Philosophy since William James) .....	Mr. Schneider

##### SECOND TERM

1su	Problems of Philosophy .....	Mr. Conger
3su	Ethics .....	Mr. Everett
20su	Social Philosophy .....	Mr. Everett
70su	Modern Philosophies of Social Reform .....	Miss Shaw
123su	Comparative Philosophy .....	Mr. Conger
192su	Seminar .....	Mr. Conger, Mr. Everett, Miss Shaw

#### PHYSICS

##### FIRST TERM

1-2-3su	Introduction to Physical Science, Part I .....	Mr. Wall
1α-2α- 3αsu	Introduction to Physical Science, Part I (with laboratory) .....	Mr. Wall
4su	General Physics, Part I (Mechanics and Heat) .....	Mr. Williams
5su	General Physics, Part I (Sound and Light) .....	Mr. Valasek
7su	General Physics, Part I (Mechanics and Heat) .....	Mr. Williams
9su	General Physics, Part I (Sound and Light) .....	Mr. Valasek
101su	Theoretical Physics .....	Ar.
109su	Modern Physics .....	Mr. Wall
134su	Experimental Optics .....	Mr. Valasek
136su	Spectrum Analysis .....	Mr. Valasek

##### SECOND TERM

1-2-3su	Introduction to Physical Science, Part II .....	Mr. Nier
1α-2α- 3αsu	Introduction to Physical Science, Part II (with laboratory) .....	Mr. Nier
4su	General Physics, Part II (Mechanics and Heat) .....	Ar.
5su	General Physics, Part II (Sound and Light) .....	Ar.
7su	General Physics, Part II (Mechanics and Heat) .....	Ar.
9su	General Physics, Part II (Sound and Light) .....	Ar.
104su	Intermediate Physics (Electricity) .....	Mr. Nier
181su	Atomistics .....	Ar.



## POLITICAL SCIENCE

### FIRST TERM

1su	American Government and Politics .....	Mr. Weidner
15su	Elements of Political Science .....	Mr. Weidner
25su	World Politics .....	Mr. Mills
100su	The Constitution and Social Change .....	Mr. Johnson
121su	Municipal Administration .....	Mr. Ludwig
128su	Community Planning and Administration .....	Mr. Ludwig
134su	State Government and Administration in Minnesota .....	Mr. Short
137su	American Political Parties .....	Mr. Johnson
160su	American Political Thought .....	Mr. McClosky
198su	Contemporary World Problems .....	Mr. Mills
201su	Seminar in American Government, Politics, and Administration .....	Mr. Short, Mr. Johnson, Mr. Ludwig
298su	Seminar in International Relations .....	Mr. Mills

### SECOND TERM

2su	American Government and Politics .....	Mr. Kirkpatrick
7su	Comparative European Government .....	Mr. Hawkins
143su	The Reconstruction of Western European Democracy .....	Mr. Brogan
145su	The American Character .....	Mr. Brogan
161su	Problems of Democracy .....	Mr. Kirkpatrick
162su	Recent Political Thought .....	Mr. Hawkins
185su	Problems of International Reconstruction .....	Mr. Levi
192su	International Relations in the Far East .....	Mr. Levi
202su	Seminar in American Government, Politics, and Administration .....	Mr. Kirkpatrick
298su	Seminar in International Relations .....	Mr. Levi

## PSYCHOLOGY

### FIRST TERM

1su	General Psychology .....	Ar.
1-2su†	General Psychology .....	Ar.
4-5su	Introductory Laboratory Psychology .....	Mr. Herbert
111su	Frontiers of Psychology .....	Mr. Heron
124su	Psychology of Learning .....	Mr. Heron
125-126su	Psychology of Individual Differences .....	Mr. Paterson
144-145su	Abnormal Psychology .....	Mr. Bird

### SECOND TERM

2su	General Psychology .....	Ar.
1-2su†	General Psychology .....	Mr. Tinker
130su	Vocational Psychology .....	Mr. Longstaff
160su	Psychology in Personnel Work .....	Mr. Longstaff
171-172su	Introduction to Clinical Psychology .....	Mr. Meehl

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

## ROMANCE LANGUAGES

### FIRST TERM

#### French

1su	Beginning French .....	Mr. Clefton
3su	Intermediate French .....	Mr. Barton
55su	Practical French Conversation .....	Mr. Fermaud
75su† or		
190su†	French Civilization and Culture .....	Mr. Fermaud
132su	Baudelaire, Verlaine, Rimbaud .....	Mr. Clefton
156su	Realistic Novel .....	Mr. Barton
158su	Contemporary Novel I: Psychological Novel .....	Mr. Fermaud

#### Spanish

1su	Beginning Spanish .....	Ar.
3su	Intermediate Spanish .....	Ar.
4su	Intermediate Spanish .....	Mr. Grismer
55su	Spanish Composition and Conversation .....	Ar.
70su	Latin-American Culture .....	Mr. Terán
76su	Survey of Spanish-American Literature: Contemporary Period .....	Mr. Terán
130su	Cervantes .....	Mr. Grismer
142su	Contemporary Spanish-American Novel .....	Mr. Terán

### SECOND TERM

#### French

1su	Beginning French .....	Ar.
54su	Practical French Conversation .....	Ar.

#### Spanish

1su	Beginning Spanish .....	Ar.
2su	Beginning Spanish .....	Ar.
4su	Intermediate Spanish .....	Ar.
111su	Novel of the Nineteenth Century .....	Mr. Pattison
174su	Drama of the Twentieth Century .....	Mr. Pattison

## RUSSIAN

### FIRST TERM

1su	Beginning Russian .....	Mr. Reichardt
30su	Reading of Russian Literature .....	Mr. Reichardt
102su	Dostoevski and Tolstoy .....	Mr. Reichardt

### SECOND TERM

2su	Intermediate Russian .....	Miss Niemi
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† French 75su—Graduate students who wish to take this course for credit will register for the higher of the two numbers listed and arrange with the instructor for additional work in the subject.

## SOCIAL SCIENCE

See page 34.

### SOCIOLOGY AND SOCIAL WORK

#### FIRST TERM

##### Sociology

1su	Introduction to Sociology.....	Mr. Schneider, Mr. Kyllonen
2su	Individual and Minority Group Adjustment.....	Mr. Kyllonen
100su	Social Psychology.....	Mr. Kirkpatrick
119su	The Family.....	Mr. Kirkpatrick
145su	Theories of Social Reconstruction.....	Mr. Schneider
200su	Seminar in Sociology.....	Staff

##### Social Work

129su	Principles of Social Case Work.....	Mrs. Fenlason
170su	Introductory Psychiatry.....	Dr. Hinckley
171su	Descriptive Neuropsychiatry.....	Dr. Baker
180su	Field Work.....	Mrs. Doyle
218su	Advanced Family Case Work.....	Mrs. Fenlason
240su	General Seminar in Social Work.....	Staff

#### SECOND TERM

##### Sociology

1su	Introduction to Sociology.....	Mr. Monachesi
49su	Social Problems.....	Mr. Sletto
132su	Juvenile Courts and Probation.....	Mr. Monachesi
160su	Population Problems.....	Mr. Sletto
200su	Seminar in Sociology.....	Staff

##### Social Work

130su	Principles of Social Case Work.....	Mrs. Fenlason
134su	The Child and the State.....	Mr. Guilford
176su	Dynamics of Human Behavior Based on Psycho-analytic Theory.....	Dr. Lippman
181su	Field Work.....	Mrs. Fenlason
240su	General Seminar in Social Work.....	Staff

#### SPEECH

##### FIRST TERM

	Speech Clinic.....	Mr. Bryngelson and staff
1-2-3su	Fundamentals of Speech.....	Mr. Gilkinson and staff
31su	Introduction to the Theater.....	Mr. Brink
32su	Beginning Acting.....	Ar.
Ed.C.I.		
59su	Speech in Elementary Grades.....	Mrs. Chapman
61su	Personality Development through Speech.....	Mr. Bryngelson
65su	Radio Speech.....	Mr. Ziebarth
66su	Radio Drama.....	Mr. Dusenbury
73su	Play Production in the Secondary School.....	Ar.
81su	Interpretative Reading.....	Mr. Rarig
102su	Argumentation and Persuasion.....	Mr. Howell
105su	Theory of Reading and Acting.....	Mr. Rarig
112su	Stage Direction.....	Mr. Whiting
121su	Advanced Speech Problems.....	Mr. Gilkinson

141su	Voice Science .....	Mr. Black
151su	(Ed.C.I.	
140)	Teaching of Speech .....	Mr. Gilkinson
163su	Speech Pathology .....	Mr. Bryngelson
172su	History of the Theater .....	Mr. Whiting
174su	Clinical Methods in Speech Pathology .....	Mr. Bryngelson
181su	Readings in Speech .....	Staff
207su	Seminar in Rhetoric and Persuasion .....	Mr. Rarig
231su	Seminar in Advanced Speech Problems .....	Mr. Gilkinson

SECOND TERM

1-2-3su	Fundamentals of Speech .....	Mr. Gilkinson and others
33su	Beginning Acting .....	Mr. Whiting
65su	Radio Speech .....	Mr. Ziebarth
67su	Phonetics .....	Mr. Dusenbury
81su	Interpretative Reading .....	Mr. Dusenbury
111su	Stage Direction .....	Mr. Whiting
181su	Readings in Speech .....	Staff

ZOOLOGY

FIRST TERM

1su	General Zoology .....	Mr. Magnus Olson
21su	Histology .....	Mr. Ringoen
51su	Parasitology .....	Ar.
197su	Problems .....	Ar.

SECOND TERM

2su	General Zoology .....	Mr. Osterud
198su	Problems .....	Ar.

INSTITUTE OF TECHNOLOGY  
COLLEGE OF ENGINEERING AND ARCHITECTURE

AERONAUTICAL ENGINEERING

SUMMER QUARTER

1su	Aeronautics .....	Ar.
3su	Aeronautics .....	Ar.
100su	Aerodynamics .....	Ar.

SCHOOL OF ARCHITECTURE

SUMMER QUARTER

4-5-6su	Graphic Representation .....	Mr. Heath
AD-1su	Architectural Design .....	Mr. Cerny, Mr. Robert Jones
AD-IIsu	Architectural Design .....	Mr. Heath
AD-IIIsu	Architectural Design .....	Ar.
AD-IVsu	Architectural Design .....	Ar.
DP-1su	Drawing and Painting .....	Mr. Burton
DP-IIsu	Drawing and Painting .....	Mr. Burton
DP-IIIsu	Drawing and Painting .....	Mr. Burton
DP-IVsu	Drawing and Painting .....	Mr. Burton
DP-Vsu	Drawing and Painting .....	Mr. Burton
M-1su	Modeling .....	Mr. Burton
M-IIsu	Modeling .....	Mr. Burton
M-IIIsu	Modeling .....	Mr. Burton

**CIVIL ENGINEERING**  
**SUMMER QUARTER**

11su	Surveying .....	Mr. Boon
13su	Surveying .....	Mr. Cutler, Mr. Boon
14su	Surveying .....	Mr. Cutler
17su	Surveying .....	Mr. Boon
23su	Summer Camp .....	Mr. Cutler
31-32su	Stresses in Structures .....	Mr. Anderson

**DRAWING AND DESCRIPTIVE GEOMETRY**  
**SUMMER QUARTER**

1su	Engineering Drawing .....	Mr. Myers, Mr. Williams, Mr. Quaid
2su	Engineering Drawing .....	Mr. Bullen
3su	Descriptive Geometry .....	Mr. Eggers
7su	Engineering Drawing (Chemistry and Chemical Engineering) .....	Mr. Palmer
8su	Descriptive Geometry (Chemistry and Chemical Engineering) .....	Mr. Schuck, Mr. Springer
10su	Solid Geometry .....	Mr. Potter
21su	Drafting (Civil Engineering) .....	Mr. French
22su	Structural Detailing .....	Mr. French
23su	Structural Detailing .....	Mr. French
26su	Drafting (Electrical Engineering) .....	Mr. Potter
28su	Drafting (Aeronautical Engineering) .....	Mr. French
29su	Drafting (Aeronautical Engineering) .....	Mr. Potter
34su	Lettering .....	Ar.
70su	Slide Rule .....	Ar.

**FIRST TERM**

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

**SECOND TERM**

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

**ELECTRICAL ENGINEERING**  
**SUMMER QUARTER**

11su	Elements of Electrical Engineering .....	Mr. Caverley
64su	Elements of Communication .....	Mr. Caverley
111su	Junior Electrical Engineering .....	Mr. Caverley
112su	Junior Electrical Engineering Laboratory .....	Mr. Caverley

**MATHEMATICS AND MECHANICS**  
**SUMMER QUARTER**

9su	Higher Algebra .....	Mr. Saunders
11su	College Algebra .....	Mr. McEwen, Mr. McElrath
12su	Trigonometry .....	Mr. Amundson, Mr. Munro

13su	Analytic Geometry .....	Mr. Priester, Mr. Laws
24su	Differential Calculus .....	Mr. Turrittin, Mr. McElrath
25su	Integral Calculus .....	Mr. Siler, Mr. Laws
26su	Statics .....	Mr. Herrick, Mr. Amundson
127su	Dynamics .....	Mr. Wilcox
128su	Strength of Materials .....	Mr. Miller
129su	Hydraulics .....	Mr. Doeringsfeld
141su	Materials Testing Laboratory .....	Mr. Miller
143su	Hydraulics Laboratory .....	Mr. Doeringsfeld
151su	Differential Equations .....	Mr. McEwen

### MECHANICAL ENGINEERING

#### SUMMER QUARTER

5su	Pattern Practice .....	Mr. Johnston
9su	Foundry Practice .....	Mr. Holtby
13su	Forging, Welding, and Heat Treating .....	Mr. Hughes
17su	Machine Shop Practice .....	Mr. Crowder
18su	Machine Shop Practice .....	Mr. Crowder
20su	Elements of Machine Design .....	Mr. Palmer
21su	Kinematics .....	Mr. Palmer
22su	Mechanisms .....	Mr. Larson
32su	Elementary Mechanical Laboratory .....	Mr. Lee
33su	Elementary Mechanical Laboratory .....	Mr. Lee
50su	Auto and Aircraft Engines .....	Mr. Murphy
71su	Machine Shop Practice .....	Mr. Crowder
80su	Industrial Materials .....	Mr. Holtby
131su	Thermodynamics .....	Mr. Lee

#### FIRST TERM

1su	Elementary Woodworking .....	Mr. Johnston
2su	Machine Woodworking .....	Mr. Johnston
3su	Wood Finishing and Furniture Construction .....	Mr. Johnston
5su	Pattern Practice .....	Mr. Johnston

## INSTITUTE OF TECHNOLOGY

### SCHOOL OF CHEMISTRY

#### ANALYTICAL CHEMISTRY

##### FIRST TERM

1su	Quantitative Analysis (Gravimetric) .....	Mr. Sandell
7su	Quantitative Analysis (Premedics) .....	Mr. Sandell
96su	Senior Topics .....	Mr. Sandell
123su	Advanced Analytical Chemistry .....	Mr. Sandell
203su	Selected Topics in Analytical Chemistry .....	Mr. Sandell
301su	Research in Quantitative Analysis .....	Mr. Sandell

#### INORGANIC CHEMISTRY

##### SUMMER QUARTER

12su	Semimicro Qualitative Analysis .....	Mr. Reyerson
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##### FIRST TERM

1su	General Inorganic Chemistry .....	Mr. O'Brien
4su	General Inorganic Chemistry .....	Mr. Maynard
6su	General Inorganic Chemistry .....	Mr. Nebergall

9su	General Inorganic Chemistry .....	Mr. Maynard
11su	Semimicro Qualitative Analysis .....	Mr. Barber
12su	Semimicro Qualitative Analysis .....	Mr. Heisig
13su	Semimicro Qualitative Analysis .....	Mr. Barber
14su	General Inorganic Chemistry .....	Mr. O'Brien
104su	Advanced Inorganic Chemistry .....	Mr. O'Brien
109su	Synthetic Inorganic Chemistry .....	Mr. Heisig
301su	Research in Inorganic Chemistry .....	Mr. Barber, Mr. Heisig, Mr. Maynard, Mr. O'Brien

#### SECOND TERM

2su	General Inorganic Chemistry .....	Mr. O'Brien
5su	General Inorganic Chemistry .....	Mr. Maynard
7su	General Inorganic Chemistry .....	Mr. Nebergall
10su	General Inorganic Chemistry .....	Mr. Maynard
11su	Semimicro Qualitative Analysis .....	Mr. Barber
12su	Semimicro Qualitative Analysis .....	Mr. Barber
15su	General Inorganic Chemistry .....	Mr. O'Brien
102su	Advanced Semimicro Qualitative Analysis .....	Mr. Barber
302su	Research in Inorganic Chemistry .....	Mr. Barber, Mr. Maynard, Mr. O'Brien

### ORGANIC CHEMISTRY

#### FIRST TERM

1su	Elementary Organic Chemistry .....	Mr. Lauer
110su	Organic Qualitative Analysis .....	Mr. Koelsch
130su	Organic Quantitative Analysis .....	Mr. Lauer
140su	Aromatic Compounds .....	Mr. Koelsch
301su	Research .....	Mr. Lauer, Mr. Koelsch

#### SECOND TERM

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

### PHYSICAL CHEMISTRY

#### FIRST TERM

107asu	Elementary Physical Chemistry (Premedics) .....	Mr. Livingston
113su	Fundamentals of Reaction Kinetics .....	Mr. Livingston
301su	Research in Physical Chemistry .....	Mr. Livingston

#### SECOND TERM

107bsu	Elementary Physical Chemistry (Premedics) .....	Mr. Livingston
175su	Photochemistry .....	Mr. Livingston
301su	Research in Physical Chemistry .....	Mr. Livingston

### CHEMICAL ENGINEERING

#### FIRST TERM

103su	Unit Operations .....	Mr. Pike
131su	Inorganic Technology .....	Mr. Mann
151-152su	Chemical Manufacture .....	Mr. Mann, Mr. Stoppel, Mr. Jackson, Mr. Comley

#### SECOND TERM

103su	Unit Operations .....	Mr. Pike
151-152su	Chemical Manufacture .....	Mr. Mann, Mr. Jackson

**INSTITUTE OF TECHNOLOGY**  
**SCHOOL OF MINES AND METALLURGY**  
**MINING AND METALLURGY**

152su Metallography ..... Mr. Nagler

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

**AGRICULTURAL BIOCHEMISTRY**

**FIRST TERM**

4su Introduction to Organic and Biochemistry ..... Mr. Greenwood  
113su Biochemical Laboratory Methods ..... Mr. Briggs  
119su Colloids ..... Mr. Briggs  
203su Research Problems in Biochemistry ..... Staff

**SECOND TERM**

114su Biochemical Laboratory Methods ..... Mr. Sandstrom  
120su Proteins ..... Mr. Sandstrom

**AGRICULTURAL ECONOMICS**

**FIRST TERM**

1su Principles of Economics I ..... Mr. Lowe  
40su Principles of Marketing Organization ..... Mr. Cox  
107su† Farm Work Simplification ..... Mr. Engene  
172su Economics of World Agriculture ..... Mr. Dowell

**SECOND TERM**

2su Principles of Economics II ..... Mr. Lowe  
200su General Seminar in Agricultural Economics ..... Mr. Jesness  
and staff

**AGRICULTURAL EDUCATION**

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

**AGRICULTURAL ENGINEERING**

**FIRST TERM**

40su Mechanical Training ..... Mr. Dent  
41su† Metal Work ..... Mr. Dent

**AGRONOMY AND PLANT GENETICS**

**FIRST AND SECOND TERMS**

201su Research in Farm Crops ..... Mr. Dunham  
241su Research in Plant Genetics ..... Mr. Hayes,  
Mr. Immer,  
Mr. Burnham  
244su Laboratory Methods in Plant Breeding ..... Mr. Immer

**ANIMAL AND POULTRY HUSBANDRY**

**FIRST TERM**

56su Livestock Feeding ..... Mr. Ferrin  
113su Livestock Management ..... Mr. Peters  
213su Research in Animal Husbandry ..... Staff  
214su Research in Poultry Husbandry ..... Staff

† Available to high school instructors in agriculture for a three-week period, credit arranged.



## SECOND TERM

57su	Livestock Feeding .....	Mr. Ferrin
112su	Livestock Breeding .....	Mr. Winters
213su	Research in Animal Husbandry .....	Staff
214su	Research in Poultry Husbandry .....	Staff

### DAIRY HUSBANDRY FIRST AND SECOND TERMS

208su	Research in Dairy Production .....	Mr. Fitch, Mr. Petersen, Mr. Gullickson, Mr. Gilmore
209su	Research in Dairy Manufacturing .....	Mr. Combs, Mr. Coulter
215su	Research in Dairy Bacteriology .....	Mr. Macey

## ENTOMOLOGY AND ECONOMIC ZOOLOGY

### FIRST TERM

13su†	Field Zoology .....	Mr. Dawson
55su	Entomological Techniques .....	Mr. Mickel

### FIRST AND SECOND TERMS

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

## FORESTRY

### FIRST TERM

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

2su†	Field Dendrology .....	Ar.
3su†	Forest Botany .....	Ar.
5su†	Field Silviculture .....	Mr. Cheyney
6su†	Field Mensuration .....	Mr. Brown
11su†	Camp Management .....	Mr. Brown
13su†	Field Zoology (see also under Entomology and Economic Zoology) .....	Mr. Dawson

## HOME ECONOMICS

### FIRST TERM

50su	Textiles .....	Miss Phelps
86su	Home Management: Operating and Maintenance, Laboratory .....	Miss Studley, Ar.
115su	Economic and Social Aspects of Clothing .....	Ar.
116su	Family Clothing Problems .....	Ar.
120su	Art History and Appreciation .....	Miss Vetta Goldstein
140su	New Developments in Food Preparation .....	Miss Montgomery
142su	Experimental Cookery .....	Miss Montgomery
150su	Textile Problems .....	Miss Phelps
171su	Child Nutrition .....	Miss Biester
179su	Readings in Nutrition .....	Miss Biester
185su	Family Relationships .....	Miss Studley
295su	Home Economics Problems: Shelter .....	Miss Vetta Goldstein
295-296su	Home Economics Problems: Related Art .....	Miss Harriet Goldstein

† Offered at Itasca Park.

## SECOND TERM

85su	Home Management: Operation and Maintenance, Lectures .....	Ar.
86su	Home Management: Operation and Maintenance, Laboratory .....	Ar.

## HORTICULTURE

### FIRST AND SECOND TERMS

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

## PLANT PATHOLOGY AND BOTANY

### FIRST AND SECOND TERMS

206su	Research in Plant Pathology .....	Mr. Stakman and others
210su	Research in Mycology .....	Mr. Stakman, Miss Dodsall
257su	Research Problems in Applied Plant Physiology .....	Mr. Landon
263su	Research Problems in Agricultural Botany .....	Mr. Larson, Mr. Stakman

## SOILS

### FIRST AND SECOND TERMS

104su†	Soil Mapping .....	Mr. McMiller
202su†	Research Problems in Soils .....	Mr. Rost and staff

## BIOLOGICAL STATION OF THE UNIVERSITY OF MINNESOTA

The Biological Station at Itasca Park will offer an extensive curriculum in several fields of biology at both the graduate and undergraduate levels during the second term of the Summer Session which begins on July 30, 1946.

Courses in botany, wildlife, vertebrate zoology, entomology, mycology, parasitology, and limnology will be offered. The enrolment will be limited to one hundred students. More detailed information will be furnished in a special bulletin which will be issued in the winter quarter. Application for registration should be filed with the Director of the Summer Session, University of Minnesota, Minneapolis 14, not later than July 15, 1946. Early registration is recommended.

## LAW SCHOOL

The Law School will offer a complete quarter (June 17 to August 31) of law work with courses for both beginning and advanced students. Registration will be for the quarter, not for the single term.

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

## MEDICAL SCHOOL

### ANATOMY

#### FIRST TERM

165su	Hematology .....	Dr. Sundberg and staff
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† Before registering, students must have approval of instructor in charge.

SUMMER QUARTER

59su	Systematic Anatomy .....	Dr. Williams, Dr. Hartmann
61su	Histology and Embryology.....	Dr. Rasmussen, Dr. Kirschbaum, and staff
101su	Gross Human Anatomy.....	Dr. Boyden, Dr. Wells, and staff
152su	Prosection .....	Dr. Boyden
156su	Advanced Anatomy .....	Staff
204su	Research in Anatomy.....	Staff

BACTERIOLOGY AND IMMUNOLOGY

FIRST TERM

53su	General Bacteriology .....	Dr. Skinner
102su	Bacteriology for Medical Students .....	Dr. Larson
114su	Yeasts, Molds, and Actinomycetes .....	Dr. Skinner
116su	Immunity .....	Dr. Larson
201su	Research in Bacteriology.....	Dr. Larson

SECOND TERM

102su	Bacteriology for Medical Students.....	Dr. Evans
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MEDICINE

SUMMER QUARTER

Required

18-19su	Principles of Medical and Surgical Nursing.....	Ar.
101su	Physical Diagnosis .....	Dr. Watson and staff
104su	Introduction to Internal Medicine.....	Dr. Watson and staff
109su	Clinic in Medicine (Part of Course 12).....	Dr. Barron
110su	Medical Clinic .....	Dr. Watson and staff
111su	Clinical Clerkship in Medicine.....	Dr. Watson and staff
111xsu	Clinical Clerkship in Medicine (MGH) .....	Dr. Fahr and staff
112su	Admissions Clerkship .....	Dr. Wetherby and staff
123su	Lectures in Dermatology.....	Dr. Michelson and staff
124su	Senior Clerkship in Dermatology.....	Dr. Michelson and staff
124xsu	Senior Clerkship in Dermatology (MGH) .....	Dr. Sweitzer and staff

Elective

128su	Abnormal Physical Signs in the Chest.....	Dr. Geer
129su	Advanced Physical Diagnosis .....	Dr. Peppard
132su	Diagnosis and Treatment of Diseases of the Lungs .....	Dr. Myers
135su	Essentials of Diagnosis and Treatment of Heart Disease .....	Dr. Shapiro
136su	The Respiratory Organs in Health and Disease .....	Dr. Myers
157su	Ward Clinics in Dermatology.....	Dr. Lynch and staff
158su	Clinic in Dermatology.....	Dr. Klein
159su	Assistantship, Dermatology and Syphilis (MGH) .....	Dr. Sweitzer and staff
160su	Assistantship and Conference in Dermatology (UH).....	Dr. Michelson and staff

161su	Assistantship in Dermatology (UHD).....	Dr. Michelson and staff
162su	Assistantship in Dermatology (MGH).....	Dr. Sweitzer
163su	Treatment of Syphilis.....	Dr. Michelson
164su	Seminar in Pathology.....	Dr. Winer
165su	Seminar in Dermatology.....	Dr. Michelson and others
166su	Allergy and Dermatology.....	Dr. Rusten

**NEUROPSYCHIATRY**  
**FIRST AND SECOND TERMS**

*Required*

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

**FIRST TERM**

*Elective*

*Nonmedical Students*

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

*Medical Students*

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

*Medical Students*

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

**FIRST AND SECOND TERMS**

121su	Obstetrics and Gynecology.....	Dr. McKelvey, Dr. Rogers, Dr. Lund
135su	Clinical Clerkship in Obstetrics and Gynecology (Uni- versity Hospital).....	Dr. McKelvey, Dr. Lund
135xsu	Clinical Clerkship in Obstetrics and Gynecology (Min- neapolis General Hospital).....	Dr. Lang and others

**OPHTHALMOLOGY AND OTOLARYNGOLOGY**

**FIRST AND SECOND TERMS**

*Required*

104su	Clinic in Diseases of the Ear.....	Dr. Boies, Dr. Hochfilzer Dr. Tangen, Dr. Rigler, Dr. Priest
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105su	Clinic in Diseases of the Nose and Throat .....	Dr. Boies, Dr. Hochfilzer, Dr. Tangen, Dr. Hilger, Dr. Priest
106su	Clinic in Diseases of the Eye.....	Dr. Hansen, Dr. Stanford, Dr. Hoffman, Dr. Horns, Dr. Bushard Dr. Dolmage

*Elective*

121su	Operative Clinic in Eye.....	Dr. Hansen, Dr. Hymes, Dr. Hoffman, Dr. Horns, Dr. Bushard, Dr. Dolmage
122su	Ophthalmoscopy .....	Dr. Schwartz, Dr. Stanford, Dr. Hoffman

**PATHOLOGY**

**FIRST AND SECOND TERMS**

101su	General Pathology .....	Dr. McCartney, Dr. Hebbel
104su	Autopsies .....	Staff
109su	Clinical-Pathological Conference .....	Staff
111su	Conference on Autopsies.....	Dr. Bell and staff
201su	Research .....	Staff

**PEDIATRICS**

**FIRST TERM**

*Required*

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

*Elective*

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

**SECOND TERM**

*Required*

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

*Elective*

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

**PHARMACOLOGY**

**FIRST AND SECOND TERMS**

8su	Elementary Pharmacology .....	Dr. Bieter, Dr. Wright, Dr. McManus
101su	General Pharmacology .....	Dr. Bieter, Dr. Wright, Dr. McManus

**PHYSIOLOGY**

**FIRST TERM**

4su	Human Physiology (for pharmacy and home economics students and others) .....	Dr. King and assistants
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**SUMMER QUARTER**

100su	Physiological Chemistry (for medical students; first quarter only of two-quarter course) .....	Staff
104su	Physiology of Nervous System, Endocrines, etc. (primarily for medical students: the second quarter of a two-quarter course) .....	Dr. Visscher, Dr. Gellhorn
113su	Problems in Physiology and Physiological Chemistry (in such fields as neurophysiology, intermediary metabolism, etc.) .....	Staff
203su	Research in Physiology .....	Dr. Visscher and staff
205su	Research in Physiological Chemistry .....	Staff

**SCHOOL OF PUBLIC HEALTH**

**FIRST TERM**

50su	Public and Personal Health .....	Ar.
53su	Elements of Preventive Medicine .....	Dr. Cowan, Miss O'Leary
59su	Health of the School Child .....	Miss Grout, Dr. Todd
66su	Field Work—Rural Nursing .....	Miss O'Leary
67su	Field Work—Family Health Agency .....	Miss O'Leary
100su	Preventive Medicine .....	Dr. Anderson
101su	Public Health Administration and Field Work .....	Dr. Anderson and associates
102su	Environmental Sanitation I .....	Mr. Pierce

110su	Biometric Principles .....	Mr. Treloar
111su	Biostatistics Laboratory .....	Mr. Treloar
129su	Principles and Problems of Teaching Social Hygiene (same as Ed.C.I.129) .....	Dr. Pearce, Miss Biester
170su	Supervision in Public Health Nursing .....	Miss Freeman
171su	Problems in Public Health Nursing .....	Miss Freeman
174su	Supervision Laboratory .....	Miss Freeman
185su	Problems of Administration in Public Health Nursing .....	Miss Freeman and associates
227su	Problems in the Community Health Education Program .....	Miss Grout

#### SECOND TERM

60su	Tuberculosis and Its Control .....	Dr. Myers
61su	Mental Hygiene .....	Miss Shalit
62-63su	Principles of Public Health Nursing .....	Miss Vavra
65su	Field Work—School Nursing .....	Miss O'Leary
66su	Field Work—Rural Nursing .....	Miss O'Leary
67su	Field Work—Family Nursing .....	Miss O'Leary
80su	Elementary Vital Statistics .....	Mr. Treloar
100su	Preventive Medicine .....	Dr. Anderson
101su	Public Health Administration and Field Work .....	Dr. Anderson and associates
106su	Public Health Administration .....	Dr. Anderson
123su	Topics in Public Health .....	Dr. Anderson
129su	Principles and Problems of Teaching Social Hygiene (same as Ed.C.I.129) .....	Dr. Pearce, Miss Biester
140su	Vital Statistics .....	Mr. Treloar

#### RADIOLOGY

##### FIRST AND SECOND TERMS

103asu	Neuro-radiology for Neuropsychiatric Clerks. Part of Neuropsychiatry 103 .....	Dr. Peterson
111su	Medical Roentgenologic Conference for Medical Clerks. Part of Medicine 111 .....	Dr. Rigler and staff
112su	Roentgen Diagnostic Clinic for Medical Clerks. Part of Medicine 112 .....	Dr. Rigler and staff
121su	Roentgenology and Radiation Therapy and Biophysics .....	Dr. Rigler, Dr. Stenstrom
124su	Pediatric-Roentgenologic Conference for Pediatric Clerks. Part of Pediatrics 124 .....	Dr. Rigler and staff
135asu	Radiation Therapy for Surgical Clerks. Part of Surgery 135 .....	Dr. Stenstrom and staff
135bsu	Roentgen Diagnostic Clinic for Surgical Clerks. Part of Surgery 135 .....	Dr. Rigler and staff
135csu	Surgical Roentgenologic Conference for Surgical Clerks. Part of Surgery 135 .....	Dr. Rigler and staff
163asu	Neurosurgical-Roentgenologic Conference for Neuro- surgical Clerks. Part of Surgery 163 .....	Dr. Peterson, Dr. Peyton

**SURGERY**  
**FIRST AND SECOND TERMS**

*Required*

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

*Elective*

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

**SECOND TERM**

*Required*

135su	Fractures and Dislocations for Juniors (lectures) .....	Dr. Zierold, Dr. Campbell, Dr. Regnier
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## SCHOOL OF NURSING†

### FIRST TERM

Nu.Ed.60su	Ward Administration .....	Mrs. Randall
Nu.Ed.62su	Personnel Program in Schools of Nursing .....	Miss Gordon
Nu.Ed.65su	Analysis of Nursing Care .....	Miss Harrington
Nu.Ed.68su	Construction and Use of Examinations and Other Measurements in Basic Nursing Courses .....	Miss Gordon
Nu.Ed.72su*	Principles of Learning and Methods of Teach- ing in Schools of Nursing .....	Ar.
Nu.Ed.73su	Principles of Economics in Nursing Service Administration .....	Miss Gorgas
Nu.Ed.75su	Fundamentals of Administration in Schools of Nursing .....	Miss Petry
Nu.Ed.83su	Problems in Clinical Nursing .....	Ar.

### SUMMER QUARTER

Ed.T.51Asu	Special Methods of Teaching in Schools of Nursing .....	Miss Harrington
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## SCHOOL OF DENTISTRY

### FIRST TERM

50su	Denture Prosthesis .....	Dr. Hall
50su	Oral Anatomy .....	Dr. Hall
Ar.	Clinical Work .....	Dr. Flagstad, Dr. Hall, Dr. Shellman, Dr. Thomas, Dr. Thompson, Dr. Worman

### SECOND TERM

50su	Denture Prosthesis .....	Dr. Hall
50su	Oral Anatomy .....	Dr. Hall
Ar.	Clinical Work .....	Dr. Flagstad, Dr. Hall, Dr. Shellman, Dr. Thomas, Dr. Thompson, Dr. Worman

## COLLEGE OF EDUCATION

### AGRICULTURAL EDUCATION

#### FIRST TERM

Agr.Ed.232su	Research in Agricultural Education .....	Mr. Field
Agr.Ed.237su	Adult Education in Agriculture .....	Mr. Ekstrom
Agr.Ed.286su	Current Problems in Agricultural Education .....	Mr. Field and ar.

### ART

#### FIRST TERM

Art Ed.1su	Fundamental Experiences in Design .....	Mr. Torbert
Art Ed.17su	Art for Elementary School Teachers .....	Mr. Gayne
Art Ed.24su	Specialized Drawing and Painting .....	Ar.
Art Ed.51su	Industrial Design .....	Mr. Roysner
Art Ed.61su	Advanced General Drawing and Painting .....	Ar.
Art Ed.70su	Wood Sculpture and Carving .....	Mr. Rood
Art Ed.73su	Ceramics, Materials and Processes .....	Mr. Rood
Art Ed.75Msu	Metal Work .....	Mr. Roysner
Art Ed.84su	Methods of Teaching Art in Elementary Grades .....	Mr. Gayne
Art Ed.153su	Art and Society .....	Mr. Torbert

\* A limited amount of observation may be arranged.

† For courses in Public Health Nursing, see page 51.

SECOND TERM

Art Ed.18su	Art for Elementary School Teachers (Emphasis on Design) .....	Mr. Gayne
Art Ed.19su	Art for Elementary School Teachers (Functional and Applied Arts).....	Mr. Gayne
Art Ed.24su	Specialized Drawing and Painting.....	Mrs. Rollins
Art Ed.51su	Industrial Design .....	Mr. Roysher
Art Ed.61su	Advanced General Drawing and Painting.....	Mrs. Rollins
Art Ed.75Msu	Metal Work .....	Mr. Roysher

CURRICULUM AND INSTRUCTION

FIRST TERM

*General Courses*

Ed.C.I.104su	Adult Education .....	Ar.
Ed.C.I.105su	Visual Aids in Teaching .....	Mr. Wendt
Ed.C.I.106su	Coordinating of Visual Education Program.....	Ar.
Ed.C.I.107su	Radio in Education .....	Mr. Tyler
Ed.C.I.129su	Principles and Problems of Teaching.....	Miss Biester, Dr. Pearce
Ed.C.I.145su	Remedial Reading .....	Mr. Bond, Mr. Tinker
Ed.C.I.151su	Diagnosis and Remedial Instruction.....	Mr. Brueckner
Ed.C.I.1271su	Problems in Curriculum Construction.....	Mr. Bond, Mr. Cook, and ar.

*Elementary Education*

Ed.C.I.159su	Speech in the Elementary Grades.....	Mrs. Chapman
Ed.C.I.102su	Teaching the Social Studies in the Elementary School .....	Mr. Wesley
Ed.C.I.103su	Teaching of Science in the Elementary School .....	Ar.
Ed.C.I.119su	Elementary School Curriculum .....	Ar.
Ed.C.I.130su	Problems in Childhood Education.....	Mrs. Fuller
Ed.C.I.131su	Workshop in Childhood Education and Child Development .....	Mrs. Fuller, Miss Headley, Miss Peterson
Ed.C.I.143su	Teaching of Reading in the Elementary School .....	Mr. Bond
Ed.C.I.149su	Teaching and Supervision of Arithmetic in the Elementary School .....	Ar.
Ed.C.I.150su	Supervision and Improvement of Instruction.....	Mr. Brueckner
Ed.C.I.153su	Supervision and Teaching of English in the Elementary Schools .....	Mr. Archer
Ed.C.I.186su	Laboratory in Elementary Instructional Practices .....	Mr. Staudenmaier
Ed.C.I.261su	Special Problems in School Supervision .....	Mr. Brueckner

*Secondary Education*

Ed.C.I.113su	High School Curriculum .....	Mr. G. Lester Anderson
Ed.C.I.122su	Literature for Adolescents .....	Mr. G. Robert Carlsen
Ed.C.I.140su	The Teaching of Speech (also listed as Speech 151) .....	Mr. Gilkinson
Ed.C.I.144su	Teaching of Reading in the Upper Grades and Junior and Senior High Schools .....	Mr. Tinker
Ed.C.I.168su	Current Developments in the Social Studies .....	Ar.
Ed.C.I.191su	Advanced Course in Teaching and Supervision of Secondary School Mathematics .....	Mr. Donovan Johnson
Ed.C.I.201su	Problems in Teaching the Social Studies .....	Mr. Wesley
Ed.C.I.266su	Supervision of High School Instruction.....	Mr. Boardman

Ed.C.I.294su	Advanced Course in Methods of Teaching English .....	Ar.
Ed.C.I.296su	Special Problems in Teaching English .....	Ar.
<i>Higher Education</i>		
Ed.C.I.228su	Problems of Higher Education and Teacher Training—Workshop .....	Mr. Cooper, Miss Eckert Mr. Peik, and others

SECOND TERM

*General Courses*

Ed.C.I.107su	Radio in Education .....	Mr. Tyler
Ed.C.I.114su	School Health Program .....	Miss Starr
Ed.C.I.117su	Rural Education for Administrators and Teachers .....	Mr. Archer
Ed.C.I.129su	Principles and Problems of Teaching Social Hygiene .....	Miss Biester, Dr. Pearce
Ed.C.I.145su	Remedial Reading .....	Ar.
Ed.C.I.271su	Problems in Curriculum Construction .....	Mr. Bond, Mr. Bossing, Mr. Cook

*Elementary Education*

Ed.C.I.102su	Content and Activities of the Social Studies in Elementary Grades .....	Mr. Wesley
Ed.C.I.119su	Elementary School Curriculum .....	Mr. Cook
Ed.C.I.143su	Teaching of Reading in Elementary School .....	Ar.
Ed.C.I.150su	Supervision and Improvement of Instruction .....	Ar.

*Secondary Education*

Ed.C.I.113su	High School Curriculum .....	Mr. Bossing
Ed.C.I.168su	Current Developments in the Social Studies .....	Mr. Wesley
Ed.C.I.170su	Curriculum and Course of Study Construction .....	Mr. Bossing
Ed.C.I.201su	Problems in Teaching the Social Studies .....	Mr. Wesley
Ed.C.I.266su	Supervision of High School Instruction .....	Ar.
Ed.C.I.271su	Problems in Curriculum Construction .....	Mr. Bossing

EDUCATIONAL ADMINISTRATION

FIRST TERM

*General Courses*

Ed.Ad.124su	Public School Administration .....	Ar.
Ed.Ad.125su	Pupil Personnel Administration .....	Ar.
Ed.Ad.127su	Teacher and Employee Administration .....	Ar.
Ed.Ad.210su	Financial Aspects of Public School Business Administration .....	Mr. von Borgers- rode
Ed.Ad.211su	State School Finance .....	Ar.
Ed.Ad.226su	School Plant Planning and Management .....	Ar.
Ed.Ad.228su	Special Problems in Educational Administration .....	Mr. Neale
Ed.Ad.230su	Public Relations for Schools .....	Ar.
Ed.Ad.235su	Seminar in School Administration .....	Mr. Neale
Ed.Ad.250A,B, and Csu	Workshops in School Building Construction, State School Finance, and School Plant Operation and Maintenance. Three separate units, 2 credits each, total 6 credits .....	Mr. Neale and others

*Elementary Education*

Ed.Ad.115su	Organization of the Elementary School .....	Mr. von Borgers- rode
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### Secondary Education

Ed.Ad.133su	Guidance in the Secondary Schools .....	Mr. Dugan
Ed.Ad.263su	Organization of the Secondary School .....	Ar.
Ed.Ad.264su	Administration of the Instructional Activities of the Secondary School .....	Mr. Boardman
Ed.Ad.265su	Administration of the Non-Instructional Ac- tivities of the Secondary School .....	Ar.
Ed.Ad.270su	Special Problems in Secondary Education .....	Mr. Boardman

#### SECOND TERM

##### General Courses

Ed.Ad.124su	Public School Administration .....	Ar.
Ed.Ad.125su	Pupil Personnel Administration .....	Ar.
Ed.Ad.127su	Teacher and Employee Administration .....	Ar.
Ed.Ad.210su	Financial Aspects of Public School Business Administration .....	Mr. von Borgers- rode
Ed.Ad.226su	School Plant Planning and Management .....	Ar.
Ed.Ad.228su	Special Problems in Educational Administra- tion .....	Mr. Neale
Ed.Ad.230su	Public Relations for Schools .....	Ar.
Ed.Ad.235su	Seminar in Educational Administration .....	Mr. Neale

##### Elementary Education

Ed.Ad.115su	Organization of the Elementary School .....	Mr. von Borgers- rode
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##### Secondary Education

Ed.Ad.133su	Guidance in the Secondary Schools .....	Mr. Wrenn
Ed.Ad.264su	High School Administration .....	Ar.
Ed.Ad.270su	Special Problems in Secondary Education .....	Mr. Bossing

### EDUCATIONAL PSYCHOLOGY

#### FIRST TERM

##### General Courses

Ed.Psy.120su	Basic Principles of Measurement .....	Mr. Cook
Ed.Psy.140su	Instruments and Techniques of Measurement .....	Mr. Cook
Ed.Psy.216su	Statistical Methods in Education .....	Mr. Palmer John- son
Ed.Psy.218su	Statistical Methods in Education .....	Mr. Palmer John- son
Ed.Psy.225su	Diagnosis and Counseling in a Student Per- sonnel Program .....	Mr. Wrenn
Ed.Psy.233su	Problems in Guidance and Personnel Work .....	Mr. Cook, Mr. Wrenn
Ed.Psy.253su	Research Problems .....	Mr. Cook, Mr. Palmer Johnson, Mr. Wrenn
Ed.Psy.281su	Practice in Personnel Work (Guidance Clinic)	Student Counsel- ing Bureau Staff
Ed.Psy.291su	Psychology of Individual Differences .....	Mr. Paterson
Ed.Psy.293su	Psychology of Learning .....	Mr. G. Lester Anderson

##### Secondary Education

Ed.Psy.133su	Guidance in Secondary Schools .....	Mr. Dugan
Ed.Psy.200su	Workshop in Guidance .....	Mr. Dugan, Mr. Wrenn, Miss Wright, and others

SECOND TERM  
General Courses

Ed.Psy.60su	Introduction to Statistical Methods .....	Mr. Palmer Johnson
Ed.Psy.120su	Basic Principles of Measurement .....	Mr. Cook
Ed.Psy.159su	Personality Adjustments in Education .....	Mr. Wrenn
Ed.Psy.183su	Education of Gifted Children .....	Mr. Van Wagenen
Ed.Psy.217su	Statistical Methods in Education .....	Mr. Palmer Johnson
Ed.Psy.233su	Problems in Guidance and Personnel Work.....	Mr. Cook, Miss Edwards, Mr. Wrenn
Ed.Psy.253su	Research Problems .....	Mr. Cook, Mr. Palmer Johnson, Mr. Van Wagenen, Mr. Wrenn
Ed.Psy.293su	Psychology of Learning .....	Mr. G. Lester Anderson
Secondary Education		
Ed.Psy.133su	Guidance in Secondary Schools .....	Mr. Wrenn

GENERAL EDUCATION

FIRST TERM

Ed.51Asu	Introduction to Secondary School Teaching .....	Mr. Walter Johnson
Ed.51Bsu	Introduction to Secondary School Teaching .....	Mr. Curtis
Ed.51Csu	Introduction to Secondary School Teaching .....	Ar.
Ed.61Asu	Introduction to Elementary School Teaching.....	Mr. Walter Johnson

SECOND TERM

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

HISTORY AND PHILOSOPHY OF EDUCATION

FIRST TERM

H.Ed.155su	History of Public Education in the United States .....	Miss Alexander
H.Ed.176su	Conflicting Issues in Modern Education .....	Mr. Kilpatrick
H.Ed.180su	The School and the Social Order .....	Mr. Kilpatrick

HOME ECONOMICS EDUCATION

FIRST TERM

H.E.Ed.94su	Supervised Teaching in Home Economics.....	Miss Rose
H.E.Ed.191su	Advanced Course in Teaching Home Economics .....	Miss Rose

SECOND TERM

H.E.Ed.295su	Problems in Home Economics Education Workshop .....	Miss Brown
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INDUSTRIAL EDUCATION

Special conditions render it difficult to present in this Preliminary Announcement, a definite schedule of courses for the two summer terms of 1946. Offerings, better than those of recent years, will be made in both terms. Those interested should

request the Director of Summer Session, 406 Administration Building, Minneapolis 14, Minnesota, to mail the regular Summer Session bulletin which is now in preparation.

Professor Homer J. Smith, Department Head, 200 Eddy Hall, will be pleased to hear from persons interested in particular types of course work, in periods of less than six weeks duration, or in special institutes and workshops. This department serves both industrial arts and vocational-industrial (Smith-Hughes and George-Deen) teachers, supervisors, administrators, and teacher trainers. In addition to a special four-year curriculum, leading to the B.S. degree, there are majors toward the master of education, master of arts, and doctor of philosophy degrees. Correspondence is invited about any matters not fully covered by the materials of this and other current bulletins. Early consideration should be given to the filing of transcripts of credit earned at other institutions.

## METHODS AND DIRECTED TEACHING

### FIRST TERM

#### General Courses

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

For courses see complete Summer Session Bulletin.

#### Secondary Education

Ed.T.66Amsu	The Teaching of Composition in the Senior High School .....	Mr. G. Robert Carlsen
Ed.T.66Bmsu	The Teaching of Literature in the Senior High School .....	Mr. G. Robert Carlsen
Ed.T.67AmBmsu	The Teaching of Secondary School Mathematics .....	Mr. Donovan Johnson
Ed.T.68AmBmsu	Methods of Teaching Secondary School Science	Ar.
Ed.T.69AmBmsu	Methods of Teaching Social Studies .....	Ar.

## MUSIC EDUCATION

### FIRST TERM

Mu.Ed.4-5-6su	Applied Instrumental Technique .....	Mr. Winslow, ar.
Mu.Ed.50Asu	Primary Methods .....	Mr. Winslow
Mu.Ed.50Bsu	Intermediate Methods .....	Mr. Winslow
Mu.Ed.53su	High School Methods .....	Mr. Winslow
Mu.Ed.55su	Survey and Evaluation of Vocal Materials and Methods .....	Ar.
Mu.Ed.68su	Conducting of Instrumental Music and Survey of Materials .....	Mr. Winslow
Mu.Ed.220Esu	Survey and Evaluation of Research in Music Education .....	Mr. Winslow
Mu.Ed.224Esu	Seminar and Individual Research Problems in Music Education .....	Mr. Winslow
Mu.Ed.225Esu	Advanced Applied Music .....	Ar.
Mu.Ed.110Esu	Workshop in Band, Orchestra, and Chorus .....	Mr. Prescott, Mr. Winslow, and others

### SECOND TERM

Mu.Ed.4-5-6su	Applied Instrumental Technique .....	Mr. Winslow, ar.
Mu.Ed.50Asu	Primary Methods .....	Mr. Winslow
Mu.Ed.50Bsu	Intermediate Methods .....	Mr. Winslow
Mu.Ed.53su	High School Methods .....	Mr. Winslow
Mu.Ed.68su	Conducting of Instrumental Music and Survey of Materials .....	Mr. Winslow

Mu.Ed.220Esu	Survey and Evaluation of Research in Music Education .....	Mr. Winslow
Mu.Ed.224Esu	Seminar and Individual Research Problems in Music Education .....	Mr. Winslow
Mu.Ed.225Esu	Advanced Applied Music .....	Ar.

## PHYSICAL EDUCATION FOR MEN

### FIRST TERM

4Asu	Fundamentals of Football .....	Mr. Bierman and staff
4Bsu	Fundamentals of Basketball .....	Mr. MacMillan
4Csu	Fundamentals of Track .....	Mr. Kelly
5Asu	Gymnastics and Tumbling .....	Mr. Beise
6Csu	Swimming, Diving, and Life Saving .....	Ar.
9su	Rhythms .....	Mr. Piper
49su	Introduction to Physical Education .....	Mr. Bartelma
50su	Human Anatomy .....	Mr. Hauser, Mr. Osell
51su	Mechanics of Movement .....	Mr. Osell
60su	Athletic Training and Care of Injuries .....	Mr. Hunt
64A,B,Csu	Organization, Administration of, and Methods in Physical Education (including activities)	Mr. Piper, Mr. Bartelma, Mr. Beise
67su	Coaching of Football .....	Mr. Bierman and staff
68su	Coaching of Basketball .....	Mr. MacMillan
69su	Coaching of Track .....	Mr. Kelly
101Esu	Principles of Physical Education .....	Mr. Keller
103Esu	Physical Examination and Adaptation of Activities .....	Mr. Hauser, Mr. Osell
133Esu	Special Administrative Problems in Physical Education in Secondary Schools .....	Mr. Nordly
135Esu	Tests and Measurements in Physical Education .....	Mr. Keller
137Esu	Recent Literature and Research in Health Education, Physical Education, and Recreation .....	Mr. Nordly
141Esu	Administration and Supervision of Public Recreation .....	Mr. Haislet
142Esu	Group Leadership and Community Organization for Recreation .....	Mr. Haislet
237Esu	Problems in Health Education, Physical Education, and Recreation .....	Mr. Nordly

### SECOND TERM

4Asu	Introduction to Physical Education .....	Mr. Bartelma
5Csu	Gymnastic Stunts, Contests, and Relays .....	Mr. Beise
6Asu	Intramural Sports (Soccer, Speedball, and Volleyball) .....	Mr. Beise
7A-Csu	Recreational Games and Sports .....	Ar.
64A,B,Csu	Organization, Administration of and Methods in Physical Education (including activities)	Mr. Piper, Mr. Bartelma, Mr. Beise
58su	Coaching of Boxing and Wrestling .....	Mr. Haislet, Mr. Bartelma
133Esu	Special Administrative Problems in Physical Education in Secondary Schools .....	Mr. Nordly
134Esu	The Secondary School and College Curriculum in Physical Education .....	Mr. Nordly

135Esu	Tests and Measurements in Physical Education .....	Mr. Keller
136Esu	Leadership in Community Recreation .....	Mr. Haislet
138Esu	Administration of Physical Education in Colleges and Universities .....	Mr. Keller
141Esu	Administration and Supervision of Public Recreation .....	Mr. Haislet

## PHYSICAL EDUCATION FOR WOMEN

### FIRST TERM

1su	College Physical Education .....	Miss Birmingham
8su	Elementary Golf .....	Miss Birmingham
11su	Modern Dance .....	Miss Bell
13su	Tumbling and Stunts .....	Ar.
32su	Elementary Swimming .....	Ar.
33su	Intermediate and Advanced Swimming .....	Ar.
37su	Individual and Dual Games .....	Miss Birmingham
41Csu	Ballroom and Country Dancing .....	Miss Bell
52su	Principles and Curriculum of Physical Education .....	Miss Baker
61ABsu	Technique of Teaching Sports .....	Ar.
73Bsu	Technique of Teaching Rhythm .....	Miss Bell
112su	Supervision of Physical Education .....	Miss Baker
116su	Problems in Fitness .....	Ar.

### SECOND TERM

32su	Swimming .....	Miss Starr
53su	Organization and Administration of Physical Education .....	Ar.
63su	Technique of Teaching Folk Dancing .....	Ar.
113Esu	Physical Education in the Elementary Schools .....	Ar.
115Esu	Philosophy and Trends in Physical Education .....	Ar.
Ed.C.I.114su	The School Health Program .....	Miss Starr

## SCHOOL OF BUSINESS ADMINISTRATION

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Econ.5su	Elements of Statistics .....	Mr. Graves
Econ.6su	Principles of Economics .....	Mr. Stigler
B.A.54su	Elementary Accounting: Combined Course .....	Mr. Ostlund, Mr. Reighard
B.A.89su	Production Management .....	Mr. Filippetti
B.A.101su or Econ.103su	Advanced General Economics .....	Mr. Stigler
B.A.130su	Cost Accounting Survey .....	Mr. Ostlund, Mr. Reighard
B.A.134su	Income Tax Accounting .....	Mr. Reighard
B.A.142su or Econ.141su	Advanced Money and Banking .....	Mr. Myers
Econ.149su	Business Cycles .....	Mr. Myers
Econ.176su	International Commercial Policies .....	Mr. Blakey
B.A.184su	The Administration of Industrial Enterprises (Scientific Management in Industry) .....	Mr. Filippetti
Econ.189su or B.A.58su	Principles of Taxation .....	Mr. Blakey
Econ.260su	Graduate Research .....	Staff

### SECOND TERM

Econ.3su	Elements of Money and Banking .....	Mr. Nightingale
Econ.7su	Principles of Economics .....	Mr. Nightingale
Econ.20su	Elements of Accounting .....	Mr. Chute



B.A.55su	Elementary Accounting: Combined Course .....	Mr. Heilman
B.A.102su or Econ.104su	Advanced General Economics .....	Mr. Mudgett
B.A.112su	Business Statistics .....	Mr. Mudgett
B.A.139su	Advanced General Accounting .....	Mr. Heilman
B.A.146su	Investments .....	Mr. Stehman
B.A.155su	Corporation Finance .....	Mr. Stehman
Econ.161su	Labor Problems and Trade Unionism .....	Mr. Yoder
B.A.167su	Personnel Administration .....	Mr. Yoder
Econ.185su or B.A.77su	Economics of Marketing .....	Mr. Chute
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## INSTITUTE OF CHILD WELFARE

### FIRST TERM

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C.W.86su	Workshop in Childhood Education (Same as Ed.T.78) .....	Mrs. Fuller, Miss Headley, Miss Peterson
C.W.131su	Personality, Emotional, and Social Develop- ment .....	Miss Templin
C.W.140su	Behavior Problems in Younger Children .....	Miss Templin
C.W.150su	Problems of Childhood Education .....	Mrs. Fuller
C.W.170su	Parent Education .....	Mrs. Cummings
C.W.186su	Workshop in Childhood Education and Child Development (Same as Ed.C.I.131) .....	Mrs. Fuller, Miss Headley, Miss Peterson
C.W.270su	Readings in Child Development .....	Mr. Anderson

### SECOND TERM

C.W.80su	Child Psychology .....	Ar.
C.W.130su	Motor, Linguistic, and Intellectual Develop- ment .....	Ar.
C.W.141su	Behavior Problems in Older Children .....	Ar.
C.W.270su	Readings in Child Development .....	Ar.

## LIBRARY INSTRUCTION\*

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Lib.Sci.51su	Origins of the Book .....	Mr. Strout
Lib.Sci.53su	School Library Administration .....	Ar.
Lib.Sci.54su	Public Library Administration .....	Ar.
Lib.Sci.55su	College Library Administration .....	Mr. Strout
Lib.Sci.60su	Sources of Information about Books .....	Ar.
Lib.Sci.61su	Library Practice .....	Mr. McDiarmid, Mr. Strout, and staff
Lib.Sci.62su	Reference I .....	Ar.
Lib.Sci.65su	National and Regional Bibliography .....	Ar.
Lib.Sci.72su	Reading Guidance for Adolescents .....	Ar.
Lib.Sci.73su	Reading Guidance for Adults .....	Ar.
Lib.Sci.82su	Cataloging and Classification .....	Ar.
Lib.Sci.85su	Special Problems .....	Mr. McDiarmid, Mr. Strout, and staff

\* Course numbering follows that of the revised curriculum; see the Division of Library Instruction, Announcement for the Years 1945-47.

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*The Bulletin of the*  
UNIVERSITY of MINNESOTA

Biological Station Summer Session at Lake Itasca  
Douglas Lodge, Minnesota

Second Term  
July 29 to August 30, 1946

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February 25, 1946

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## GENERAL INFORMATION

The Lake Itasca Forestry and Biological Station was established in 1908 to provide a summer camp for the instruction of forestry students. In 1935 these facilities were made available to interested students and teachers of biological subjects during the second term of the University's Summer Session. Since then there has been an increasing interest in this activity. Because of the rich and varied flora and fauna of the region, the station provides a most suitable locality for the study of midwestern biological problems. Probably no other area in this region is better suited to the location of a field station of terrestrial and fresh-water biology.

### Location and Opportunities for Biological Work

Coniferous and hardwood forests merging into prairie, sand dunes, preglacial lake bed, glaciated and unglaciated areas, thousands of fresh-water lakes of all sizes and types, and swamps from the heavily forested types to open grass and muskeg all combine to give Minnesota a highly diversified flora and fauna. Most of these features except the unglaciated areas are within easy driving distance of the station.

The Biological Station of the University of Minnesota is situated on the east shore of Lake Itasca in Itasca State Park. It is an area of great historical interest. The source of the Mississippi River is only a mile away. Park Rapids, Bemidji and Walker are practically equidistant from the station. The normal points of entry to Itasca State Park by rail are Park Rapids and Bemidji some twenty-five miles away. During the Summer Session a Greyhound Bus Line from the Twin Cities reaches Douglas Lodge on the south end of Lake Itasca, four miles from the Biological Station.

Itasca State Park, one of Minnesota's more primitive areas, is seven miles square and covers an area of approximately 32,000 acres. The numerous lakes of all sizes have an area of about 5,000 acres. Lake Itasca, the largest in the park, is 1,460 feet above sea level. Only a short distance away is a continental divide with an elevation of 1,670 feet.

The wooded shores of the lakes, the virgin forests, the dense swamps and open bogs, beaver dams, eagle nests, turkey vulture roosts, pre-historic Indian mounds, herds of elk and deer and other features of interest are accessible over well marked trails. White, red, and jack pine, white and black spruce, balsam, larch and white cedar are found in pure and mixed stands of all age classes. The hardwood forests are characterized by such trees as hard and soft maple, white and yellow birch, large and small toothed aspen, balm of gilead, basswood, oaks, elms and various other species. The variety of forest types and age classes brings about a corresponding variation in the subordinate vegetation. A state forest adjoining the park affords an excellent opportunity to study the ecology of the various floristic and faunistic successions characteristic of cut-over and burned-over lands. The Chippewa National Forest is only twenty miles to the east. This is one of the oldest and best

developed National Forests in the United States. About thirty miles to the west is the old Lake Agassiz basin with its famous Red River Valley wheat lands. Just north of Bemidji lies the Red Lake Indian Reservation. 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. The Chippewa Indians operate an extensive fishing industry and maintain a hatchery. The coniferous and hardwood forests adjacent supply timber for the tribe's saw mill on a sustained yield basis. All these features are readily accessible from the Biological Station.

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 game management and conservation.

### Instruction

The Biological Station of the University of Minnesota at Lake Itasca was established for the advancement of fundamental knowledge of terrestrial and fresh-water biology. To this end it promotes and provides opportunity for instruction and research in the various fields of biology. Through these activities it hopes to add to the knowledge of the flora and fauna of the Lakes States and midwestern regions of similar geological history.

This station is conducted co-operatively by various departments of the College of Science, Literature, and the Arts and the College of Agriculture, Forestry, and Home Economics of the University of Minnesota through the sponsorship of the Summer Session.

It offers elementary and advanced courses in the fields of biology under competent instructors. Opportunities are also offered for independent study and research by more advanced students.

The Biological Station in its Summer Session offers unusual opportunities to various groups of students.

1. To graduate students in the field of biology it offers an excellent field laboratory for research.

2. To students of game management it offers an opportunity for the study of life histories and ecology of game animals.

3. To high school teachers it offers an opportunity for advanced study and improvement. It will provide the necessary training to enable the teacher to take biology classes to the field.

4. To undergraduate students in all fields of biology it offers an opportunity for advanced instruction. For those who are not certain in which field their major interest lies it can serve as a help in orienting them.

5. To students in agriculture and home economics who contemplate a career in extension work it offers an opportunity for training in conservation and nature study. These subjects are an important phase of all rural extension work.

6. To teachers of botany, zoology and all phases of biology in all schools and colleges it offers an opportunity for improvement through independent research.

Courses consist of field trips and indoor laboratory work. An effort is made to use the field rather than the laboratory as much as is consistent with good instruction. The scholastic standards of the University are maintained at the station. University credit is given for work satisfactorily completed in the courses registered.

### Facilities for Instruction and Research

The buildings and equipment of the station, while not elaborate, are adequate for all purposes. Its log dormitories and laboratories are located in an attractive forest setting on the shores of Lake Itasca. The main Forestry Lodge with its assembly room and fireplace, is used for some classes and evening meetings. The main laboratory of the station is a large, well-lighted, two-story log structure provided with laboratory tables, desks, chairs, a fine herbarium of the region, insect and fungus collections, bird skins, and other specimens for study.

The new limnology laboratory is a two-story structure located on the lake shore completely equipped with all facilities. The entire camp is electrically lighted with 110 volt AC current.

Since the major part of the instruction is in the field, the laboratory equipment is not elaborate. It is, however, adequate for all ordinary purposes, and arrangements can be made to have special equipment available if the needs can be anticipated. The normal equipment includes a library, all necessary compound and dissecting microscopes, binoculars, collecting equipment, various types of nets, row boats, launches, and a supply of accessories and minor equipment essential for adequate instruction and research.

Arrangements can be made to provide laboratory space for advanced students and research workers. It is desirable to make such arrangements before coming to the station.

### Board and Lodging

The Forestry Lodge is provided with roomy screened-in porches on both the first and second floors. The entire second floor and a portion of the first floor is used as a men's dormitory. This building can accommodate from fifty to one hundred students. Cottages, each accommodating eight students, are assigned for women's dormitories. All dormitories are provided with cots and mattresses, electric lights, stoves, running water, and toilet facilities. Students are asked to bring with them their own bed linen, two or three double wool blankets, a pillow, towels, and toilet articles. The following personal equipment is essential; suitable shoes or boots for field work, a raincoat, heavy socks, field suit or dress, swimming suit, flashlight, desk lamp, notebooks, pocket field books, pencils, hand lenses, dissecting sets and pins, vials and corks, and the recommended and necessary textbooks. When possible, it is recommended that the student write the instructor to secure information on needed texts and equipment. The station operates a supply store where some standard supplies can be secured. It is difficult to take care of trunks.

Meals are served in a well-equipped log dining hall operated under the direction of the administration of the station in consultation with the

officers elected by the attending students. The meals are carefully planned, well balanced, and well prepared by experienced cooks. Fresh meat, vegetables and fruits are served daily.

Since the station has not been operating during the war it is difficult to indicate what the cost of board will be. The maximum cost before the war was \$35 for the five-week session. A payment of \$50 to the treasurer of the commissary will be required during the first few days of the session. Should there be any balance remaining in the commissary treasury it will be refunded.

Limited laundry facilities are available, but it is possible to have laundry done at nearby towns. Trucks call for and deliver laundry and dry cleaning. Students are expected to keep their own quarters clean and orderly.

An infirmary with a part-time registered nurse in attendance is available for the care of minor injuries and ills. Medical attention when necessary can be secured from Park Rapids or Bemidji.

About one mile south of the station the State Park Service maintains a large public camp ground. Students with families may avail themselves of the facilities here which include tenting or trailer space, water, fuel, ice, electricity, shower baths and a well-developed beach. Some cabins are available here but it is not the policy of the Park Service to rent them for extended periods. There are numerous resorts in the vicinity providing excellent accommodations for families of graduate students and investigators. Arrangements can usually be made for reduced rates for extended stays. It is expected that as soon as building material becomes readily available the station will be able to provide adequate housing for this class of students.

While it is recognized that the main function of the station is to provide an adequate educational program, yet the recreational program is not neglected. There is ample opportunity for swimming, fishing, and boating. There is opportunity for hikes to points of historic interest and scenic beauty. The social events are handled by the students themselves with some supervision.

The camp operates with a minimum of rules and regulations. Cars are permitted but no garage space is provided. Weekend absences from camp and extended field trips must be reported.

### Fees and Expenses

The following fees are payable by each registrant on or before July 30:

Tuition fee .....	\$25.80
Incidental fee .....	5.25
Total tuition fee .....	31.05
General deposit fee.....	2.00
Dormitory and dining hall fee.....	5.00
Equipment fee .....	5.00
Total fees .....	<u>\$43.05</u>

Charges for 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.



The estimated cost of \$93.05 includes the \$43.05 registration fee and \$50 for board. It does not include traveling expenses, laundry, and incidental personal expenses.

Tuition and fees are payable at the time of registration directly to the bursar of the University on or before July 30. It is possible to pay them upon arrival at the station but early payment is recommended to insure accommodations. After July 30 the late registration fee will be charged as follows:

Tuesday, July 30 .....	\$2.00
Wednesday, July 31 .....	3.00
Thursday, August 1 .....	4.00
Friday, August 2 .....	5.00

No registration will be accepted after August 3 without approval of the professor in charge and the payment of the \$5 late registration fee.

The courses will begin Monday morning, July 29 and close Friday, August 30.

### Admission and Registration

The courses in the Biological Station Summer Session are open to all qualified graduate and undergraduate students who have had the usual preliminary courses in biological subjects and to properly qualified high school graduates. Certain courses are especially designed for the teachers of biological subjects in colleges, high schools, and private schools, and others interested in plant and animal life. Those desiring college credit should submit their credentials, consisting of official transcripts of their high school, normal school, or college work to the Dean of Admissions.

Registration may be completed at any time during the months of June and July but not later than July 29 at the Office of Admissions and Records, on either the Minneapolis or University Farm Campus, or at the Biological Station at Lake Itasca. Registration may also be completed by mail by sending the properly filled out registration blank together with the tuition fee directly to the Dean of Admissions.

Graduate registration must be approved by the major department and then submitted to the Graduate School for final approval.

Most of the courses are offered on a three-credit basis per session. Each three-credit course will occupy two days a week from 8:00 a.m. to 4:30 p.m. An adequate noon hour is provided for. Ordinarily students carry from six to nine credits per session depending upon their needs, interests, and ambitions. The minimum load is six credits and students will not be permitted to carry a lighter load without faculty permission. A nine credit load is considered too heavy for most students. Many students prefer to carry six credits and audit a third course for review or self-improvement. Advanced students are advised to take two subjects and in addition one or two credits of a well delimited research problem.

Opportunities are also offered to graduate students to pursue their research problem work under the supervision and guidance of the staff without attending regular classes.

Special arrangements may be made with the director of the station by qualified independent guest investigators for the use of the facilities

of the station for research in various fields of terrestrial and fresh-water biology.

The graduate students should note that courses numbered 100 and above are considered of graduate value. Courses numbered below 100 carry only undergraduate credit.

For the 1946 session not more than one hundred (100) applicants can be admitted, and priority of registration will govern admission.

Mail for students registered for this session should be addressed to the Biological Station, University of Minnesota, Arago, Minnesota.

### Courses of Instruction

The courses offered at the station will be given according to the following schedule. It is possible that circumstances may necessitate minor changes.

SCHEDULE OF COURSES

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Bot. 20	Bot. 70	Bot. 8	Bot. 20	Bot. 57	Bot. 8
Bot. 76	Bot. 116	Bot. 57	Bot. 76	Bot. 70	Bot. 57
Pl.Path. 56	Ent. 59	Bot. 116	For. 145	Bot. 116	Ent. 76
Zool. 115	Ent. 68	Ent. 76	Pl.Path. 56	Ent. 59	For. 12
Zool. 116	Ent. 168	For. 12		Ent. 68	Pl.Path. 50
	For. 145	Pl.Path. 50		Ent. 168	Zool. 55
		Zool. 55		Zool. 115	
				Zool. 116	

The schedule for other courses and research problems will be arranged to suit individual needs.

## COURSES OF INSTRUCTION

The following courses are offered in the Biological Station Summer Session for the year 1946 at Itasca State Park. The University of Minnesota reserves the right to cancel any course in which, in the opinion of the director of the Summer Session, the registration is insufficient to warrant a continuation of such course.

### BOTANY

- 8su. Elements of Field Taxonomy. The identification of common wild flowers, and a general study of the classification and relationship of flowering plants. Field work in forest, swamp, bog, lake and prairie. Text: Moyle, *Field Key to the Common Non-woody Flowering Plants and Ferns of Minnesota*. (3 cred.; prereq. Bot. 1, or consent of instructor; WS.) Mr. Buell.
- 20su. Elementary Field Ecology. An outline of the fundamental concepts of ecology illustrated directly by examples in the field. A study of the mature plant communities and the various lines of succession leading to them. (3 cred.; no prereq.; MTh.) Mr. Buell.
- 57su. Aquatic Flowering Plants. A study of the higher plants of aquatic and marsh habitats. Identification and collection; association of species; relations to the habitat; adaptive morphology and food value to wildlife. (3 cred.; prereq. bot. or zool. 10 cred., or consent of instructor; WS a.m., WF p.m.) Mr. Tryon.
- 70su. Bryophytes. Field and laboratory study of the mosses and liverworts of Minnesota. Text: Grout, *Mosses with a Hand Lens*, and Conrad, *How to Know the Mosses*. (3 cred.; prereq. 10 cred. of biology, or consent of instructor; TF.) Mr. Evans.
- 76su. Fresh-water Algae. The taxonomy and limnological relations of the fresh-water algae of Minnesota. Text: Smith, *Fresh-water Algae of the U. S.* (3 cred.; prereq. 10 cred. of biology, or consent of instructor; MTh.) Mr. Evans.
- 116su. Summer Flora of Minnesota. A survey of the summer flowering plants and ferns of the state with particular reference to the local flora. Collection and identification of species; distribution in Minnesota; literature and taxonomic methods. Text: Grays' *New Manual of Botany*. (3 cred.; prereq. Bot. 8, or consent of instructor; TF a.m., WF p.m.) Mr. Tryon.
- 196su. Problems in Ecology, Taxonomy, Bryology or Algology. Advanced studies based on individual field work and research. (Cred. ar.; adv. students with proper qualifications.) Mr. Buell, Mr. Tryon, Mr. Evans.

### ENTOMOLOGY AND ECONOMIC ZOOLOGY

- 59su. Field Entomology. A study of the insect fauna in various natural habitats of the park and surrounding areas. The course includes field trips, collection and classification of insects, as well as studies of general morphology, life histories, and habits of local species under

- ecological conditions governing the distribution of the insect fauna of the region. (3 cred.; jr., sr.; prereq. Zool. 1-2-3 or equiv.; TF.) Mr. Daggy.
- 68su. Natural History of the Higher Vertebrates. Life histories, habits, economic importance, and identification of amphibians, reptiles, birds, and mammals, with special reference to the local species. Texts: Peterson, *A Field Guide to the Birds*, Hatfield, *A Checklist of the Mammals of Minnesota with Keys for Their Identification*, Swanson, Surber and Roberts, *The Mammals of Minnesota*, and Breckenridge, *Reptiles and Amphibians of Minnesota*. Dissecting set. (3 cred.; prereq. Zool. 1-2-3 or equiv. TF.) Charges for car mileage for field trips in this course will average \$1 to \$2. Mr. Marshall.
- 76su. Techniques of Field Biology. A study of available flora and fauna including the methods of collection, preservation, arrangement, and demonstration of illustrative material and effective presentation to classes. Lectures, laboratory, and field work. This course is primarily designed to meet the needs of teachers of biological subjects. (2 cred.; prereq. bot. or zool. 10 credits or consent of instructors; WS.) Mr. Daggy.
- 168su. Ecology of Terrestrial Vertebrates. Detailed studies of the ecological relationships of Northern Minnesota terrestrial vertebrates. Texts: *Field Keys to Vertebrates*. Lectures, laboratory and field work. (3 cred.; prereq. Ent. 68 or Zool. 46-47, and Ent. 163 or equiv. and Bot. 20; TF.) Charges for car mileage for field trips in this course will average \$1 to \$2. Mr. Marshall.
- 196su. Special Problems in Entomology or Economic Zoology. Advanced work in entomology and economic zoology with ample opportunity for individual research, especially in various phases of faunistic studies in terrestrial, aquatic, and forest entomology and economic zoology. (Cred. ar.; adv. students with proper qualifications.) Mr. Daggy, Mr. Marshall.

#### FORESTRY

- 12su. Field Dendrology. Trees and shrubs found in the Itasca Park region with special reference to identification by means of constant characters. (Not open for credit to students in forestry.) Text required: Rosendahl and Butters, *Trees and Shrubs of Minnesota*. (3 cred.; prereq. bot. 10 cred., or consent of instructor; WS.) Mr. Buell.
- 145su. Conservation of Natural Resources. A general course surveying our natural resources, the past treatment and changes in the public attitude towards their use. Designed principally as an informational course for those who will teach conservation in junior high school. Suitable exercises for junior high school students will be demonstrated and carried out. (1 cred.; prereq. one year of biol. sci.; TTh.) Mr. Schantz-Hansen.

#### PLANT PATHOLOGY AND BOTANY

- 50su. Field Mycology. Collection and identification of the common fleshy fungi, molds, and plant parasites, with special emphasis on mushrooms. Techniques given for the growing of fungi in natural and

artificial media. Field collection, laboratory work, and lectures. (3 cred.; prereq. 9 credits of botany or instructor's permission; WS.) Mr. C. M. Christensen.

- 56su. Introduction to the Study of Fungi. The structure, development, and identification of fungi, especially those of economic importance. Lecture and laboratory. (3 cred.; prereq. 9 credits of botany or instructor's permission; MTh.) Mr. C. M. Christensen.
- 210su.\* Special Problems in Mycology. Research work along the following suggested lines: taxonomy of natural groups, fungus flora of particular regions, localities, or habitats; morphology or physiology of special forms. (Cred. ar.; grad.; prereq. 105-106-107.) Mr. C. M. Christensen.

## ZOOLOGY

- 55su.‡ Natural History of Invertebrates and Fishes. A taxonomic and ecological survey of the local fauna, including life histories and habitats. Text required: Needham and Needham, *Guide to the Study of Fresh Water Biology*. References: Ward and Whipple, *Fresh-Water Biology*. (3 cred.; prereq. Zool. 1-2-3 or equiv.; WS.) Mr. Eddy.
- 115su.‡ Advanced Natural History of Invertebrates and Fishes. An advanced taxonomic and ecological survey of the local fauna including a detailed and independent ecological study of several taxonomic groups. Text required: Ward and Whipple, *Fresh-Water Biology*. (3 or 4 cred.; prereq. 15 cred. in zool.; MF.) Mr. Eddy.
- 116su.‡ Limnology. A study of the conditions of life and the distribution of organism in the lakes of the Itasca region. Text required: Welch, *Limnology*. (3 cred.; prereq. 15 cred. in zool.; MF.) Mr. Eddy.
- 198su. Problems in Ecology and Limnology. Principles and further work in special lines adapted to needs of individual students. (Cred. ar.; prereq. Zool. 1-2-3, and special requirements; adv. students.) Mr. Eddy.

\* This course meets the 9-hour requirement under Plan B for the Master's degree.

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

The Bulletin of the  
UNIVERSITY of MINNESOTA

The 54th Summer Session  
Announcement of Courses  
1946

First Term June 17 to July 26  
Second Term July 29 to August 30

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147-148



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Volume XLIX, Number 12

March 26, 1946

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**CALENDAR**  
**OF**  
**THE 54TH SUMMER SESSION, 1946**  
(Except Medical School and Library Instruction)

June	17-18	Monday-Tuesday	Registration, first term
June	19	Wednesday	First term classes begin
July	4	Thursday	Holiday (Independence Day)
July	25	Thursday	Commencement convocation
July	26	Friday	First term closes
July	29	Monday	Registration and payment of fees for second term close at 4:00 p.m.
July	30	Tuesday	Second term classes begin
August	30	Friday	Second term closes

**LIBRARY INSTRUCTION**  
(Eight-week course)

June	17-18	Monday-Tuesday	Registration
June	19	Wednesday	Term begins
July	4	Thursday	Holiday (Independence Day)
August	9	Friday	Term closes

**MEDICAL SCHOOL**

June	28	Friday	Registration
July	1	Monday	Classes begin
July	4	Thursday	Holiday (Independence Day)
September	13	Friday	Term closes

**CLASS HOUR SCHEDULE**

	Main Campus	University Farm
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	1:00- 1:50
VII Hour	2:00- 2:50	2:00- 2:50
VIII Hour	3:00- 3:50	3:00- 3:50
IX Hour	4:00- 4:50	4:00- 4:50
X Hour	5:00- 5:50	5:00- 5:50

Convocation, IV hour, Thursday  
(See Official Daily Bulletin for announcements)

## KEY TO ABBREVIATIONS USED FOR BUILDINGS

### *Main Campus Buildings*

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

### *University Farm Buildings*

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

## REQUESTS FOR INFORMATION

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



## SUMMER SESSION

The University of Minnesota has planned the 1946 Summer Session to meet the special needs of returning veterans, undergraduate students accelerating their training, public school workers, and graduate students working toward advanced degrees. Two summer terms have been scheduled, and a full quarter of university work may be completed in the combined sessions through a selection from the many courses offered this year. Comprehensive offerings have been arranged for both graduate and undergraduate students in the academic and the professional fields.

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

### SUMMER PROGRAM IN AMERICAN STUDIES

Today, as the United States moves toward full acceptance of its responsibilities in world-society, Americans are increasingly concerned with the varied patterns of civilization on other continents. They recognize also that to interpret those civilizations, they must understand their own way of life. They conclude, therefore, that self-knowledge is a prerequisite to citizenship both in the United States and in a world-state.

As training for teachers, journalists and other writers, social workers, and Americans who are preparing themselves to live in this new age, the Summer Session offers a Program in American Studies, organized jointly by the departments concerned and the Committee on American Studies of the University of Minnesota.

Credits earned in the Program will be accepted (a) for degrees in the departments involved or (b) for the B.A., the M.A., or the Ph.D. in American Studies.

In the first term of the Summer Session, visiting professors who will teach courses in American Studies include Arthur Bestor, Stanford University; Sterling A. Brown, Howard University; Alfred Kazin, author of *On Native Ground*; William H. Kilpatrick, formerly of Teacher's College, Columbia University; Herbert W. Schneider, Columbia University; Louis B. Wright, Director of the Huntington Library; and others. For the second term: Denis W. Brogan, Cambridge University; J. Frank Dobie, University of Texas; Richard H. Shryock, University of Pennsylvania; and others.

In the first term, the following courses are representative of the offerings in the Program in American Studies:

Amer.Studies 120su, The Influence of Europe on American Culture	Hist.190su, The Cultural Heritage of Colonial America
Amer.Studies 201su, Major Interpretations of American Civilization	Hist. of Ed.176su, Conflicting Issues in Modern Education
Econ. 101su, Advanced General Economics	Human.10su, Humanities in the United States I
Eng.122su, The Negro in American Literature	Journ.85su, The Press and the Public
Eng.128su, Contemporary American Literature	Journ.113su, The Press and Foreign Affairs
Eng.130su, The Emergence of Realism in American Literature	Music 101su, American Music
Eng.174su, American English	Philos.114su, American Philosophy
Eng.267su, Melville and the Modern World	Philos.191Asu, Philosophical Crises in American Religious History
Fine Arts 109su, Regional Art in America	Pol.Sci.100su, The Constitution and Social Change
Hist.83su, American Economic History	Pol.Sci.160su, American Political Thought
Hist.90su, The West in American History	Soc.119su, The Family
Hist.120su, The Influence of Europe on American Culture	Soc.145su, Theories of Social Reconstruction

#### Second term courses include the following:

Amer.Studies 132su, The Cowboy in History and Literature	Hist.131asu, History of American Medicine
Amer.Studies 145su, The American Character	Hist.132asu, History of the South
Econ.161su, Labor Problems and Trade Unionism	Human.11su, Humanities in the United States II
Eng.131su, Literature of the Southwest	Journ.133su, Propaganda and Censorship
Hist.92su, The Trans-Mississippi West	Pol.Sci.161su, Problems of Democracy
	Pol.Sci.202su, Seminar in American Government

## DATES OF THE SUMMER SESSION

The Summer Session at the University of Minnesota consists of two terms. With the exception of the Medical School, the first term of six weeks will begin with registration Monday and Tuesday, June 17-18. Classes will begin Wednesday, June 19, at 8:00 a.m. on the Main Campus and 7:45 on the Agricultural Campus. The first term will close Friday, July 26. Registration and payment of fees for the second term will close at 4:00 p.m., Monday, July 29. Classes for this term will begin Tuesday, July 30, at 8:00 a.m. on the Main Campus and at 7:45 on the Agricultural Campus, and the Summer Session will be brought to a close on Friday, August 30.

Classes in the Medical School begin on Monday, July 1, and continue through Friday, September 13.

## GENERAL INFORMATION

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

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

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

The Summer Session of the University of Minnesota provides courses (1) for those graduate and undergraduate students, both in the arts and in the professional schools, who wish to reduce their period of residence at the University by accumulating credits during the summer; (2) for superintendents, principals, supervisors, teachers, and other students of professional interests who desire further training in their fields; (3) for persons who seek an opportunity to study for intellectual pleasure; (4) for graduates of accredited high schools who do not meet the special subject-matter requirements to enter some of the colleges and professional schools; (5) for high school graduates and high-ability students, both men and women, within a year of high school graduation whose admission will be under the regular procedure; (6) for veterans who may wish to accelerate their educational programs.

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

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

Students registering in the second term who are teachers and are obliged to return to their schools before the close of the term may, with the consent of instructors, arrange

to complete the work *in absentia*. The granting of such permission is not obligatory on any instructor, and students desiring this privilege should ascertain well in advance the courses in which the permission will be granted. They may then make a program accordingly.

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

#### INTERCAMPUS CAR

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

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

#### GENERAL OFFICES

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

#### UNIVERSITY LIBRARY

The University Library is open to all students of the Summer Session. The library of the Department of Agriculture is located in the Administration Building on the Agricultural Campus. Branch libraries are maintained in a few of the schools and colleges, and there are smaller special collections conveniently grouped in the main library and departmental quarters.

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

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

#### COFFMAN MEMORIAL UNION

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

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

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

## UNIVERSITY FARM UNION

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

## UNIVERSITY POST OFFICE

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

## OFFICIAL DAILY BULLETIN

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

## STUDENTS' HEALTH SERVICE

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

## 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. Good accommodations for room may be had from \$12 to \$20 per month. In addition to the cafeterias conducted on the campus by the University, several good restaurants are to be found in the immediate vicinity of the University. Further information concerning room and board may be obtained by addressing the Director of Student Housing, 230 Northrop Memorial Auditorium, 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, Sanford Hall and Pioneer Hall.

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

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

**Sanford Hall**—Sanford Hall affords comfortable living quarters for 275 girls. It is situated on University Avenue, three blocks from the main gate of the campus. Three meals a day are served in the large cool dining rooms. There are two spacious lounges. Both single and double rooms are available.

Reservations should be made as far in advance as possible. Application should be sent directly to Sanford Hall. No application will be recorded until a completed lease is filed. For additional information write Mrs. Grace Nelson, Director of Sanford Hall, University of Minnesota, Minneapolis 14.

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

The rates during the summer are as follows: single rooms, \$20 per term; other rooms, \$16 per term per occupant.

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

Assignment of rooms will be made at Meredith Hall at the time of registration. Payment for the first term of the Summer Session must be made to the cashier at the beginning of the first week. The dormitory will be open Monday, June 17. Rooms will not be available during the second term.

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

**Pioneer Hall**—Pioneer Hall, the residence hall for men at the University of Minnesota, offers desirable accommodations at moderate cost. Board will be provided during both terms of the Summer Session if sufficient numbers desire it.

To accommodate as many students as possible, the use of double-decked beds will continue while the tremendous demand for housing exists. Maid service and bed linen are provided and students should furnish blankets, study lamps, towels, and other personal necessities.

Students interested in residence in the hall should write to the Director of Pioneer Hall, University of Minnesota, Minneapolis 14, Minnesota, requesting an application form. Assignment will be made in the order of receipt of applications.

**The Cooperative Village**—The Cooperative Village, now located on University Avenue near Sanford Hall, will be open for the first Summer Session. The houses have been remodeled and redecorated and offer attractive, low-cost housing.

The dining hall will be operated on a cooperative basis provided a sufficient number of girls are interested to make it possible.

Write Mrs. Jane Miller, Cooperative Village Office, University of Minnesota, 212 Twelfth Avenue Southeast, Minneapolis 14, for further information.

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

Rooms are leased on a twelve-month basis, with the possibility of some of them being sublet for the Summer Session. Graduate students interested in residence at Thatcher Hall should communicate with the Director of Service Enterprises, Room 10, Administration Building, University of Minnesota, Minneapolis 14, regarding application, prices, and other details.

Requirements for residence at Thatcher Hall: (1) Must be carrying a normal load in the Graduate School; (2) Total family income must not exceed \$2,000 during the one year of residence; (3) Residence is limited to one year; (4) Replacements will be made by new graduate students who are U. S. veterans with children.

**Private Residences**—The Housing Bureau, Room 230, Northrop Memorial Auditorium, Main Campus, is operated by the University for the purpose of assisting both men and women in the securing of suitable living accommodations. Students may obtain lists of approved houses upon request. The houses on these lists have been inspected by the Students' Health Service on the basis of sanitation, fire hazards, heating facilities, and other qualities that might affect the health and welfare of the student.

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

**Food Service**—In addition to the dining halls provided in the dormitories and residence halls, the Union offers a variety of accommodations. The cafeteria, luncheonette, and fountain grille feature rapid service. Well-prepared food, moderate prices, and quick, efficient service typify all Union dining accommodations.

## ADMISSION AND REGISTRATION

### ADMISSION

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

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

### NONRESIDENTS

Nonresidents must satisfy the following requirements to continue at the University beyond the current Summer Session.

By action of the Board of Regents of the University of Minnesota taken because of the present veterans' educational emergency, our admissions requirements necessarily have been revised for nonresident undergraduates. Only if you are a veteran whose home is in the area which is economically and educationally related to Minnesota (adjacent states), and only if you rank in the upper 25 per cent of your high school class or have an average of "B" or better for transfer purposes, are we permitted to give preliminary consideration to your application. If you are a nonveteran from the same region, you must stand in the upper 10 per cent of your high school class or have an average of "B" or better for advanced standing to enable our consideration of your application. We regret, indeed, the emergency which imposes these conditions.

## VETERANS

Upon arriving at the University report first to the University Bureau of Veterans' Affairs, 202 Eddy Hall or 207 Administration Building, Agricultural Campus. This should in all cases be the veteran's first contact with the University. The Bureau will assist the veteran in every possible way.

Veterans of World War II are entitled to training under Public Law 16, Vocational Rehabilitation and Public Law 346 (G. I. Bill). The Veterans' Administration will, for veterans approved for training under either act, pay tuition fees and provide books, supplies, etc.; the Government will make an allowance for subsistence.

The Bureau of Veterans' Affairs will aid the veteran students who have not yet applied for educational benefits in doing so. All veterans should have photostatic copies of their final discharge papers and their Army form 100, Navy form 553, or Marine Corps NAVMC form 78-PD.

In the University, veterans must satisfy usual admission requirements and register in the same manner as other students. Registration may be accepted even tho a letter of eligibility has not been received from the Veterans' Administration, providing the veteran has applied for the letter of eligibility.

After calling at the Bureau of Veterans' Affairs, 202 Eddy Hall or 207 Administration Building, Agricultural Campus, veterans should proceed as follows:

1. REGISTER in the same manner as all other students in your college and obtain statement of fees.
2. PRESENT FEE STATEMENT AND VETERANS' ADMINISTRATION AUTHORIZATION FOR TRAINING TO TRAINEE ACCOUNT CLERK, Window 18, Office of Admissions and Records, to have statement approved for collection from Veterans' Administration. If you are enrolling in the College of Agriculture, Forestry, and Home Economics, present fee statement to Office of Admissions and Records, 203d Administration Building, University Farm. VETERANS WHO DO NOT HAVE AUTHORIZATIONS may present their fee statements to the trainee account clerk for special accommodation.
3. OBTAIN FEE RECEIPT FROM BURSAR. Turn in your approved fee statement to the Bursar, who will give you a receipt showing that your fees are being paid by the Veterans' Administration. If you are enrolling in the College of Agriculture, Forestry, and Home Economics, turn in your approved fee statement to the Cashier, 203d Administration Building, University Farm, who will give you a receipt showing your fees are being paid by the Veterans' Administration.
4. PRESENT FEE RECEIPT AND LIST OF COURSES, SIGNED BY YOUR ADVISER, TO BUREAU OF VETERANS' AFFAIRS, 209 EDDY HALL or 207 ADMINISTRATION BUILDING, AGRICULTURAL CAMPUS, to obtain purchase voucher on the basis of which books and supplies may be obtained from one of the University Bookstores. Required books and supplies, including Chemistry Deposit Cards and rental cards for lockers and microscopes are issued on the basis of these vouchers. Each department in the University prepares lists of requirements for each course and approval is based on these lists.
5. CANCELLATION OF REGISTRATION. It is very important that veterans who discontinue attendance notify the Office of Admissions and Records, the Bureau of Veterans' Affairs, 202 Eddy Hall, and Mr. J. G. Pease, Veterans' Administration, Minneapolis 6, of this fact as soon as they terminate their attendance. Veterans who cancel should have a conference with an adviser in the Bureau of Veterans' Affairs, 202 Eddy Hall or 207 Administration Building, Agricultural Campus, before actually discontinuing classes or before formal cancellation notification.

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 17, 8:00 a.m. to 4:00 p.m.  
 Tuesday, June 18, 8:00 a.m. to 4:00 p.m.

For the second term Monday, July 29, 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 19 .....	\$2.00
Thursday, June 20 .....	3.00
Friday, June 21 .....	4.00
Monday, June 24 .....	5.00

No registrations are allowed for the first term after Monday, June 24, 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 30 .....	\$2.00
Wednesday, July 31 .....	3.00
Thursday, August 1 .....	4.00
Friday, August 2 .....	5.00

No registrations will be accepted for the second term later than Friday, August 2, without the special permission of the dean of the school or college concerned, and the payment of the late registration fee of \$5.

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

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

FEEES

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

Tuition fee (per term) .....	\$25.80
Incidental fee† (per term) .....	5.25
<hr/>	
Total fee (per term) .....	\$31.05
General deposit .....	2.00

Forestry fees:

Dormitory and dining hall at Lake Itasca Forestry  
 and Biological Station (first term) ..... 5.00

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



## SUMMER SESSION

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

Part-time tuition fee (4 credits or less) (per term) .....	\$15.80
Incidental fee† (per term) .....	5.25
<hr/>	
Total fee (per term) .....	\$21.05
General Deposit .....	\$2.00

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

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

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

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

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

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

For fees for students registered for clinical courses in the School of Dentistry, see page 81.

For fees for students registered for music courses, see page 31.

For fees for students registered for nursing courses, see page 80.

### Refund of Fees

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

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

### AUDITORS

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

### CREDIT

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

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

Courses carrying two or more units of credit require corresponding multiples of these amounts.

#### AMOUNT OF WORK

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

#### EXAMINATIONS

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

#### GRADING SYSTEM

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

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

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

#### REGULATIONS GOVERNING GRANTING OF DEGREES

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

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

2. **Recommendation of the faculty.**

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

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

5. **Attendance at commencement**—All candidates for degrees are required to be present at commencement exercises provided the candidate's work is completed at the end of a quarter when such exercises are held. Commencement exercises for first term Summer Session candidates will be held Thursday, July 25, 1946. Students completing their work for a degree in the second term of the Summer Session will receive the degree without attending formal commencement exercises, or they may receive the degree at the fall quarter commencement exercises in December.

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

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

## SUMMER SESSION

### SUMMER RECREATION

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

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

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

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

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

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

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

### SPECIAL FEATURES

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

In connection with the curriculum in American Studies, a number of visiting professors will be invited to deliver a series of special lectures which will be of interest to all students in the Summer Session. The Department of Music will present a program in American music.

**The Union Art-Craft Workshop**—The Coffman Memorial Union features informal recreational opportunities for developing new skills in the arts and crafts in this workshop where instruction and material are available.

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

**Newsreels**—Another feature which has proved increasingly popular is the Newsreel Theater under the direction of the Visual Education Department of the University. Motion pictures of current events, travel pictures, and educational films of various kinds form the subject matter of the theater. This department usually carries a program of *Films for Teachers* of a type which can be used in the classroom. A program of *Information and Interest Films* is regularly shown in the Coffman Memorial Union Ballroom.

### SUMMER EMPLOYMENT

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

### SPECIAL COURSES

#### A TRAINING PROGRAM IN VOCATIONAL DIAGNOSIS AND COUNSELING FOR REHABILITATION WORKERS

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

## ART COURSES

In view of the present demand for direct vocational training in art, the University is offering an increased number of practical art courses that are open to beginning freshmen and to more advanced students in the Summer Session. These may be combined with basic courses in technique, artistic design, and art historical background. They afford an adequate introduction to the general theory and practice of art and its use in meeting emergency needs in rehabilitation and recreation. For courses in art see Art Education, Architecture, Drawing and Descriptive Geometry, Fine Arts, and Home Economics. Some of these courses in the above departments give credit in the College of Science, Literature, and the Arts as well.

## EXPLANATIONS

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

Following each course is a statement, in parentheses, of credits, classes of students eligible, prerequisites, days of the week, class hours, and location of the class. Thus: (3 cred.; jr., sr., grad.; prereq. 12, 13; MTWThF II; 117F.) means that course carries three credits, is open to juniors, seniors, and graduate students, has for prerequisites Courses 12 and 13, meets on Monday, Tuesday, Wednesday, Thursday, and Friday, at the second hour, in Room 117, Folwell Hall. Abbreviations for class hours and buildings are interpreted by the tables on page 2.

## GRADUATE SCHOOL

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

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

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

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

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

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

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

## CANDIDACY FOR A DEGREE

Admission to the Graduate School does not admit a student to candidacy for a degree. Admission to such candidacy is contingent upon the ability of the student and the quality of his work in the Graduate School of the University of Minnesota. Admission to candidacy indicates a judgment by members of the graduate faculty that the student shows sufficient promise to be permitted to proceed towards a degree. Under no circumstances will a student be admitted to candidacy until he has been in residence for at least one

quarter or Summer Session and until he has removed any deficiencies which may have conditioned his admission to the Graduate School.

Following the completion of from 9 to 15 graduate credits, at least 3 of which must be in the major, the student who expects to obtain a Master's degree should apply for admission to candidacy for that degree on a blank provided for the purpose. This application should be submitted as soon as a student has earned sufficient credits to be eligible to 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 and to carry *in absentia* thesis work to complete the equivalent of three quarters. All requirements for the Master's degree under Plan A must be completed within six years after the first registration, except in social work where the time limit is eight years.

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

Theses of Summer Session students must be completed and a minimum of four copies registered in the Graduate School office at least four weeks before the end of the term in which they take the degree (first term: Thursday, June 27, 1946; second term: Saturday, August 3, 1946.)

#### MASTER'S DEGREE, PLAN B

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

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

A full statement of the requirements for advanced degrees may be found in the Graduate School bulletins and the General Announcement of the Graduate School for 1945-46. Opportunity for a training program in vocational diagnosis and counseling for rehabilitation workers is also offered. (See special bulletin and page 15 of this bulletin.)

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

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

# COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

## GENERAL INFORMATION

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.

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

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

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

An *asterisk* (\*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 18.)

## AMERICAN STUDIES

### FIRST TERM

- 10su. Humanities in the United States I. Regionalism, nationalism, and internationalism, in literature, history, philosophy, and the related arts. (Same as Human. 10.) (3 cred.; all; no prereq.; MTWThF I; 301F.) Mr. McDowell.
- 120su. The Influence of Europe on American Culture I. The transit of ideas and cultural influences from Europe to the United States; their reception and modification. (3 cred.; jr., sr., grad.; no prereq.; MTWThF II; 303F.) Mr. Bestor.
- 122su. The Negro in American Literature. (Same as Eng.122) (3 cred.; jr., sr., grad.; no prereq.; MTWF IV, Th V; 211Bu.) Mr. Brown.
- 201su. Major Interpretations of American Civilization I. Intensive study of important works by native and foreign observers, describing and evaluating American civilization. (3 cred.; grad.; prereq. consent of instructor.; ar.; ar.) Mr. Bestor.

### SECOND TERM

- 11su. Humanities in the United States II. Individualism, democracy, and minorities in a democracy, in literature, history, philosophy, and the related arts. (Same as Human.11.) (3 cred.; all; no prereq.; MTWThF I; 301F.) Miss Turpie.
- 132su. The Cowboy in History and Literature. (3 cred.; jr., sr., grad.; no prereq.; MTWThF III; 301F.) Mr. Dobie.
- 145su. The American Character. (Same as Pol.Sci. 145.) (3 cred.; no prereq.; jr., sr., grad.; MTWThF IV and 1 hr. ar.; 209Bu.) Mr. Brogan.

## ANTHROPOLOGY

### FIRST TERM

- 41su. Introduction to Anthropology. The human races. Relation between physical type and culture. A survey of the prehistoric cultures and physical types. Culture areas and their characteristics. The diffusion and development of culture. (3 cred.; soph., jr., sr.; no prereq.; MTWThF I; 6WeH.) Mr. Watson.



- 122su.\* Problems in Anthropology. Individually directed readings. (Cred. ar.; jr., sr., grad.; prereq. permission of instructor; hrs. and days ar.; 104WeH.) Mr. Watson.
- 161su.\* Primitive Religions. Beliefs and practices in primitive religions. The role of the sacred and supernatural. Beliefs in the life after death. (3 cred.; soph., jr., sr., grad.; no prereq.; MTWThF II; 6WeH.) Mr. Watson.

#### SECOND TERM

- 42su. The Growth of Cultures. Man's first appearance in Old and New Worlds; earliest stages in the development of civilization; discovery and invention, the formation of cultural patterns, and the spread and adaptation of culture to various environments in Asia, Africa, the South Seas, and among the American Indians; changes in arts, beliefs, and institutions of primitive communities as observed in recent times. (3 cred.; soph., jr., sr.; no prereq.; MTWThF I; 6WeH.) Mr. Watson.
- 123su.\* Problems in Anthropology. Individually directed readings. (Cred. ar.; jr., sr., grad.; prereq. permission of instructor; hrs. and days ar.; 104WeH.) Mr. Watson.
- 162su.\* Peoples of Negro Africa. A survey of the physical types and cultures of Negro Africa. (3 cred.; soph., jr., sr., grad.; no prereq.; MTWThF II; 6WeH.) Mr. Watson.

#### ASTRONOMY

##### FIRST TERM

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

##### SECOND TERM

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

#### BOTANY

##### FIRST TERM

- 4su.‡ General Botany. A survey lecture and laboratory course on plants and their human interest; characteristics of living matter; fundamental facts of growth, structure, and reproduction of plants; principles underlying inheritance, variation, organic evolution, and relations to environment. (5 cred.; all; no prereq.; lect. MTWThF I; 06Bo; lab. MTWThF II-III; 1Bo.) Mr. Abbe.
- 197su.‡ Problems. Advanced work in some specialized phase of botany. (1-5 cred.; jr., sr.; prereq. consent of instructor; ar.; ar.) Mr. Abbe.
- 204su.\* Research Problems. (1-5 cred.; grad.; prereq. consent of instructor; ar.; ar.) Mr. Abbe.

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

## SECOND TERM

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

## CLASSICS

## FIRST TERM

*Courses for Which No Knowledge of Greek or Latin Is Required*

- 42-43su. Greek Mythology. Lectures, textbook work, and illustrative readings, supplemented by occasional stereopticon views. The origin and interpretation of the myth; its relation to literature, art, and religion. (3 cred.; soph., jr., sr.; no prereq.; MTWF IV and 1 hr. ar.; 112F.) Mr. Heller.

## GREEK

- 171su.\* Independent Reading Course. (3 cred.; jr., sr., grad.; prereq. consent of instructor; MTWThF II; 110F.) Mr. Heller.

## LATIN

- 171su.\* Independent Reading Course. (3 cred.; jr., sr., grad.; prereq. consent of instructor; MTWThF II; 110F.) Mr. Heller.
- 212su.\* Graduate Seminar. Opportunity will be offered students to pursue independent research and to undertake or to continue work on theses. (3 cred.; ar.) Mr. Ogle.

## ECONOMICS

For courses in Economics, see School of Business Administration offerings listed on page 104.

## ENGLISH

## FIRST TERM

## LITERATURE

- 22su. Introduction to Literature. This course carries university credit for the second quarter of Eng. 21-22-23. Dryden, Pope, Swift, Addison and Steele, Johnson, Boswell, Fielding, and Sheridan. (6 cred.; all; prereq. Eng. A-B-C, or Comp. 4-5-6, or exemption from requirement; MTWThF II and MTWF IV, Th V; 322F.) Mr. Hessler.
- 37su. Twentieth Century Literature. This course carries university credit for the first quarter of Eng. 37-38-39. The literature of opinion, biography, travel, etc., with some reading in the short story. This course is intended as a general introduction to the intelligent reading of literature for all students in all colleges, and not particularly for those meaning to specialize in English. (3 cred.; fr. qualified to take Eng. A-B-C, soph., jr., sr.; prereq.†; MTWThF III; 322F.) Ar.
- 55su. Shakespeare. *A Midsummer Night's Dream*, *The Merchant of Venice*, *Much Ado About Nothing*, *Twelfth Night*, and *The Tempest*. Assignment of other comedies for independent reading optional with the instructor. (3 cred.; jr., sr.; prereq.†; MTWThF I; 204F.) Miss Christie.

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

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

- 56su. Shakespeare. A continuation of 55su. *Henry IV*, parts 1 and 2, *Julius Caesar*, *Hamlet*, and *Macbeth*. Assignment of other historical plays for independent reading optional with the instructor. (3 cred.; jr., sr.; prereq.†; MTWThF II; 305F.) Ar.
- 62su. Milton. (3 cred.; jr., sr.; prereq. 21-22 or 55-56; MTWF IV, Th V; 115F.) Mr. Dunn.
- 74su. American Literature. This course carries university credit for the second quarter of English 73-74. (3 cred.; jr., sr.; prereq.†; MTWThF I; 305F.) Mr. S. A. Brown.
- 75su. Chaucer. Reading of tales from the Canterbury collection, with introduction dealing with the grammar and literary forms of fourteenth-century English. (3 cred.; jr., sr.; prereq.†; MTWThF III; 205F.) Mr. Clark.
- 100su. Old English. The relation to modern English is particularly emphasized. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF I; 205F.) Mr. Clark.
- 105su. Dryden and Pope. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF II; 302F.) Mr. Monk.
- 109su. Romantic Poets of the Nineteenth Century (Wordsworth, Coleridge, Scott). This course carries university credit for the first quarter of Eng. 109-110. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWF IV, Th V; 305F.) Mr. Monk.
- 111su. Seventeenth Century Prose. This course carries university credit for the first quarter of Eng. 111-112. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF III; 115F.) Mr. Dunn.
- 122su. The Negro in American Literature. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWF IV, Th V; 211Bu.) Mr. S. A. Brown.
- 126su. Restoration and Eighteenth Century Drama. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF II; 206F.) Mr. Hillhouse.
- 128su. Contemporary American Literature. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF II; 204F.) Mr. Farrell, Mr. Gray, Mr. McDowell, and others.
- 129su. Modern Drama. Contemporary drama from 1870 to the present. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF I; 206F.) Mr. Hillhouse.
- 130su. The Emergence of Realism in American Literature. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF III; 204F.) Mr. Kazin.
- 165su. The Historical Study of Modern English—an introductory course for all who major in English, both in S.L.A. and in Ed. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; not open to students who have taken Eng. 100; MTWThF III; 303F.) Mr. Allen.
- 174su. American English. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF I; 303F.) Mr. Allen.

*For Graduate Students Only*

- 267su. Melville and the Modern World. (3 cred.; 4 hrs. ar.; 215F.) Mr. Kazin.

### 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 a prereq. for all college courses offered by the Departments of English and Speech, and the School of Journalism. Registrations for this course should be made in 402 Administration Building. There is a special fee of \$7.50 for the course. (No cred.; MTWThF I, II, III; ar.) Ar.

- 4su. Freshman Composition. Practical training in the art of writing; the principles of structure, and analysis of specimens of good prose. This course carries university

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

credit for the first quarter of Comp. 4-5-6. (3 cred.; all; prereq. placement test; Sec. 1, MTWThF I, 306F, ar.; Sec. 2, MTWThF II, 306F, ar.; Sec. 3, MTWThF III, 306F, ar.; Sec. 4, MTWF IV, Th V, 306F, ar.)

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

## SECOND TERM

## LITERATURE

- 56su. Shakespeare. A continuation of 55su. *Henry IV*, parts 1 and 2, *Julius Caesar*, *Hamlet*, and *Macbeth*. Assignment of other historical plays for independent reading optional with the instructor. (3 cred.; jr., sr.; prereq.†; MTWThF II; 305F.) Mr. Mallam.
- 73su. American Literature. This course carries university credit for the first quarter of Eng. 73-74. (3 cred.; jr., sr.; prereq.†; MTWThF III; 306F.) Miss Turpie.
- 107su. Eighteenth Century Prose. This course carries university credit for the first quarter of Eng. 107-108. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF I, 305F.) Mr. Mallam.
- 110su. Romantic Poets of the Nineteenth Century. (Byron, Shelley, Keats.) This course carries university credit for the second quarter of Eng. 109-110. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF III; 303F.) Mr. Cameron.
- 131su. The Literature of the Southwest. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWThF II; 303F.) Mr. Dobie.
- 151su. Recent Poetry. Poetry in England and America since the death of Queen Victoria. The main tradition and tendencies now prevailing. (3 cred.; jr., sr., grad.; prereq. 6 cred. above 50; MTWF IV, Th V; 303F.) Mr. Cameron.

## COMPOSITION

- Preparatory Composition. (See First Term for description.) (No cred.; MTWThF I; ar.) Ar.
- 4su. Freshman Composition. (See 4su. first term.) (3 cred.; all; prereq. placement test; MTWThF I; 303F.) Ar.
- 5su. Freshman Composition. (See 5su. first term.) (3 cred.; all; prereq. Comp. 4; Sec. 1, MTWThF I, 306F, ar.; Sec. 2, MTWThF II, 306F, ar.)
- 6su. Freshman Composition. (See 6su. first term.) (3 cred.; all; prereq. Comp. 4-5; Sec. 1, MTWThF III, 304F, Mrs. Phelan; Sec. 2, MTWThF II, 311½F, ar.)
- 28su. Advanced Writing. (See 28su. first term.) (3 cred.; jr., sr.; prereq. Eng. A-B-C or Comp. 4-5-6 or exemption from requirement; MTWF IV, Th V; 304F.) Mrs. Phelan.

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

## FINE ARTS

## FIRST TERM

- 1su. Introduction to Modern Art. Introductory course in the history and appreciation of art, based on contemporary painting, sculpture, and architecture. Lectures illustrated with lantern slides. In the study of the various styles, emphasis will be placed upon art facilities available in the Twin Cities, such as important architectural monuments, art collections in the Minneapolis Institute of Arts, Walker Art Center, and the St. Paul Gallery. Material offered in this course corresponds to that of Fine Arts 1f given during the academic year. (3 cred.; no prereq.; MTWThF II and 1 hr. ar.; 2J.) Mr. Schmeckebier.
- 109su. Regional Art in America. A course for advanced students of history, art, and literature on American art from the point of view of its regional variations. Emphasis will be placed on contemporary painting, sculpture, and architecture in the light of the important social and economic traditions which help shape the distinctive styles of the United States today. (3 cred.; prereq. 1, 2, 3, or equiv., or consent of instructor; MTWF IV and 2 hrs. ar.; 2J.) Mr. Schmeckebier.

## SECOND TERM

- 3su. Introduction to Renaissance and Baroque Art. Continuation of 1su. dealing with painting, sculpture, and architecture of the sixteenth and seventeenth centuries in Europe. Emphasis on the great traditions: the discovery of reality, the revival of classical antiquity, the development of court art, and the religious art of the Reformation and the Counter Reformation. The lectures will be illustrated with lantern slides throughout the course, and are intended for beginning students as well as those who have had 1su. Material corresponds to that offered in Fine Arts 3s during the academic year. (3 cred.; no prereq.; MTWThF II and 1 hr. ar.; 2J.) Mr. Schmeckebier.
- 155su. Great Masters of the Renaissance. A course for advanced students of history, art, and literature dealing particularly with the great painters of Italy, Germany, and Flanders during the fifteenth and sixteenth centuries: Masaccio, Botticelli, Leonardo da Vinci, Raphael, Michelangelo, Titian, the Van Eycks, Dürer, and Grünewald. The lectures will be illustrated with lantern slides throughout the course. (3 cred.; prereq. 1, 2, 3, or equiv., or consent of instructor; MTWF IV and 2 hrs. ar.; 2J.) Mr. Schmeckebier.

## GENERAL STUDIES

## FIRST TERM

## HOW TO STUDY

- 1su. How to Study. The major emphasis is upon the acquisition of skill in reading, analyzing and organizing assignments, note making, and techniques for writing term papers and examinations. Special attention will be given to teachers who wish to train high school students in methods of study. (2 cred.; all; prereq. permission of instructor; MTWThF I; 104J.) Mr. Herbert.

## HUMANITIES

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

- 10su. Humanities in the United States I. Regionalism and internationalism, in literature, history, philosophy, and the related arts. (Same as American Studies 10su.) (3 cred.; all; no prereq.; MTWThF I; 301F.) Mr. McDowell.
- 100su.\* Humanities Proseminar. Topic: The place of the humanities in an age of science. Materials: Critical essays by Arnold, Huxley, Pater, Tolstoy, T. S. Eliot, and others. (2 cred.; sr., grad.; MTWF IV; 304F.) Mr. Castell.

### SOCIAL SCIENCE

- 2su. Introduction to Social Science. The characteristics of contemporary society. A study of selected economic, political, and social problems. The place of social science in the modern world. (3 cred.; all; no prereq.; MTWThF II; 110P.) Mr. Sewrey.

#### SECOND TERM

#### HOW TO STUDY

- 1su. How to Study. (See 1su. first term.) (2 cred.; all; no prereq.; MTWThF III; 104J.) Mr. Herbert.

### HUMANITIES

- 4su. Humanities in the Modern World. (See 4su. first term.) (3 cred.; all; no prereq.; MTWThF III; 301F.) Miss Shaw.
- 11su. Humanities in the United States II. Individualism, democracy, and minorities in a democracy in literature, history, philosophy, and the related arts. (Same as American Studies 11su.) (3 cred.; all; no prereq.; MTWThF I; 301F.) Miss Turpie.

### SOCIAL SCIENCE

- 3su. Introduction to Social Science. The continuation of 2su. (See 2su. first term.) (3 cred.; all; no prereq.; MTWThF II; 110P.) Mr. Sewrey.

### GEOGRAPHY

#### FIRST TERM

- 41su.† Geography of Commercial Production. A study of commodities which enter into world trade and the geographic basis for their production. (5 cred.; all; no prereq.; MTWThF I-II; 103Bu.) Mr. Weaver.
- 53su. Historical Geography of North America. A study of the geography of past decades of American history. (3 cred.; jr., sr.; prereq. 11 or 15 cred. in history; MTWThF III; 103Bu.) Mr. Brown.
- 110su.\* Geography of South America. The environmental basis for population distribution and economic activities in selected type areas. (3 cred.; jr., sr., grad.; prereq. 8 cred.; MTWF IV and 1 hr. ar.; 103Bu.) Mr. Brown.

#### SECOND TERM

- 11su.† Human Geography. A study of the factors of the physical environment and their effect on human activities. (5 cred.; all; no prereq.; MTWThF I-II; 103Bu.) Mr. Davis.
- 71su. Geography of North America. A consideration of environmental conditions and their limiting effect on economic activities in the major geographic regions of the United States and Canada. (3 cred.; jr., sr.; prereq. 11; MTWThF III; 103Bu.) Mr. Dicken.
- 101su.\* Geography of Europe. A detailed consideration of the present economic activities and future possibilities of the principal geographic regions of Europe. (3 cred.; jr., sr., grad.; prereq. 8 cred.; MTWF IV and 1 hr. ar.; 103Bu.) Mr. Dicken.

† Enrolment limited to 60. Registrations must be tallied at Geography desk.

## GEOLOGY AND MINERALOGY

## FIRST TERM

- 1su. General Geology (Geologic Processes and Their Results.) A study of the varied aspects of our natural environment with special reference to the influence of geologic processes and structure on landscape development. The interpretation of natural scenery produced by glaciers, streams, ground water, geysers, oceans, volcanoes, etc. Lectures supplemented by laboratory work with minerals and rocks. Also several field excursions. (5 cred.; all; no prereq.; MTWThF I-II; 210P.) Mr. Thiel.
- 100su. 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. 105.) Mr. Gruner, Mr. Thiel.
- 150su.§ Field Geology (Black Hills)—June 15 to July 15, approximately. (Cred. ar.; jr., sr., grad.; prereq. 125.) Mr. Schwartz.
- 170su. Geologic Problems. (3 cred.; jr., sr., grad.; prereq. permission of major adviser; ar.) Mr. Thiel.

NOTE—For further information, see instructors.

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

## GERMAN

## FIRST TERM

- 1su. Beginning A. (5 cred.; all; no prereq.; MTWThF I-II; 209½F.) Mr. Genschmer.
- 3su.† Intermediate German. (5 cred.; prereq. German 2 or two years of high school German; MTWThF I-II; 207F.) Mr. Holske.
- 4su.† Intermediate German. (5 cred.; prereq. German 3 or three years of high school German; MTWThF I-II; 207F.) Mr. Holske.
- 130su. The Age of Luther. (3 cred.; sr., grad.; prereq. German 101 and 11 cred. above German 59; ar.; ar.) Mr. Genschmer.
- 143su. The Classical Period: Schiller's Poetry and Dramas. (3 cred.; sr., grad.; prereq. German 101 and 11 cred. above German 59; ar.; ar.) Mr. Holske.

## SECOND TERM

- 2su. Beginning B. (5 cred.; prereq. German 1 or one year of high school German; MTWThF I-II; 209½F.) Mr. Downs.
- 3su.† Intermediate German. (See 3su. first term.) Mr. Pfeiffer.
- 4su.† Intermediate German. (See 4su. first term.) Mr. Pfeiffer.
- 259su.\* Direction of Graduate Work. (Cred. ar.; grad.; ar.) Mr. Pfeiffer.

## HISTORY

## FIRST TERM

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

† 3su and 4su meet together as one class; 4su students will do some extra reading.

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

- 20su. American History to 1844. Part I of sophomore survey. (3 cred.; soph., jr., sr.; no prereq.; MTWThF IV and 1 hr. ar.; 111Bu.) Ar.
- 22su. American History, 1878 to present. Part III of sophomore survey. (3 cred.; soph., jr., sr.; no prereq.; MTWThF III; 112Bu.) Mr. Osgood.
- 64su. European Expansion Overseas: Imperialism since 1500. (3 cred.; jr., sr.; no prereq.; MTWThF II; 112Bu.) Mr. Willson.
- 67su. Twentieth Century Europe: Background of World War II. (3 cred.; jr., sr.; no prereq. MTWThF III; 211Bu.) Mr. Wolf.
- 73su. English History: Tudor and Stuart Periods. (3 cred.; jr., sr.; no prereq.; MTWThF IV and 1 hr. ar.; 112Bu.) Mr. Willson.
- 79su. World War II: Foundations of National Power. (3 cred.; jr., sr.; prereq. Hist. 1-2-3 or Hist. 20-21-22; MTWThF II; 111Bu.) Mr. Loehr.
- 83su. American Economic History: Colonial Life. (3 cred.; jr., sr.; MTWThF III; 221Bu.) Mr. Loehr.
- 86asu. Social and Intellectual Development of the U. S. (3 cred.; jr., sr.; MTWThF I; 112Bu.) Mr. Wright.
- 90su. The West in American History. Part I. (3 cred.; jr., sr.; MTWThF IV and 1 hr. ar.; 221Bu.) Mr. Osgood.
- 109su. European Expansion Overseas. (3 cred.; see 64su.) Mr. Willson.
- 109su. Twentieth Century Europe. (3 cred.; see 67su.) Mr. Wolf.
- 110su. English History. (3 cred.; see 73su.) Mr. Willson.
- 120su. The Influence of Europe on American Culture. (See American Studies 120su.) Mr. Bestor.
- 122su. The West in American History. (3 cred.; see 90su.) Mr. Osgood.
- 146su. Social and Intellectual Development of the U. S. (3 cred.; see 86asu.) Mr. Wright.
- 149su. World War II: Foundations of National Power. (3 cred.; see 79su.) Mr. Loehr.
- 156su. Selected Readings in European History: 17th Century France. (3 cred.; reading knowledge of French or German required; ar.; ar.) Mr. Wolf.
- 190su. Selected Readings in Cultural Heritage of Colonial America. (3 cred.; sr., grad.; prereq. permission of instructor; ar.; ar.) Mr. Wright.

## SECOND TERM

- 2su. Civilization of the Modern World. Part II of freshman survey. (3 cred.; all; no prereq.; MTWThF III; 111Bu.) Ar.
- 21su. American History, 1844-1877. Part II of sophomore survey. (3 cred.; soph., jr., sr.; no prereq.; MTWThF I; 111Bu.) Mr. Jackson.
- 55su. Medieval European History. Part III. (3 cred.; jr., sr.; no prereq.; MTWThF I; 221Bu.) Mr. Krey.
- 55asu. The Renaissance and Reformation. Part III. (3 cred.; jr., sr.; no prereq.; MTWThF III; 221Bu.) Mr. Krey.
- 58asu. Russian History: Late Empire and Soviet Union. Part III. (3 cred.; jr., sr.; no prereq.; MTWThF II; 111Bu.) Mr. Steefel.
- 59su. Continental Europe: Reconstruction after Napoleonic Wars. (3 cred.; jr., sr.; MTWThF IV and 1 hr. ar.; 111Bu.) Mr. Steefel.
- 65su. Twentieth Century Europe. Part I. (3 cred.; jr., sr.; no prereq.; MTWThF I; 209Bu.) Mr. Deutsch.
- 90asu. History of the South. (3 cred.; jr., sr.; no prereq.; MTWThF IV and 1 hr. ar.; 112Bu.) Mr. Shryock.
- 92su. The Trans-Mississippi West. (3 cred.; jr., sr.; no prereq.; MTWThF III; 209Bu.) Mr. Jackson.



- 94su. American Diplomatic History. Part II. (3 cred.; jr., sr.; no prereq.; MTWThF I; 112Bu.) Mrs. Tyler.
- 95asu. Latin-American History. Part III. (3 cred.; jr., sr.; no prereq.; MTWThF II; 112Bu.) Mrs. Tyler.
- 96su. History of Medicine in the U. S. (3 cred.; jr., sr.; no prereq.; MTWThF II; 221Bu.) Mr. Shryock.
- 106su. Medieval European History. (3 cred.; see 55su.) Mr. Krey.
- 106su. The Renaissance and Reformation. (3 cred.; see 55asu.) Mr. Krey.
- 107su. Twentieth Century Europe. (3 cred.; see 65su.) Mr. Deutsch.
- 107su. Continental Europe. (3 cred.; see 59su.) Mr. Steefel.
- 109su. Russian History. (3 cred.; see 58asu.) Mr. Steefel.
- 124su. Trans-Mississippi West. (3 cred.; see 92su.) Mr. Jackson.
- 126su. American Diplomatic History. (3 cred.; see 94su.) Mrs. Tyler.
- 131Asu. History of Medicine in the U. S. (3 cred.; see 96su.) Mr. Shryock.
- 132Asu. History of the South. (3 cred.; see 90asu.) Mr. Shryock.
- 136su. Latin-American History. (3 cred.; see 95asu.) Mrs. Tyler.
- 224su. Seminar in Modern European History. Reading knowledge of French or German. (3 cred.; grad.; ar.) Mr. Deutsch.

#### HOW TO STUDY

See General Studies, page 24.

#### HUMANITIES

See General Studies, page 24.

#### SCHOOL OF JOURNALISM

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

#### FIRST TERM

- 13su. Introduction to Reporting. Lectures, practice, and conferences. Practical instruction in news gathering, news writing, and news analysis. The study of news sources and problems of the reporter. Reports on aspects of leading American newspapers and on selected books dealing with the contemporary newspaper. This course is a basic course for journalism majors, but for high school and junior college teachers who are enrolled, assignments are given which relate to their work. Enrolment is limited to twenty-eight students in a section. (3 cred.; soph., jr., sr.; Sec. 1, MTWThF I, 212MurH., Mr. Charnley; Sec. 2, MTWThF II, 212MurH., Mr. Emery.)
- 51su. News Editing. Instruction and practice in editing news copy, proofreading, headline writing, and news evaluation. News display and makeup. Enrolment is limited to fifteen students in a section. (3 cred.; jr., sr.; prereq. 15; lect. MW IV, 302MurH., Mr. Emery; lab. Sec. 1, TF IV and 1 hr. ar., 206MurH., Mr. Emery; lab. Sec. 2, TF IV and 1 hr. ar., 320 MurH., Mr. Eddy.)
- 55su.‡ Advertising and Newspaper Typography. The study of traditional and modern type designs. Principles and practices of typographical arrangement of advertisements and newspaper pages. Lectures and laboratory work designed to teach the student how to work with type, how to prepare layouts, how to handle headline forms, copy
- ‡ A fee of \$1 per credit is charged for this course in addition to the general fee.

blocks, illustrations, borders, type devices, and other layout and makeup patterns. The course is planned for supervisors of school publications as well as for undergraduate majors in journalism. Enrolment is limited to fifteen students in a section. (3 cred.; prereq. 15, or consent of the instructor; lect. TTh VI, 311MurH.; lab. Sec. 1, MW VI-VII, 315MurH., Mr. Barnhart; lab. Sec. 2, MW VIII-IX, 315MurH., Ar.)

- 73su. Magazine Writing and Editing. Lectures and conferences. The writing of non-fiction 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. Enrolment limited to twenty students in a section. (3 cred.; jr., sr.; prereq. 15, or consent of instructor; Sec. 1, MTWThF II, 302MurH., Mr. Charnley; Sec. 2, MTWThF II, 311MurH., Mr. Ford.)
- 82su. Supervision of School Publications. Practical consideration of editorial, business management, and production problems facing supervisors of high school, junior college, and teachers college newspapers, magazines, yearbooks. (3 cred.; jr., sr.; prereq. consent of instructor; MTWF IV and 1 hr. ar.; 311MurH.) Mr. Barnhart.
- 85su. The Press and the Public. The function of the press in modern society; its relation to government, foreign affairs, labor, agriculture, industry, education, the law, entertainment, and sports; the fundamental press freedoms, and restrictions imposed on them in law and practice; the internal structure of the press. The course is designed for laymen as well as for those who have professional interest in the newspaper, its operation, its responsibilities. Majors in journalism may substitute this course as a requirement in lieu of Journ. 112, Current Newspaper Problems. (3 cred.; jr., sr.; no prereq.; MTWThF I; 311MurH.) Mr. Wiggins.
- 113su.\* The Press and Foreign Affairs. An analysis and appraisal of the reporting and interpretation of foreign news by the leading newspapers and press associations of various countries. The foreign correspondent, the press and radio in the important national states; some of the factors that affect news from these countries. A study of the channels of communication and an analysis of the struggle for cable, wireless, and radio supremacy by the powers. (3 cred.; jr., sr., grad.; no prereq.; MTWThF III; 311MurH.) Mr. Nafziger.
- 210su.\* Research in Newspaper Problems. Individual research in either historical or current problems of the newspaper, periodical or radio. (2 or 3 cred.; seminar for graduate students; prereq. consent of instructor; hrs. ar.) Mr. Nafziger.

## SECOND TERM

- 14su. Newspaper Reporting. Advanced reporting problems, both in news gathering and news writing. Extensive practice assignments. Writing the feature story. Specialized news sources. Enrolment is limited to twenty-eight students in a section. (3 cred.; soph., jr., sr.; Sec. 1, MTWThF I, 212MurH., Mr. Jensen; Sec. 2, MTWThF II, 212MurH., Mr. Schooley.)
- 67su. Radio News Writing. Processing news for radio broadcast; radio news style; news commentary, special events, interviews, news dramatization and other special radio news forms. Students aid in the preparation of news broadcasts for KUOM, the University station. (3 cred.; jr., sr.; prereq. 15, or consent of instructor; MWF II and 2 hrs. ar.; 302MurH.) Mr. Jensen.
- 133su.\* Propaganda and Censorship in the Modern World. The agencies of communication and their role in the opinion-forming process. Propaganda skills and techniques of governments (in peace and war), political parties, pressure groups and other or-

ganized bodies that seek to control mass behavior. Democratic procedures in appealing to public opinion contrasted with authoritarian methods of enforcing acceptance. A discussion of the theories of public relations. Censorship controls in peace and war. (3 cred.; jr., sr., grad.; no prereq.; MTWThF III; 311MurH.) Mr. Casey.

210su.\* Research in Newspaper Problems. (See 210su, first term.) Mr. Casey.

## LINGUISTICS AND COMPARATIVE PHILOLOGY

See Russian, page 39.

## MATHEMATICS

### FIRST TERM

- 1su. Higher Algebra. A collegiate treatment of the topics of elementary algebra for those who have had one year of elementary algebra. (5 cred.; all; prereq. 1 yr. of elementary algebra in high school; open for credit to any student offering not more than one-half year of high school higher algebra for entrance credit; MTWThF I-II; 104F.) Miss Hepworth, Miss Owchar.
- 6su. Trigonometry. A treatment of logarithms and plane trigonometry. (5 cred.; all; prereq. 1 or high school higher algebra; open for credit even to students with high school trigonometry; MTWThF I-II; 102F.) Mr. Donsker.
- 7su. College Algebra. Selected topics in algebra commencing with quadratic equations and extending through the theory of equations and determinants, omitting logarithms. (5 cred.; all; prereq. 1 or high school higher algebra; MTWF III-IV, Th III, V; 104F.) Mr. Lindgren.
- 15su. Elementary Mathematical Analysis I. This, together with Course 16, provides a course for premedical and other students who desire a survey of college mathematics including trigonometry, algebra, and calculus with emphasis on fundamental ideas rather than on technical preparation for more advanced courses in mathematics. (5 cred.; all; prereq. 1 or high school higher algebra; MTWF III-IV, Th III, V; 105F.) Mr. Crawford.
- 20su. Mathematics of Investment. The principles and applications of the theory of interest, annuities, amortization, valuation of bonds, sinking funds, and depreciation. (5 cred.; all; prereq. 8, or 6 and 7; MTWThF I-II; JAud.) Miss Gibbens.
- 30su. Analytic Geometry. (5 cred.; all prereq. 6 and 7 or 6 and 8 or 15 and 16; MTWF III-IV, Th III, V; 102F.) Mr. Wegner, Mr. Donsker.
- 50su. Calculus I: Differential Calculus. (5 cred.; jr., sr.; prereq. 30; MTWThF I-II; 101F.) Miss Carlson, Mr. Crawford.
- 106su. Differential Equations. A first course in differential equations with emphasis on their applications in physics and geometry. (3 cred.; jr., sr., grad.; prereq. 51; MTWThF II; 124F.) Mr. Wegner.
- 110su.\* A Tutorial Course in Advanced Mathematics. Properly qualified students whose needs are not met by the courses listed may, by special arrangement, be given an opportunity of obtaining through lectures or through reading and conferences the content of other graduate courses regularly offered by the department. (3 or 6 cred.; jr., sr., grad.; prereq. 51; ar.) Mr. Cameron.
- 122su.\* Introduction to the Theory of Probability. Fundamental principles of probability; the binomial distribution; the normal frequency curve; introduction to the theory of sampling. (3 cred.; jr., sr., grad.; prereq. 51; MTWThF III; 101F.) Mr. Cameron.
- 124su.\* Modern Analytic Geometry. This course includes advanced topics in analytic geometry such as inversions, poles, and polars; also the use of homogeneous and line coordinates to study properties of conics and higher plane curves. (3 cred.; jr., sr., grad.; prereq. 51; MTWF IV, Th V; 124F.) Miss Carlson.

## SECOND TERM

- 1su. Higher Algebra. (See 1su. first term; MTWThF I-II; 104F.) Miss Hepworth.
- 6su. Trigonometry. (See 6su. first term.) (5 cred.; all; prereq. 1 or high school higher algebra; open for credit even to students with high school trigonometry; MTWThF I-II, 105F.) Miss Owchar.
- 7su. College Algebra. (See 7su. first term.) (5 cred.; all; prereq. 1 or high school higher algebra; MTWThF I-II; 101F.) Mr. Donsker.
- 16su. Elementary Mathematical Analysis II. (See 15su. first term.) (5 cred.; all; prereq. 15; MTWF III-IV, Th III, V; 105F.) Mr. Crawford.
- 51su. Calculus II; Integral Calculus. (5 cred.; jr., sr.; prereq. 50; MTWThF I-II; 102F.) Mr. Wegner.
- 110su.\* A Tutorial Course in Advanced Mathematics. (See 110su. first term.) Mr. Campaigne.
- 170su.\* Introduction to Modern Algebra. Abstract theory of groups, rings, and fields, with examples. Systems of axioms. (3 cred.; jr., sr., grad.; prereq. 51 or consent of instructor; MTWThF III; 104F.) Mr. Campaigne.

## MUSIC‡

## FIRST TERM

- 1su. Ear Training. (2 cred.; for non-music majors. Primarily for child welfare and elementary school teachers; no prereq.; MTWThF I; 3Mu.) Ar.
- 1Tsu. Music Theory. A correlated course including ear training, sight singing, melodic and harmonic dictation, keyboard and written harmony. (3 cred.; prereq. consent of instructor; MTWThF III-IV; 3Mu.) Ar.
- 3Tsu. Music Theory. Continuation of the correlated course including ear training, sight singing, melodic and harmonic dictation, keyboard and written harmony. (3 cred.; prereq. consent of instructor; MTWThF III-IV; 103Mu.) Mr. Oberg.
- 11su. Piano. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Miss Kendall, Mr. Stephens.
- 12su. Voice. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Miss Hull, Mr. Schirmer.
- 13su. Violin. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Mr. Peterson.
- 14-26su. Instruments of the Orchestra. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Ar.
- 27su. Organ. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Mr. Jennings.
- 31su. Music Appreciation. Cultivation of better understanding of music heard today. The course is designed for students with a general interest in music. (2 cred.; all; no prereq.; MTWThF II; 104Mu.) Mr. Oberg.
- 35su. History of Music. (2 cred.; all; no prereq.; MTWThF III; 104Mu.) Mr. Ferguson.
- 43su. University Chorus. (1 cred.; all; prereq. consent of instructor; MTWThF VII; 5NMA.) Ar.
- 49su. Gregorian Chant. A practical presentation of plain song through performance as well as study. (3 cred.; all; no prereq.; MTWThF VI; 4Mu.) Rev. Keller.
- 70su. Normal Piano. (2 cred.; jr., sr.; prereq. 2 yrs. of piano; MTWF IV; 3Mu.) Miss Kendall.
- 76su. Form and Analysis. (3 cred.; jr., sr.; prereq. 4T and Psy. 1-2; MTWThF II; 103Mu.) Mr. Stephens.

‡ Courses for which no special fee is indicated may be taken by Summer Session students on payment of the regular Summer Session fee. Students who pay as much as \$25 per term for special music fees may enroll for other courses in any department of the Summer Session for an additional fee of \$20.05 per term (tuition \$14.80, incidental fee \$5.25), making a total of \$45.05 for general and special fees. All students who register for either the general courses or the special courses must pay the \$2 deposit.

- 77-78-79su. Composition-Orchestration. (2 cred.; prereq. 4T-5T-6T; 7-8; ar.; 102Mu.) Mr. Ferguson.
- 83-84-85su. Advanced Composition. (2 cred.; prereq. 77-78-79; ar.; 102Mu.) Mr. Ferguson.
- 101su. American Music. (3 cred.; sr., grad.; prereq. consent of instructor; MTWThF IX; 104Mu.) Ar.
- 200-201-202su. Basis of Musical Expression. (3 cred.; grad.; MWF VII-VIII; 104Mu.) Mr. Ferguson.
- 205-206-207su. Composition in Larger Forms. (3 cred.; grad.; ar.; 102Mu.) Mr. Ferguson.
- 209-210-211su. Advanced Topics in Musical Analysis. (3 cred.; grad.; TTh VII-VIII and 2 hrs. ar.; 104Mu.) Mr. Oberg.

## SECOND TERM

- 2Tsu. Music Theory. A correlated course including ear training, sight' singing, melodic and harmonic dictation, keyboard and written harmony. (3 cred.; prereq. consent of instructor; MTWThF I-II; 103Mu.) Ar.
- 11su. Piano. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Ar.
- 12su. Voice. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Ar.
- 13su. Violin. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Mr. Peterson.
- 14-26su. Instruments of the Orchestra. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Ar.
- 27su. Organ. Two lessons a week. Fee \$25. (2 cred.; ar.; Mu.) Ar.
- 32su. Music Appreciation. A continuation of Mu. 31. (2 cred.; all; no prereq.; MTWThF III; 104Mu.) Ar.
- 44su. University Chorus. (1 cred.; all; prereq. consent of instructor; MTWThF VII; 5NMA.) Ar.

## PHILOSOPHY

## FIRST TERM

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

- 1su. Problems of Philosophy. Introduction to the subject; the main fields of investigation; permanent problems; principal methods and schools of philosophy; historical and contemporary views. (3 cred.; fr., soph., jr., sr.; no prereq.; MTWThF I; 302F.) Mr. Oliver.
- 2su. Logic. A study of the difference between logical and fallacious reasoning; types of fallacies; the rules of a good definition; syllogisms; what constitutes proof; hypothesis; generalization; probability; evaluation. (3 cred.; fr., soph., jr., sr.; no prereq.; MTWThF II; 321F.) Mr. Oliver.
- 63su. Principles of Mature Thinking. From infantile to adult intelligence. A study of language, meaning, understanding, reasoning, and the ways of knowing. The functions of logic and experience. Critique of infantilism in thought and conduct. Applications to problems of philosophy and education. (3 cred.; soph., jr., sr.; no prereq.; MTWThF II; 302F.) Mr. Feigl.
- 114su.\* American Philosophy from Puritanism to Pragmatism. A study of Puritanism; the Revolutionary period, transcendentalism, evolutionism, idealism, and pragmatism. (3 cred.; jr., sr., grad.; prereq. 6 cred.; MWF IV and 1 hr. ar.; 302F.) Mr. Schneider.

- 153su.\* Philosophy of Science. An attempt to provide a clear understanding of the meaning, methods, and implications of modern science through the examination of basic concepts, presuppositions, and procedures. The topics include description, explanation, prediction, experimentation; space, time, number, matter, energy; causality, probability, statistics; organic life, evolution, mind. (3 cred.; jr., sr., grad.; prereq. consent of instructor; MTWThF III; 302F.) Mr. Feigl.
- 191su.\* Seminar. Research Problems in Philosophy. (Cred. ar.; open only to qualified students upon consultation with instructor.) Mr. Feigl.
- 191Asu.\* Seminar. Philosophical Crises in American Religious History. (Cred. ar.; open only to qualified students upon consultation with instructor.) Mr. Schneider.

## SECOND TERM

- 1su. Problems of Philosophy (Sec. 2). See first term. (3 cred.; fr., soph., jr., sr.; no prereq.; MTWThF II; 322F.) Mr. Conger.
- 3su. Ethics. Problems of life treated in terms of (1) contemporary social, political, and economic forces and (2) the character of the individual. The psychological and philosophical foundations of morality; the reconstruction of morality; the history of morals and ethical thought. (3 cred.; fr., soph., jr., sr.; no prereq.; MTWThF III; 302F.) Mr. Everett.
- 20su. Social Philosophy. A study of conflicting social philosophies of today; liberalism vs. authoritarianism; evaluation of various social, political, and economic institutions in terms of ethical ideals; other problems of social morality; social reconstruction; social utopias. (3 cred.; soph., jr., sr.; no prereq.; MTWThF I; 302F.) Mr. Everett.
- 70su. Modern Philosophies of Social Reform. Social philosophy as theory of social criticism. Central position of law and property in a theory of social criticism. Examination of democracy, laissez-faire, revolution, collective responsibility, communism, and fascism as concepts in modern social criticism. (3 cred.; soph., jr., sr.; no prereq.; MTWThF II; 302F.) Miss Shaw.
- 123su.\* Comparative Philosophy. A survey of the philosophies underlying Oriental cultures—Hindu, Buddhist, Confucian, and Taoist. Comparison and contrasts with Western systems. (3 cred.; jr., sr., grad.; prereq. 6 cred.; MTWThF I; 322F.) Mr. Conger.
- 192su.\* Seminar. Research Problems in Philosophy. (Cred. ar.; open only to properly qualified students upon consultation with instructor.) Mr. Conger, Miss Shaw.

NOTE—For Mr. Castell's and Miss Shaw's courses in Humanities, see Humanities 4su under General Studies, page 24.

## PHYSICS

## FIRST TERM

- 1-2-3su. Introduction to Physical Science, Part I. Lectures and experimental demonstrations. (4½ cred.; all; prereq. high school algebra and plane geometry; lect. MWThF VI-VII, Th III; 166Ph.) Mr. Vaughan.
- 1a-2a-3asu.‡ Introduction to Physical Science, Part I. Laboratory included. Fulfills group requirements in S.L.A. (6 cred.; all; prereq. high school algebra and plane geometry; lect. MWThF VI-VII, Th III; 166Ph; lab. T VI-VIII, S I-III; 153Ph.) Mr. Vaughan.
- 4su.‡‡ General Physics, Part I. (Primarily for premedical students.) Mechanics. Lab. included. (2½ cred.; all; prereq. completion of Math. 15-16, or registration in calculus; lect. and quiz MTWThF II; 150Ph; lab. M VI-VII, or T III-IV, or T VIII-IX, or W VIII-IX, or Th VIII-IX, 153Ph.) Mr. Williams.

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

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

- 5su.‡‡ General Physics, Part I. (Primarily for premedical students.) Optics and acoustics. Lab. included. (2½ cred.; all; prereq. 4 or equiv.; lect. and quiz MTWThF III; 166Ph; lab. M VI-VII, or T VI-VII, or Th I-II, or Th VIII-IX; 352Ph.) Mr. Nier.
- 7su.‡‡ General Physics, Part I. (Primarily for students in the Institute of Technology and those majoring in physics, mathematics, or chemistry.) Mechanics. Lab. included. (2½ cred.; all; prereq. registration in calculus; lect. and quiz MTWThF II; 150Ph; lab. M VI-VII, or T III-IV, or T VIII-IX, or W VIII-IX, or Th VIII-IX; 153Ph.) Mr. Williams.
- 9su.‡‡ General Physics, Part I. (Primarily for students in the Institute of Technology and those majoring in physics, mathematics, or chemistry.) Optics and acoustics. Lab. included. (2½ cred.; all; prereq. 7 or equiv.; lect. and quiz MTWThF III, 166Ph; lab. M VI-VII, or T VI-VII, or Th I-II, or Th VIII-IX; 352Ph.) Mr. Nier.
- 104su. Intermediate Physics. Electricity and magnetism, problems and fundamental theorems. (3 cred.; all; prereq. calculus and 15 cred. in physics; MTWF IV, Th V and 1 hr. ar.; 145Ph.) Mr. Nier.
- 107su.\* Modern Physics. Lectures and readings on selected topics in contemporary fields of research. (3 cred.; jr., sr., grad.; prereq. a general course in physics, Math. 51; MTWThF I and 1 hr. ar.; 145Ph.) Mr. Williams.

## SECOND TERM

- 1-2-3su. Introduction to Physical Science, Part II. Lectures and experimental demonstrations. (4½ cred.; all; prereq. high school algebra and plane geometry; lect. MWThF VI-VII, Th III; 166Ph.) Mr. Vaughan.
- 1a-2a-3asu.‡ Introduction to Physical Science, Part II. Lab. included. Fulfills group requirements in S.L.A. (6 cred.; all; prereq. high school algebra and plane geometry; lect. MWThF VI-VII, Th III; 166Ph; lab. T VI-VIII, S I-III; 153Ph.) Mr. Vaughan.
- 4su.‡‡ General Physics, Part II. (Primarily for premedical students.) Mechanics. Lab. included. (2½ cred.; all; prereq. completion of Math. 15-16, or registration in calculus; lect. and quiz MTWThF II; 150Ph; lab. M VI-VII, or T III-IV, or T VIII-IX, or W VIII-IX, or Th VIII-IX; 153Ph.) Mr. Wall.
- 5su.‡‡ General Physics, Part II. (Primarily for premedical students.) Optics and acoustics. Lab. included. (2½ cred.; all; prereq. 4 or equiv.; lect. and quiz MTWThF III; 166Ph; lab. M VI-VII, or T VI-VII, or Th I-II, or Th VIII-IX; 352Ph.) Mr. Valasek.
- 7su.‡‡ General Physics, Part II. (Primarily for students in the Institute of Technology and those majoring in physics, mathematics, or chemistry.) Mechanics. Lab. included. (2½ cred.; all; prereq. registration in calculus; lect. and quiz MTWThF II; 150Ph; lab. M VI-VII, or T III-IV, or T VIII-IX, or W VIII-IX, or Th VIII-IX; 153Ph.) Mr. Wall.
- 9su.‡‡ General Physics, Part II. (Primarily for students in the Institute of Technology and those majoring in physics, mathematics, or chemistry.) Optics and acoustics. Lab. included. (2½ cred.; all; prereq. 7 or equiv.; lect. and quiz MTWThF III; 166Ph; lab. M VI-VII, or T VI-VII, or Th I-II, or Th VIII-IX; 352Ph.) Mr. Valasek.
- 109su.\* Modern Physics. Lectures and readings on selected topics in contemporary fields of research. (3 cred.; jr., sr., grad.; prereq. a general course in physics, Math. 51; MTWThF I and 1 hr. ar.; 145Ph.) Mr. Wall.

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

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

- 134su.\*‡ Experimental Optics. Measurements of indices of refraction, wave lengths, intensities, absorption, optical activity, focal lengths, and aberrations of lenses. (3 cred.; jr., sr., grad.; prereq. a general course in physics; lab. MWF VI-IX; 352Ph.) Mr. Valasek.
- 136su.\*‡ Spectrum Analysis. Experiments with the spectrograph. Analysis of spectra. (3 cred.; jr., sr., grad.; prereq. a general course in physics; lab. MWF VI-IX; 352Ph.) Mr. Valasek.

## POLITICAL SCIENCE

## FIRST TERM

- 1su. American Government and Politics. (Part 1 of Political Science 1-2-3.) An examination of the fundamentals of American government: nature and growth of the Constitution; citizenship; individual rights and liberties; political parties; public opinion; nominations and elections. Special attention will be given to wartime changes and possible postwar developments throughout the course. (3 cred.; all; no prereq.; MTWThF I; 211Bu.) Mr. Weidner.
- 10su. Fundamentals of Government and Politics. An introduction to the nature of political authority; a comparison of the major features of American government with governmental organization of other nations, and an analysis of the conflict between democracy and dictatorship. (3 cred.; no prereq.; MTWThF IV; 109F.) Mr. Hawkins.
- 15su. Elements of Political Science. The nature and functions of the state; sovereignty and liberty; constitutions, forms of government. (3 cred.; no prereq.; MTWThF III; 124F.) Mr. Weidner.
- 25su. World Politics. An introduction to the field of contemporary international relations; the policies of the great powers today; nationalism; internationalism; Europe and the postwar settlement. (3 cred.; all; no prereq.; MTWThF II; 211Bu.) Mr. Mills.
- 100su. The Constitution and Social Change. The historical background of American constitutionalism; impact of war upon constitutional government; executive, legislative, and judicial influences in the "changing" constitution; judicial review and the industrial revolution; federal centralization; the growth of administrative agencies and their particular wartime significance; the New Deal and the Constitution. (3 cred.; jr., sr., grad.; no prereq.; MTWThF II; 209Bu.) Mr. Johnson.
- 121su. Municipal Administration. Forms of administrative organization; personnel; purchasing; budgeting, accounting and reporting; records and accounts; finance. (3 cred.; jr., sr., grad.; prereq. 120 or consent of instructor; MTWThF I; 221Bu.) Mr. Ludwig.
- 128su.\* Community Postwar Planning. Community development; population problems; economic base of community; use areas; circulation; housing; community facilities and services; public finance; planning procedures and aids; organization for planning. (3 cred.; jr., sr., grad.; prereq. 9 cred. or consent of instructor; MTWThF II; 221Bu.) Mr. Ludwig.
- 135su.\* State Government and Administration in Minnesota. A study of the organization and powers of the legislative, executive, and judicial branches of state government in Minnesota with special reference to recent developments in administrative organization, financial management, and civil service. (3 cred.; jr., sr., grad.; prereq. 6 cred. or consent of instructor; MTWF IV and one hr. ar.; 209Bu.) Mr. Short.
- 137su. American Political Parties. A survey of the historical and contemporary activities of American political parties; the boss and the machine; nomination of candidates; party propaganda in elections; the services of parties in a democracy. (3 cred.; jr., sr., grad.; prereq. 6 cred. in pol. sci. or 12 cred. in soc. sci., or consent of instructor; MTWF IV and 1 hr. ar.; 125F.) Mr. Johnson.

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



- 160su.\* American Political Thought. An examination and appraisal of the more significant political ideas of American statesmen, writers, and movements from colonial times to the present. Special attention is given to the spokesmen of the movements of protest, discontent, and revolution. (3 cred.; jr., sr., grad.; prereq. 6 cred. or consent of instructor; MTWThF I; 209Bu.) Mr. McClosky.
- 198su.\* Contemporary World Problems. Japanese imperialism in Southeastern Asia and the Philippines; India; the interests of the United States and the other Western powers; the postwar settlement in Southeastern Asia. (3 cred.; soph. with a "C" average, jr., sr., grad.; no prereq.; MTWThF III; 209Bu.) Mr. Mills.
- 201su. Seminar in American Government, Politics, and Administration. (Cred. ar.; grad., and sr. with the consent of instructor; ar.; first meeting 12:00 noon first day of classes; 207Bu.) Mr. Short.
- 298su. Seminar in International Relations. (Cred. ar.; grad., and sr. with consent of instructor; ar.; first meeting 12:00 noon first day of classes; 215Bu.) Mr. Mills.

## SECOND TERM

- 2su. American Government and Politics. (Part 2 of Political Science 1-2-3. (See 1su. first term.) (3 cred.; all; no prereq.; MTWThF II; 211Bu.) Mr. Kirkpatrick.
- 7su. Comparative European Government. An introduction to and analysis of the governments of England, France, Italy, Germany, and Soviet Russia. Structural features, parties, and politics; ideologies; fundamental principles. (3 cred.; all; no prereq.; MTWThF I; 211Bu.) Mr. Hawkins.
- 143su. Reconstruction of Western European Democracy. Constitutional and political change in England and France, with some attention to Holland and Italy. (3 cred.; jr., sr., grad.; prereq. 9 cred.; MTWThF II; 209Bu.) Mr. Brogan.
- 145su. The American Character. An historical account of the developments of American institutions and character. (3 cred.; jr., sr., grad.; prereq. 6 cred. or consent of instructor; MTWF IV and 1 hr. ar.; 209Bu.) Mr. Brogan.
- 161su.\* Problems of Democracy. The meaning of democracy; an examination and evaluation of the criticisms and defenses of democracy; an analysis of democratic institutions in America with special reference to the problems of the war and postwar reconstruction. (3 cred.; jr., sr., grad., others with consent of instructor; MTWThF I; 209Bu.) Mr. Kirkpatrick.
- 162su. Recent Political Thought. An examination, comparison, and evaluation of the main ideas in the political philosophy of socialism, communism, fascism, and democracy. (3 cred.; jr., sr., grad.; prereq. 9 cred. or consent of instructor; MTWThF III; 209Bu.) Mr. Hawkins.
- 185su.\* Problems of International Reconstruction. Analysis of the collapse of international cooperation; contending ideologies of reorganization; interim measures of order and security; internationalism vs. constitutionalism. (3 cred.; jr., sr., grad.; prereq. 9 cred. or consent of instructor; MTWThF III; 211Bu.) Mr. Levi.
- 192su.\* International Relations in the Far East. Commercial and missionary relations in the sixteenth century; Oriental culture and its reaction to Western influence; opening of the treaty era; Western imperialism in China; the rise of Japanese expansionism; the Open Door doctrine; China's struggle for independence. (3 cred.; jr., sr., grad.; prereq. 9 cred. or consent of instructor; MTWF IV and 1 hr. ar.; 211Bu.) Mr. Levi.
- 202su. Seminar in American Government, Politics and Administration. (Cred. ar.; grad. and sr. with consent of instructor; first meeting 12:00 noon first day of classes; ar. with instructor.) Mr. Kirkpatrick.
- 298su. Seminar in International Relations. (Cred. ar.; grad., and sr. with consent of instructor; first meeting 12:00 noon first day of classes; 205Bu.) Mr. Levi.

## PSYCHOLOGY

## FIRST TERM

- 1su. General Psychology. First half of 1-2su. (3 cred.; 3 qtr. fr. with "C" aver., soph., jr., sr.; no prereq.; MTWF IV, Th V; 4VH.) Mr. Herbert.
- 1-2su. General Psychology. An introductory survey of psychology; its materials, fundamental laws, applications, and relations to other sciences. (6 cred.; 3 qtr. fr. with "C" aver., soph., jr., sr.; no prereq.; sec. 1 MTWThF I-II, 2P, Mr. Clark; sec. 2 MTWF III-IV, Th V; 2P, ar.)
- 4-5su.‡ Introductory Laboratory Psychology. Simple experiments illustrating the subject matter of contemporary psychology. Included are human and animal learning, visual experience, differences in artistic, musical, and other kinds of abilities, measurement of each student's personality traits, and reactions to advertisements. (4 cred.; soph., jr., sr.; prereq. gen. psy.; sec. 1 MTWThF VI-VII-VIII, 211Psy, Mr. John; sec. 2 MTWThF I, II, III, 211Psy, ar.)
- 111su. Frontiers of Psychology. A treatment of topics which are not often discussed in academic psychology because they are on the borderline between science and superstition but which are of great interest especially in times of severe emotional stress. These topics will include: spiritualism and mediumship; telepathy; clairvoyance; suggestion; and hypnosis. (3 cred.; jr., sr., grad.; prereq. gen. psy.; MTWThF I; 115Psy.) Mr. Heron.
- 124su. 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. gen. psy.; MTWF IV, Th V; 115Psy.) Mr. Heron.
- 125-126su. Psychology of Individual Differences. Quantitative studies on the contributions of such factors as sex, age, race, physical traits, family heredity, and environment, to the causation of individual differences. (6 cred.; jr., sr., grad.; prereq. 1-2, 4-5, or 5 cred. in statistics; MTWThF II-III; 115Psy.) Mr. Paterson.
- 144-145su. Abnormal Psychology. A survey of ideas of causation and of techniques of treating abnormal behavior from early historical times; social aspects of the care and treatment of the abnormal in America. Consideration of the various psychoses and psychoneuroses and of social problems related to them. (6 cred.; jr., sr., grad.; prereq. gen. psy.; MTWThF II-III; 206Pt.) Mr. Bird.
- 210su. Research Problems. (Cred. ar.; grad. students only; students should register only with instructor's permission; hrs. ar.) Mr. Meehl.
- 250su.\* Topics in Psychology. Independent reading under tutorial supervision. May be in any field of psychology agreed upon by the student and the instructor. (Cred. usually 3, but may be ar.; hrs. ar.) Mr. Meehl.

## SECOND TERM

- 1-2su. General Psychology. (See 1-2su. first term.) (6 cred.; 3 qtr. fr. with "C" aver.; soph., jr., sr.; no prereq.; sec. 1 MTWThF I-II, 2P, Mr. Bird; sec. 2 MTWF III-IV, Th V, 2P, Mr. Clark.)
- 2su. General Psychology. Second half of 1-2su. (3 cred.; soph., jr., sr.; prereq. first half of 1-2; MTWF IV, Th V; 4VH.) Mr. Heron.
- 4-5su.‡ Introductory Laboratory Psychology. (See 4-5su. first term.) (4 cred.; soph., jr., sr.; prereq. gen. psy.; MTWThF VI-VII-VIII; 211Psy.) Mr. Herbert, Miss Olsen.

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

- 130su.†† Vocational and Occupational Psychology. Theory and practice in present-day vocational guidance. Theory and use of the *Dictionary of Occupational Titles* in the United States Employment Offices and in industry. Experience in interviewing and in giving, scoring, and interpreting vocational tests is provided. (3 cred.; jr., sr., grad.; prereq. 9 cred. in psy.; lect. MF IV, Th V; lab. TW IV-V; 211Psy.) Mr. Longstaff.
- 160su. Psychology in Personnel Work. Psychology as applied to the selection and retention of a stabilized personnel in business. The standardized interview; principles and techniques of employment tests; methods of judging character qualities; the rating scale; personnel classification methods. (3 cred.; jr., sr., grad.; prereq. gen psy.; MTWThF III; 211Psy.) Mr. Longstaff.
- 171-172su. Introduction to Clinical Psychology. A survey of clinical psychology in relation to mental deficiency, special abilities and disabilities, personality disorders, and psychosomatic disturbances in adults and children. (6 cred.; sr., grad.; prereq. 144, either 125 or Ed.Psy. 120, or 5 cred. in statistics and 6 additional cred. in psy. or Child Welfare, or Ed.Psy.; MTWThF I-II; 115Psy.) Mr. Meehl.
- 210su. Research Problems. (Cred. ar.; grad. students only; students should register only with the instructor's permission; hrs. ar.) Mr. Heron.
- 250su.\* Topics in Psychology. Independent reading under tutorial supervision. May be in any field of psychology agreed upon by the student and the instructor. (Cred. usually 3, but may be ar.; hrs. ar.) Mr. Heron.

## ROMANCE LANGUAGES

## FIRST TERM

## FRENCH

- 1su. Beginning French. (5 cred.; all; no prereq.; MTWThF I-II; 202F.) Mr. Clefton.
- 2su. Beginning French. (5 cred.; all; prereq. 1 or one year of high school French; MTWThF I-II; 109F.) Ar.
- 3su. Intermediate French. (5 cred.; prereq. 2 or two years high school French; MTWThF III, MTWF IV and 1 hr. ar.; 201F.) Mr. Wilson.
- 4su. Intermediate French. (5 cred.; all; prereq. 3 or three years of high school French; MTWThF III, MTWF IV and 1 hr. ar.; 207F.) Ar.
- 55su. Practical French Conversation. Equiv. to French 55s. (2 cred.; prereq. 3-4 or equiv.; MTWF IV; 203F.) Mr. Barton.
- 117su. Seventeenth Century French Prose. Equiv. to French 117s. (2 cred.; jr., sr., grad.; prereq. 70-71-72 or 73-74 or equiv.; TWThF I; 203F.) Mr. Wilson.
- 132su. French Poetry: Baudelaire, Verlaine, Rimbaud. (2 cred.; jr., sr., grad.; prereq. 70-71-72 or 73-74 or equiv.; TWThF III; 203F.) Mr. Clefton.
- 156su. French Realistic Novel. Equiv. to French 156w. (2 cred.; jr., sr., grad.; prereq. 70-71-72 or 73-74 or equiv.; TWThF II; 203F.) Mr. Barton.

## SPANISH

- 1su. Beginning Spanish. (5 cred.; all; no prereq.; sec. 1 MTWThF I-II, 227F, ar.; sec. 2 MTWThF III, MTWF IV and 1 hr. ar., 206F, ar.)
- 2su. Beginning Spanish. (5 cred.; all; prereq. 1 or one year of high school Spanish; MTWThF I-II; 213F.) Ar.
- 3su. Intermediate Spanish. (5 cred.; all; prereq. 1-2 or two years of high school Spanish; MTWThF I-II; 226F.) Ar.

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

- 4su. Intermediate Spanish. (5 cred.; all; prereq. 3 or three years of high school Spanish; MTWThF III, MTWF IV and 1 hr. ar. 227F.) Mr. Grismer.
- 53su. Spanish Composition. Equiv. to Spanish 53f. (2 cred.; jr., sr.; prereq. 3-4 or equiv.; TWThF III; 202F.) Mrs. Mills.
- 54su. Spanish Conversation. Equiv. to 54w. (2 cred.; jr., sr.; prereq. 3-4 or equiv.; MTWF IV; 226F.) Mrs. Mills.
- 61su. Advanced Spanish Conversation. (2 cred.; jr., sr.; prereq. 54-55 or 20 with grade of "B"; TTh VI-VII; 203F.) Mrs. Mills.
- 72su. Latin-American Culture. (Course conducted in Spanish.) Equiv. to 72s. (2 cred.; jr., sr.; prereq. 4 or equiv.; TWThF I; 201F.) Mr. Teran.
- 76su. Survey of Spanish-American Literature: Contemporary Period. Equiv. to 76w. (2 cred.; jr., sr.; prereq. 4 or equiv.; MTWF IV; 202F.) Mr. Teran.
- 130su. Cervantes. Equiv. to Spanish 130s. (2 cred.; jr., sr., grad.; prereq. 68-69 or equiv.; TWThF II; 201F.) Mr. Grismer.
- 142su. Contemporary Spanish-American Novel. Equiv. to Spanish 142s. (2 cred.; jr., sr., grad.; prereq. 65-66-67 or 68-69 or 74-75-76; TWThF III; 226F.) Mr. Teran.

## SECOND TERM

## FRENCH

- 1su. Beginning French. (See 1su. first term.) (5 cred.; all; no prereq.; MTWThF I-II; 202F.) Ar.
- 2su. Beginning French. (5 cred.; all; prereq. 1 or one year of high school French; MTWThF I-II; 206F.) Ar.
- 55su. Practical French Conversation. Equiv. to 55s. (2 cred.; prereq. 3-4 or equiv.; TWThF III; 203F.) Ar.

## SPANISH

- 1su. Beginning Spanish. (5 cred.; all; no prereq.; MTWThF I-II; 201F.) Ar.
- 2su. Beginning Spanish. (Continuation of Spanish 1.) (5 cred.; all; prereq. Spanish 1; MTWThF I-II; 226F.) Ar.
- 4su. Intermediate Spanish. (5 cred.; all; prereq. 3 or three years of high school Spanish; MTWThF III, MTWF IV and 1 hr. ar.; 202F.) Ar.
- 111su. Spanish Novel of the Nineteenth Century. (2 cred.; jr., sr., grad.; prereq. 65-66-67 or 68-69; TWThF I; 203F.) Mr. Pattison.
- 147su. Spanish Drama of the Twentieth Century. (2 cred.; jr., sr., grad.; prereq. 65-66-67 or 68-69; TWThF II; 203F.) Mr. Pattison.

## RUSSIAN

## FIRST TERM

- 1su. Beginning Russian. Special attention to the needs of those who desire a reading knowledge of modern Russian. (4 cred.; all; no prereq.; TWThF I-II; 311F.) Mr. Reichardt.
- 30su. Reading and Discussion of Russian Literature. Interpretation of 19th century prose and poetry. (3 cred.; prereq. Russian 1-2 or 20 or permission of instructor; TWThF III-IV; 311F.) Mr. Reichardt.
- 102su. Dostoevski and Tolstoy. Lectures on their most significant works with consideration of their European background. No knowledge of Russian required. (3 cred.; jr., sr., grad.; prereq. 8 cred. in literature; TF III-IV-V or ar.; 209½F.) Mr. Reichardt.

## SECOND TERM

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

## SOCIAL SCIENCE

See General Studies, page 25.

## SOCIOLOGY AND SOCIAL WORK

## FIRST TERM

## SOCIOLOGY

- 1su. Introduction to Sociology. A study of the characteristics of human group life. An analysis of the factors associated with the development of human group life and man's social environment; the structure of the social environment and its influence upon the individual's behavior; the processes involved in social change and the social problems that accompany social change. A survey of the fundamental social institutions such as the family and the church; the development and decline of social institutions; change in the institutional functions and social disorganization. (3 cred.; all; no prereq.; sec. 1 MTWThF I, 109J, Mr. Kyllonen; sec. 2 MTWThF II, 104J, Mr. Schneider.)
- 2su. Individual and Minority Group Adjustment. The influence of social interaction on personality and personality adjustment with special reference to the family. The role of attitude and prejudice in relation to racial and other minority groups. Forms of social opposition including competition, class tension, and warfare. Adjustment of tensions and frustrations with relation to leadership, crowd behavior, and fascism. Social control and social change in relation to postwar objectives. (3 cred.; prereq. 1; MTWThF II; 109J.) Mr. Kyllonen.
- 100su. Social Psychology. (3 cred.; jr., sr., grad.; prereq. Soc. 1 and 15 cred. in soc. sci., child welfare, ed., philos., or psy., or consent of instructor; MTWThF II; 104J.) Mr. Kirkpatrick.
- 119su. The Family. With special reference to contemporary marriage problems. (3 cred.; jr., sr., grad.; prereq. Soc. 1 and 15 cred. in soc. sci., child welfare, ed., philos., or psy., or consent of instructor; MTWThF III; 109J.) Mr. Kirkpatrick.
- 145su. Theories of Social Reconstruction. American reformers and reform movements from the 1830's to the present. Societies of cooperation and religious communisms in the United States. The muckrakers. The effects of war behavior on social reconstruction and reform movements. (3 cred.; jr., sr., grad.; prereq. Soc. 1 and 15 cred. in soc. sci., child welfare, ed., philos., or psy., or consent of instructor; MTWThF IV, Th VI; 109J.) Mr. Schneider.
- 200su.\* General Seminar in Sociology. (2 cred.; ar.) Staff.

## SOCIAL WORK

- 129su. § Principles of Social Case Work. A study of the purposes, problems, and processes of generic social case work, including a study of the relationship between the individual and the social worker and community as contributory to the treatment of the problems presented. (3 cred.; grad.; MTWThF I; 2J.) Ar.
- 170su. Introductory Psychiatry. A lecture course, including a discussion of mental hygiene, mental mechanisms, psychiatric history-taking, review of schools of psychiatry, classification of mental diseases. (3 cred.; grad.; MTWThF II; ar.) Dr. Hinckley.

§ Admission on consultation with a social work adviser.

- 171su. Descriptive Neuropsychiatry. (Same as Medicine 171.) (2 cred.; prereq. 70 or Psy. 144-145.) Dr. Cottrell.
- 173Asu. Behavior Problems in Younger Children. (The same as Child Welfare 140su.) (3 cred.; sr., grad.; prereq. 12 cred. in psy., ed. psy., or soc.; MTWThF III; 202Pt.) Miss Templin.
- 180su.‡ Field Work Training in Social Work. (3-5 cred.; grad.) Mrs. Doyle.
- 218su.§ Advanced Family Case Work. (3 cred.; grad.; TTh VII-VIII, F VIII; 2J.) Ar.
- 240su.\* General Seminar in Social Work. (2 cred.; ar.) Staff.

## SECOND TERM

## SOCIOLOGY

- 1su. Introduction to Sociology. A study of the characteristics of human group life. An analysis of the factors associated with the development of human group life and man's social environment; the structure of the social environment and its influence upon the individual's behavior; the processes involved in social change and the social problems that accompany social change. A survey of the fundamental social institutions such as the family and the church; the development and decline of social institutions; change in the institutional functions and social disorganization. (3 cred.; open to all; no prereq.; MTWThF II; 109J.) Mr. Monachesi.
- 49su. Social Problems. A survey course of contemporary social problems with especial emphasis on the conditions and processes in personal demoralization and social disorganization. The scientific approach to the study of poverty, unemployment, physical diseases and defectiveness, mental deficiency, insanity, vagrancy, suicide, etc. (3 cred.; 2nd qtr. fr.; prereq. Soc. 1; MTWThF II; 104J.) Mr. Sletto.
- 132su. Juvenile Courts and Probation. (3 cred.; jr., sr., grad.; prereq. 53; MTWThF III; 109J.) Mr. Monachesi.
- 160su. Population Problems. (3 cred.; jr., sr., grad.; prereq. Soc. 1 and 15 cred. in soc. sci., child welfare, ed., philos., or psy., or consent of instructor; MTWF IV, Th VI; 2J.) Mr. Sletto.
- 200su.\* General Seminar in Sociology. (2 cred.; ar.) Staff.

## SOCIAL WORK

- 130su.§ Principles of Social Case Work. A study of the purposes, problems, and processes of generic social case work, including a study of the relationship between the individual and the social worker and community as contributory to the treatment of the problems presented. (3 cred.; grad.; MTWThF I; 2J.) Ar.
- 134su.§ The Child and the State. Development of the rights of the child in relation to parental rights as evidence in child labor laws, the juvenile courts, adoption, mothers' aid legislation, the changing status of the illegitimate child, and public organization for more effective administration of laws relating to child dependency, delinquency and neglect. (3 cred.; grad.; MTWThF II; 2J.) Mr. Guilford.
- 173Bsu. Behavior Problems in Older Children. (The same as Child Welfare 141su.) (3 cred.; sr., grad.; prereq. same as 173Asu; MTWThF I; 202Pt.) Miss Kuenne.
- 176su.§ Dynamics of Human Behavior Based on Psychoanalytic Theory. The application of psychoanalysis in the understanding of abnormal behavior; the lectures deal essentially with abnormal behavior, especially in relation to problems met by the social worker and teacher. (3 cred.; grad.; TTh VII, VIII, and 1 hr. ar.; 104J.) Dr. Lippman.

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

§ Admission on consultation with a social work adviser.

- 181su.¶¶¶§ Field Work Training in Social Work. (3-5 cred.; grad.) Mr. Guilford.  
 240su.\* General Seminar in Social Work. (2 cred.; ar.) Staff.

## SPEECH

## FIRST TERM

- Speech Clinic.¶¶ For students who have particular speech defects such as cleft palate, stuttering, lisping, dialect. (Ar. with Miss Thorn, acting director.) Miss Thorn, Mrs. Chapman.
- 1-2-3su.‡ Fundamentals of Speech. Speech as social adaptation and control. Technique of body and voice, oral reading, public speaking. (3 cred.; soph., jr., sr.; 1, MTWThF I, 306F, Mr. Gilkinson; 1, MTWThF VI, 308F, Mr. Howell; 2-3, MTWF and 1 hr. ar., 306F, ar.)
- 31su.¶¶¶ Introduction to the Theater. A course designed to acquaint the student with the theater of today. Readings and projects in various modern theater crafts. (3 cred.; soph., jr., sr.; prereq. 1-2-3 or 5-6 or concurrent registration; MTWThF I; 19Mu.) Mr. Whiting.
- 32su.¶¶¶ Beginning Acting. Creative and technical approaches. (3 cred.; soph., jr., sr.; prereq. 31; MTWThF II; 19Mu.) Ar.
- 34su.¶¶¶ Stagecraft. Construction and painting. (3 cred.; soph., jr., sr.; prereq. 31; MTWThF VI, MWF VII; Stage, Mu.) Mr. Andrus.
- 61su.‡ Personality Development through Speech. A study of behavior as indicated through speech; why and how man talks; basic elements in the development of unsocial and inadequate emotional patterns; speech symptoms evaluated from cause and effect relations; psychologic and social factors in speech; analysis of individual problems of self-consciousness, stage fright, and ineffective speech behavior, speech as a means of self-control and social control as applied to teacher and pupil. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6, Psy. 1-2; MTWThF II; 306F.) Miss Thorn.
- 65su.‡ Radio Speech. Speech arts and psychology of the radio. Announcing and broadcasting. The radio speech. Radio drama and interpretative reading, voice, diction, articulation, pronunciation. Practice, exercises, projects, and reports on problems of appeal and audience response. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6; MTWThF VI; 302MurH.) Mr. Ziebarth.
- 66su.¶¶¶ 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. 1-2-3 or 5-6, 65 recommended; MTWThF III; 302MurH.) Mr. Dusenbury.
- 67su.‡ Phonetics. The study of English speech sounds as they occur separately and in connected speech. Strong and weak forms, stress, assimilation. Practice in ear training. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6; MTWThF II; 305F.) Mr. Black.
- 71su.¶¶¶ Play Production. Problems of dramatic production in the secondary school. (3 cred.; prereq. Speech 1-2, or 5, 31, 32 or consent of instructor; recommended course be accompanied by registration in Workshop in High School Play Production. See Ed.C.I. 115su; MTWF III-IV and Th III; ar. in UHS.) Mr. Brink.
- 81su.‡ Interpretative Reading. Esthetic theory of literature and of oral reading. Practice in reading for interpretation and mastery of technique. (3 cred.; jr., sr.; prereq. 1-2-3 or 5-6; MTWThF II; 308F.) Mr. Rarig.

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

¶¶ The clinic will accept a limited number of non-student patients on the payment of a fee of \$85 for the term of eight weeks.

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

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

§ Admission on consultation with a social work adviser.

- 101su. Argumentation and Persuasion. Argumentation as a method of analysis, of controversial questions, briefing adaptive and nonadaptive persuasion, practice in speaking and writing. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6, Psy. 1-2, 10 cred. in soc. sci.; MTWThF VII; 308F.) Mr. Howell.
- 105su.\* Theory of Reading and Acting. Literature as an art; its various forms; the psychology of the creative imagination; speech elements in literature; origins and nature of speech symbols and technique of their use. Collateral readings, problems, reports, term papers. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6, 81-82-83, Psy. 1-2; MTWThF I; 308F.) Mr. Rarig.
- 112su.††† Stage Direction. Theory and practice in conducting rehearsals with special emphasis upon the one act play. (3 cred.; sr., grad.; prereq. 31, 32-33, 34, 91, 92, 93; MTWThF IV; 19Mu.) Mr. Whiting.
- 121-122su.\* Advanced Speech Problems. Experimental methods in general speech. Review of published research, special reports. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6, Psy. 1-2; MTWThF VI; 409F.) Mr. Gilkinson.
- 141su. Voice Science. Anatomy and physiology of the voice mechanism, science of speech sounds, experimental approach to wartime communication, practical application. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6, 67, Psy. 1-2 and 4-5; MTWThF IV; 409F.) Mr. Black.
- 151su.§ (Also listed as Ed.C.I.140su.) The Teaching of Speech. Orientation in problems of speech education. Review of studies. Teaching methods and special devices, voice recording, tests. Direction of extra-curricular activities. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6 or equiv. or permission of instructor; MTWThF III; 308F.) Mr. Gilkinson.
- 163su.\* Speech Pathology. Physiologic and psychologic aspects of organic and functional speech problems. Articulatory disorders. Diagnoses and treatment. Clinical observation. (3 cred.; jr., sr., grad.; prereq. 1-2-3 or 5-6 and 61, 67, 162; MTWThF III; 305F.) Miss Thorn.
- 164-165su.\*†††† Clinical Methods and Practice in Speech Pathology. (3 cred.; sr., grad.; prereq. 1-2-3 or 5-6, and 61, 67, 162-163, Ed.Psy. 140-142; consult instructor; hrs. ar.; ar.) Miss Thorn, Mrs. Chapman.
- 172su. History of the Theater. A study and an analysis of the arts and crafts of the theater in the nineteenth and twentieth centuries. Special reports and projects. (3 cred.; sr., grad.; prereq. 1-2-3 or 5-6, 31, courses in dramatic literature highly recommended; MTWThF IV; 19Mu.) Mr. Dusenbury.
- 181-182-183su.\* Readings in Speech. Directed readings and the preparation of reports on selected subjects. (Cred. ar.; jr., sr., grad.; prereq. 1-2-3 or 5-6 and 6 additional credits and consent of instructor; ar.) Staff.
- 221su.\* Seminar in Oral Interpretation of Literature. (Cred. ar.) Mr. Rarig.
- 231su.\* Seminar in Advanced Speech Problems. (Cred. ar.) Mr. Gilkinson.

See also: Ed.C.I.59su. Speech in the Elementary Grades. College of Education, page 88.

#### SECOND TERM

- 1su.‡ Fundamentals of Speech. Same as first term. (MTWThF III; 308F.) Mr. Gilkinson.
- 2-3su.‡ Fundamentals of Speech. Continuation of Course 1 above. (MTWThF II; 305F.) Ar.

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

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

††† A fee of \$1 per credit is charged for this course. Students should register for this course for eight weeks. They may take any two quarters. (Listed in Education as Ed.C.I. 174-175-176.)

§ Carries undergraduate credit only in the College of Education.



- 33su.‡‡‡ Beginning Acting. Creative and technical approaches. (3 cred.; soph., jr., sr.; prereq. 31; MTWThF I; 19Mu.) Mr. Dusenbury.
- 65su.‡ Radio Speech. Same as first term. (MTWThF VI; 302MurH.) Mr. Ziebarth.
- 81-82su.‡ Interpretative Reading. Same as first term. (MTWThF II; 308F.) Mr. Dusenbury.
- 92su.‡‡‡ Stage Lighting. (3 cred.; jr., sr.; prereq. 31; MTWThF VI, MWF VII; Stage, Mu.) Mr. Andrus.
- 111su.‡‡‡ Stage Direction. Practice and theory of stage direction. Esthetics of the theater, analysis of the play, casting, rhythm, reading, organization of production. Each student will direct two one-act plays this term. (3 cred.; sr., grad.; prereq. 31, 32-33, 34, 91, 92, 93; MTWThF III; 19Mu.) Mr. Whiting.
- 181-182-183su.\* Readings in Speech. Same as first term. Staff.

## ZOOLOGY

## FIRST TERM

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

- 1su.‡‡‡ General Zoology. Structure, physiology, embryology, classification, and evolution of animals. (5 cred.; all; no prereq.; lect. MTWThF I, Th I-II; 211Z; lab. MTWThF II-III-IV; 101Z.) Mr. Olson.
- 21su.‡ Histology. Microscopic structure of the tissues and organs. (5 cred.; soph., jr., sr.; prereq. 1-2-3 or equiv.; lect. MTWTh VI, F VI-VII; lab. MTWTh VII-VIII-IX; 201Z.) Mr. Ringoen.
- 22su.‡‡‡ Comparative Anatomy. Comparative study of vertebrate systems tracing the development of the various structures from the lowest forms to man. (5 cred.; soph., jr., sr.; prereq. 1-2-3 or equiv.; lect. MTWTh VI, F VI-VII; lab. MTWTh VII-VIII-IX; 107Z.) Mr. Eddy.
- 51su.‡ Introductory Animal Parasitology. An elementary course dealing with parasitic protozoa, worms, and arthropods, and their relation to diseases of man and animals. (5 cred.; jr., sr.; prereq. 1-2-3 or equiv.; lect. MTWTh VI, F VI-VII, 211Z; lab. MTWTh VII-VIII-IX, 208Z.) Mr. Cuckler.
- 197su.\* 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 Biological Station of the University of Minnesota, page 60.

## SECOND TERM

- 2su.‡‡‡ General Zoology. Continuation of 1su. (5 cred.; all; prereq. 1su or equiv.; lect. MTWTh I, Th I-II, 211Z; lab. MTWTh II-III-IV, 101Z.) Ar.
- 198su.\* Problems. Advanced work in some special line. (3 cred. or more; jr., sr., grad.; prereq. 1-2-3 and special requirements; ar.) Ar.

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

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

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

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

# INSTITUTE OF TECHNOLOGY

## COLLEGE OF ENGINEERING AND ARCHITECTURE§

An *asterisk* (\*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 18.)

### AERONAUTICAL ENGINEERING

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

#### SUMMER QUARTER

- 1su. Aeronautics. (Page 55) (3 cred.; prereq. M.&M. 24; 3 rec. hrs. per week.) Ar.  
3su. Aeronautics. (Page 55) (3 cred.; prereq. M.&M. 13; 3 rec. hrs. per week.) Ar.  
100su. Aerodynamics. (Page 55) (3 cred.; prereq. Aero.E. 1 and M.&M. 25; 3 rec. hrs. per week.) Ar.

### ARCHITECTURE

#### SUMMER QUARTER

Arch.4-5-6su. Graphic Representation. (Page 59) (5 cred.; no prereq.; 3 lect. and 12 lab. hrs. per week.) Mr. Heath.

### DESIGN

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

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

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

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

- AD-I<sup>su</sup>.‡ Architectural Design, Grade I. (Page 60) (5 cred.; no prereq.) Ar.  
AD-II<sup>su</sup>.‡ Architectural Design, Grade II. (Page 60) (5 cred.; prereq. AD-I.) Ar.  
AD-III<sup>su</sup>.‡ Architectural Design, Grade III. (Page 60) (7 or 12 cred.; prereq. AD-II.) Ar.  
AD-IV<sup>su</sup>.‡‡ Architectural Thesis. (Page 60) (15 cred.; prereq. AD-III.) Ar.

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

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

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

## DRAWING, PAINTING, AND MODELING

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

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

DP-Isu.††† Drawing and Painting, Grade I. (Page 60) (2 to 4 cred.; no prereq.) Mr. Burton.

DP-IIsu.††† Drawing and Painting, Grade II. (Page 60) (2 to 4 cred.; prereq. DP-I or equiv.) Mr. Burton.

DP-IIIsu.††† Drawing and Painting, Grade III. (Page 60) (2 to 4 cred.; prereq. DP-II or equiv.) Mr. Burton.

DP-IVsu.††† Drawing and Painting, Grade IV. (Page 60) (2 to 4 cred.; prereq. DP-III or equiv.) Mr. Burton.

DP-Vsu. Drawing and Painting, Grade V. (Page 60) (2 to 4 cred.; prereq. DP-IV or equiv.) Mr. Burton.

M-Isu.††† Modeling, Grade I. (Page 60) (2 to 4 cred.; no prereq.) Mr. Burton.

M-IIsu.††† Modeling, Grade II. (Page 61) (2 to 4 cred.; prereq. M-I or equiv.) Mr. Burton.

M-IIIsu. Modeling, Grade III. (Page 61) (2 to 4 cred.; grad. students only, continuation of M-II.) Mr. Burton.

## CIVIL ENGINEERING

## SUMMER QUARTER

11su. Surveying. (Page 68) (3 cred.; prereq. M.&M. 12 and Dr. 2; 1 lect. and 7 lab. hrs. per week.) Mr. Boon.

13su. Surveying. (Page 68) (3 cred.; prereq. C.E. 11; 1 lect. and 7 lab. hrs. per week.) Mr. Cutler, Mr. Boon.

14su. Surveying. (Page 68) (3 cred.; prereq. C.E. 13; 1 lect. and 7 lab. hrs. per week.) Mr. Brinker.

17su. Surveying. (Page 68) (3 cred.; prereq. M.&M. 12; 8 lab. hrs. per week.) Mr. Brinker.

23su. Summer Camp. (Page 68) (4 cred.; prereq. C.E. 16 and C.E. 22.) Mr. Cutler, Mr. Brinker.

31-32-33su. Stresses in Structures. (Page 69) (9 cred.; prereq. M.&M. 26; 6 lect. and 6 lab. hrs. per week.) Mr. Andersen.

130,131,132su. Structural Design. (Page 69) (7 cred.; prereq. C.E. 33 and M.&M. 128; 4 lect. and 8 lab. hrs. per week.) Mr. Hughes.

161su. Hydrology and Power. (Page 71) (4 cred.; prereq. M.&M. 129; 2 lect. and 6 lab. hrs. per week.) Mr. Cornell.

169su. Hydraulic Problems in Sanitary Engineering. (Page 71) (3 cred.; prereq. 163; 2 lect. and 4 lab. hrs. per week.) Mr. Cornell.

245-246su. Seminar in Structural Engineering. (Page 70) (3 cred.; prereq. C.E. 131-142; hrs. ar.) Mr. Andersen, Mr. Hughes.

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

## DRAWING AND DESCRIPTIVE GEOMETRY

## SUMMER QUARTER

- 1su. Engineering Drawing. (Page 72) (3 cred.; prereq. solid geometry; 8 lab. hrs. per week.) Mr. Myers, Mr. Williams, and Mr. Quaid.
- 2su. Engineering Drawing. (Page 72) (3 cred.; prereq. Dr. 1; 8 lab. hrs. per week.) Mr. Bullen.
- 3su. Descriptive Geometry. (Page 72) (3 cred.; prereq. Dr. 2 and M.&M. 11; 8 lab. hrs. per week.) Mr. Eggers.
- 7su. Engineering Drawing. (Chem. and Chem.Engr.) (Page 72) (3 cred.; prereq. solid geometry; 8 lab. hrs. per week.) Mr. Palmer.
- 8su. Descriptive Geometry. (Chem. and Chem.Engr.) (Page 73) (3 cred.; prereq. Dr. 7; 8 lab. hrs. per week.) Mr. Schuck, Mr. Springer.
- 10su. Solid Geometry. (Page 73) (No cred.; prereq. plane geometry; 3 lect. rec. hrs. per week.) Mr. Potter.
- 21su. Drafting. (C.E.) (Page 73) (2 cred.; prereq. Dr. 3; 6 lab. hrs. per week.) Mr. French.
- 22su. Structural Detailing. (Page 73) (2 cred.; prereq. Dr. 21; 6 lab. hrs. per week.) Mr. French.
- 23su. Structural Detailing. (Page 73) (2 cred.; prereq. Dr. 22; 6 lab. hrs. per week.) Mr. French.
- 26su. Drafting. (E.E.) (Page 73) (2 cred.; prereq. Dr. 3; 6 lab. hrs. per week.) Mr. Potter.
- 28su. Drafting. (Aero.E.) (Page 73) (2 cred.; prereq. Dr. 3; 6 lab. hrs. per week.) Mr. French.
- 29su. Drafting. (Aero.E.) (Page 73) (2 cred.; prereq. Dr. 28; 6 lab. hrs. per week.) Mr. Potter.
- 34su. Lettering. (Page 73) (1 cred.; prereq. Dr. 1; 1 lect. rec. hrs. per week.) Ar.

## FIRST AND SECOND TERMS

- 41-42-43su. Technical Drawing. General course in the theory and practice of freehand drawing. Perspective, sketching, rendering, lettering, and industrial drawing. Modification of this course of particular interest to dental, medical, and scientific students. (No cred. for tech. students; 2 cred. per course for others; no prereq. for course 41; 6 lab. hrs. per week.) Mr. Doseff.
- 81-82-83su. Advanced Drawing. Principles of design—traditional and modern. Layouts, composition, and illustration, scientific modeling. (3 cred. per course; prereq. Dr. 43 or equiv.; 8 lab. hrs. per week.) Mr. Doseff.
- 86-87su. Anatomical Drawing. (3 cred. per course; prereq. 43 or equiv.) Mr. Doseff. (See also page 16, Art Courses.)

## ELECTRICAL ENGINEERING

## SUMMER QUARTER

- 11-13-15su. Elements of Electrical Engineering. (Page 76) (3 cred.; prereq. reg. in Phys. and M.&M. 24 for 11, reg. in M.&M. 25 for 13-15; 2 sections; 3 rec. hrs. per week.) Mr. Caverley.
- 14-16su. Elements of Electrical Engineering Laboratory. (Page 76) (1 cred.; prereq. for 14, 13 or reg. in 13; for 16, 14 and reg. in 15; 2 lab. hrs. per week; 4 sections.) Ar.
- 111su. Junior Electrical Engineering. (Page 76) (5 cred.; prereq. E.E. 15, 16; 5 rec. hrs. per week.) Mr. Caverley.

- 112su. Junior Electrical Engineering Laboratory. (Page 76) (2 cred.; prereq. reg. in 111; 4 lab. hrs. per week.) Mr. Caverley.
- 125su. Senior Electrical Engineering. (Page 76) (3 cred.; prereq. 115, 116, 119; 3 lect. hrs. per week.) Ar.
- 126su. Senior Electrical Laboratory. (Page 76) (2 cred.; prereq. 116 and reg. in 121-123-125; 4 lab. hrs. per week.) Ar.
- 140su. Power Systems. (Page 77) (3 cred.; prereq. reg. in 121, 123, or 125; 3 lect. hrs. per week.) Ar.

## ENGLISH (ENGINEERING)

## SUMMER QUARTER

- 4su. Composition. (Page 79) (3 cred.; prereq. placement test; 3 rec. hrs. per week.) Mr. Guthrie and others.
- 5su. Composition. (Page 79) (3 cred.; prereq. Engl. 4; 3 rec. hrs. per week.) Ar.
- 6su. Composition. (Page 79) (3 cred.; prereq. Engl. 5; 3 rec. hrs. per week.) Ar.

## GENERAL ENGINEERING

## SUMMER QUARTER

- 70su. Slide Rule. (Page 79) (1 cred.; prereq. M.&M. 12 or reg. in M.&M. 12; 1 lect. hr. per week.) Mr. French.

## MATHEMATICS AND MECHANICS

## SUMMER QUARTER

- 9su. Higher Algebra. (Page 82) (No cred.; no prereq.; 5 rec. hrs. per week.) Mr. Saunders.
- 11su. College Algebra. (Page 82) (5 cred.; prereq. M.&M. 9 or equiv.; 5 rec. hrs. per week.) Mr. McEwen, Mr. McElrath.
- 12su. Trigonometry. (Page 82) (5 cred.; prereq. M.&M. 11; 5 rec. hrs. per week.) Mr. Amundson, Mr. Munro.
- 13su. Analytic Geometry. (Page 82) (5 cred.; prereq. M.&M. 11 and 12; 5 rec. hrs. per week.) Mr. Priester, Mr. Laws.
- 24su. Calculus I: Differential. (Page 82) (5 cred.; prereq. M.&M. 13; 5 rec. hrs. per week.) Mr. Turrittin, Mr. McElrath.
- 25su. Calculus II: Integral. (Page 82) (5 cred.; prereq. M.&M. 24; 5 rec. hrs. per week.) Mr. Siler, Mr. Laws.
- 26su. Technical Mechanics; Statics. (Page 83) (5 cred.; prereq. M.&M. 25; 5 rec. hrs. per week.) Mr. Herrick, Mr. Amundson.
- 127su. Technical Mechanics; Dynamics. (Page 83) (5 cred.; prereq. M.&M. 26; 5 rec. hrs. per week.) Mr. Wilcox.
- 128su. Strength of Materials. (Page 83) (5 cred.; prereq. M.&M. 26; 5 rec. hrs. per week.) Mr. Miller.
- 129su. Hydraulics. (Page 84) (4 cred.; prereq. M.&M. 26; 4 rec. hrs. per week.) Mr. Doeringsfeld.
- 141su. Materials Testing Laboratory. (Page 83) (2 cred.; prereq. M.&M. 128 or reg. in 128; 1 lect. and 2 lab. hrs. per week.) Mr. Miller.
- 143su. Hydraulics Laboratory. (Page 84) (1 cred.; prereq. M.&M. 129 or reg. in 129; 2 lab. hrs. per week.) Mr. Doeringsfeld.
- 151su. Differential Equations. (Page 83) (3 cred.; prereq. M.&M. 25; 3 rec. hrs. per week.) Mr. McEwen.

## MECHANICAL ENGINEERING

## SUMMER QUARTER

- 5su.‡ Pattern Practice. (Page 85) (2 cred.; prereq. Chem. 5, 7, 10 or 15, and Dr. 2; 2 lect. and 3 lab. hrs. per week.) Mr. Johnston.
- 9su.‡ Foundry Practice. (Page 85) (2 cred.; prereq. Chem. 4, 6, 9 or 14; 2 lect. and 3 lab. hrs. per week.) Mr. Holtby.
- 13su.‡ Forging, Welding, and Heat Treating. (Page 85) (2 cred.; prereq. Chem. 5, 7, 10 or 15, and Dr. 2; 2 lect. and 3 lab. hrs. per week.) Mr. T. P. Hughes.
- 17su.‡ Machine Shop Practice. (E.E., Prebus.) (Page 85) (2 cred.; prereq. M.E. 13; 2 lect. and 3 lab. hrs. per week.) Mr. Crowder.
- 18su.‡ Machine Shop Practice. (Aero.E.) (Page 85) (2 cred.; prereq. M.E. 13; 2 lect. and 3 lab. hrs. per week.) Mr. Crowder.
- 20su. Elements of Machine Design. (Page 86) (2 cred.; prereq. Dr. 3; 6 lab. hrs. per week.) Mr. Palmer.
- 21su. Kinematics. (Page 86) (2 cred.; prereq. M.E. 20; 6 lab. hrs. per week.) Mr. Palmer.
- 22su. Mechanism. (Page 86) (3 cred.; prereq. M.E. 21 and M.&M. 24; 2 rec. and 3 lab. hrs. per week.) Mr. Larsen.
- 32su. Elementary Mechanical Laboratory. (Aero.E.) (Page 87) (2 cred.; prereq. M.E. 131 or reg. in 131; 4 lab. hrs. per week.) Mr. Lee.
- 33su. Elementary Mechanical Laboratory. (M.E.) (Page 87) (2 cred.; prereq. M.E. 131 or reg. in 131; 1 lect. and 3 lab. hrs. per week.) Mr. Lee.
- 50su. Auto and Airplane Engines. (Page 88) (3 cred.; prereq. soph.; 3 rec. hrs. per week.) Mr. Murphy.
- 71su.‡ Machine Shop Practice (M.E.) (Page 85) (2 cred.; prereq. M.E. 13; 2 lect. and 3 lab. hrs. per week.) Mr. Crowder.
- 80su. Industrial Materials. (Page 86) (2 cred.; prereq. Ch.E. 31 [open to soph.]; 2 rec. hrs. per week.) Mr. Johnston.
- 131su. Thermodynamics. (Page 87) (3 cred.; prereq. M.&M. 25 and Physics 8; 3 rec. and 2 lab. hrs. per week.) Mr. Lee.

## FIRST TERM

- 1su.‡ Elementary Woodworking. (Ind.Ed.) (Page 84) (2 cred.; no prereq.; 6 lab. hrs. per week; not an engineering elective; hrs. ar.) Mr. Johnston.
- 2su.‡ Machine Woodworking. (Ind.Ed.) (Page 85) (2 cred.; no prereq.; 6 lab. hrs. per week; not an engineering elective; hrs. ar.) Mr. Johnston.
- 3su.‡ Wood Finishing and Furniture Construction. (Page 85) (2 cred.; no prereq.; 6 lab. hrs. per week; not an engineering elective; hrs. ar.) Mr. Johnston.
- 5su.‡ Pattern Practice. (Page 85) (2 cred.; prereq. Chem. 5, 7, 10 or 15, and Dr. 2; 4 lect. and 6 lab. hrs. per week; hrs. ar.) Mr. Johnston.

## SCHOOL OF MINES AND METALLURGY

## MINING

## FIRST TERM

- 15su. Field Trip. (Page 94§) (8 cred.; open only to students in the School of Mines and Metallurgy; prereq. Min. 13, 14. 4 weeks, beginning about June 15.) Mr. Lambert, Mr. Heilig.

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

§ See Institute of Technology Bulletin for 1944-46.

## SCHOOL OF CHEMISTRY

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

The number of students in general chemistry and quantitative analysis will be limited to 1,300.

## INORGANIC CHEMISTRY

## SUMMER QUARTER

- 6su.‡ General Inorganic Chemistry. Study of the general laws of chemistry and the nonmetals and their compounds. (5 cred.; no prereq.; 3 lect., 1 rec., 5 hrs. lab.) Mr. O'Brien.
- 9su.‡ 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 chem.; 3 lect., 6 hrs. lab.) Mr. Maynard.
- 16su.‡‡ Semimicro Qualitative Analysis. Laboratory work in systematic qualitative analysis with lectures on solutions, ionization, chemical and physical equilibria, oxidation and reduction, etc. (5 cred.; prereq. 5, 7, 10, or 15; 3 lect., 6 hrs. lab.) Mr. Heisig, Mr. Pervier.

## FIRST TERM

- 1su.‡ General Inorganic Chemistry. Study of the general laws of chemistry and of the nonmetals and their compounds. (4 cred.; no prereq.; lect. MTWThF II, 325C; rec. 1 hr. ar.; lab. TTh VI-IX, 210C.) Mr. O'Brien.
- 4su.‡ General Inorganic Chemistry. Study of the general laws of chemistry and of the nonmetals and their compounds. More intensive than Course 1. For premedics, etc. (4 cred. per qtr.; prereq. high school chemistry; lect. MTWThF II, 100C; rec. 1 hr. ar.; lab. TTh VI-IX, 290C.) Mr. Maynard.
- 6su.‡ General Inorganic Chemistry. Study of the general laws of chemistry and of nonmetals and their compounds. (5 cred.; no prereq.; lect. MTWThF I, 225C; rec. M VI, 325C; lab. TTh I-IV and F VI-IX, 290C.) Mr. Nebergall.
- 9su.‡ General Inorganic Chemistry. Study of general laws of chemistry and of nonmetals and their compounds. More intensive than Course 6. (5 cred.; prereq. high school chemistry; lect. MTWThF I, 100C; rec. W VI, 100C; lab. TTh I-IV and F VI-IX, 290C.) Mr. Reyerson.
- 11su.‡‡ Semimicro Qualitative Analysis. Laboratory work in systematic qualitative analysis with lectures on solutions, ionization, chemical and physical equilibria, oxidation and reduction, etc. (4 cred.; prereq. 2, 5, 7, 10, or 15; lect. MTWThF III, 100C; rec. W VI, 100C; lab. WF VI-IX, 290C.) Mr. Barber.
- 12su.‡‡ Semimicro Qualitative Analysis. Laboratory work in systematic qualitative analysis with lectures on solutions, ionization, chemical and physical equilibria, oxidation and reduction, etc. (5 cred.; prereq. 7 or 10; lect. MTWThF IV, 325C; rec. F VI, 410C; lab. MWF VI-IX, 210C or 290C.) Mr. Heisig.
- 13su.‡‡ Semimicro Qualitative Analysis. Laboratory work in systematic qualitative analysis with lectures on solutions, ionization, chemical and physical equilibria, oxidation, reduction, etc. (5 cred.; prereq. 12; lect. MTWThF IV, 225C; rec. 1 hr. ar.; lab. MWF VI-IX, 210C or ar.) Mr. Barber.
- 105su.\* Advanced Inorganic Chemistry. Coordination compounds. (3 cred.; prereq. Anal. Chem. 1 and 2, Org. Chem. 156; lect. MTWThF III, 215C and 1 hr. ar.) Mr. O'Brien.

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

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

- 109su.\*‡ Synthetic Inorganic Chemistry. Methods of preparation and purification of inorganic compounds of special interest. Current literature. (3 to 5 cred.; prereq. 13 or permission of instructor; lect. and lab. hrs. ar.) Mr. Heisig.
- 301su. Research in Inorganic Chemistry. (Cred. and hrs. ar.) Mr. Reyerson, Mr. Barber, Mr. Heisig, Mr. Maynard, Mr. O'Brien.

## SECOND TERM

- 2su.‡ General Inorganic Chemistry. Study of the general laws of chemistry and of the nonmetals, metals and their compounds. (4 cred.; prereq. 1; lect. MTWThF II, 325C; rec. 1 hr. ar.; lab. TTh VI-IX, 210C.) Mr. O'Brien.
- 5su.‡ General Inorganic Chemistry. Study of the general laws of chemistry and of nonmetals, metals and their compounds. (4 cred.; prereq. 4; lect. MTWThF II, 100C; rec. 1 hr. ar.; lab. TTh VI-IX, 290C.) Mr. Maynard.
- 7su.‡ General Inorganic Chemistry. Study of the general laws of chemistry and of nonmetals, metals, and their compounds. (5 cred.; prereq. 6; lect. MTWThF I, 225C; rec. W VI, 325C; lab. TTh I-IV and F VI-IX, 290C.) Mr. Nebergall.
- 10su.‡ General Inorganic Chemistry. Study of general laws of chemistry and of nonmetals, metals and their compounds. More intensive than Course 7. (5 cred.; prereq. 9; lect. MTWThF I, 100C; rec. W VI, 100C; lab. TTh I-IV and F VI-IX, 290C.) Mr. Pervier.
- 11su.‡‡ and 12su.‡‡ Semimicro Qualitative Analysis. Laboratory work in systematic qualitative analysis with lectures on solutions, ionization, chemical and physical equilibria, oxidation and reduction, etc. (11su 4 cred.; prereq. 2, 5, 7, 10, or 15; lect. MTWThF III, 100C; rec. W VI, 100C; lab. WF VI-IX, 290C; 12su 5 cred.; prereq. 7 or 10; lect. MTWThF III, 100C; rec. W VI, 100C; lab. MWF VI-IX, 290C.) Mr. Barber.
- 102su.‡‡ 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.) Mr. Barber.
- 302su. Research in Inorganic Chemistry. (Cred. and hrs. ar.) Mr. Barber, Mr. Maynard, Mr. Pervier, Mr. O'Brien.

## ANALYTICAL CHEMISTRY

## FIRST TERM

- 1su.‡ Quantitative Analysis. (Gravimetric.) Introductory course covering the general principles and methods of gravimetric analysis. Typical problems are assigned and attention given to proper laboratory practice. (5 cred.; prereq. qual. anal.; lect., rec., quiz TTh V-VI, F V, 315C; lab. MW V-VIII, TTh VII-VIII, F VI-VIII, 310C.) Mr. Sandell.
- 7su.‡ Quantitative Analysis. (Premed.) Introductory course covering the general principles and methods of quantitative analysis, both gravimetric and volumetric. Typical problems are assigned and attention given to proper laboratory practice. (4 cred.; prereq. qual. anal.; lect., rec., quiz MWF V, 315C; lab. MWF VI-VIII, TTh V-VIII, 310C.) Mr. Sandell.
- 96su. Senior Topics. (Cred., hrs. and rooms ar.) Mr. Sandell.
- 123su.‡ Advanced Analytical Chemistry. Problems are assigned that involve special technique on more advanced theory than the basic courses. (3 cred.; prereq. grav. and vol. anal.; hrs. ar.; 310C.) Mr. Sandell.
- 203su.\* Selected Topics in Analytical Chemistry. (Cred. and hrs. ar.; 310C.) Mr. Sandell.
- 301su.\* Research in Quantitative Analysis. (Cred. and hrs. ar.; 310C.) Mr. Sandell.

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

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



## ORGANIC CHEMISTRY

## FIRST TERM

- 1su.†† Elementary Organic Chemistry. (Premed., predent., pharm.) Discussion of important classes of organic compounds, both aliphatic and aromatic. Laboratory work includes the preparation of typical substances. (4 cred.; prereq. 11 or 12; lect. MTWThF I, 325C; rec. TTh II, 315C; lab. MWF II-IV, 390C; lab. conference TTh III, ar. C.) Mr. Lauer and assistants.
- 110su.†† Organic Qualitative Analysis. Reactions of typical functional groups, identification of pure organic compounds, separation and identification of constituents of mixtures. (5 cred.; prereq. 156 and 159 or equiv.; lect. MWF IV, 315C; 15 hrs. of lab. work ar.) Mr. Koelsch and assistants.
- 130su.‡ Organic Quantitative Analysis. Methods of proximate and ultimate analysis of organic compounds, with special attention to semimicro methods. (2 or 3 cred.; prereq. 156 and 159, Anal. Chem. 1 and 2 are advisable; hrs. ar.) Mr. Lauer and assistants.
- 140su.\* Aromatic Compounds. (Page 65, Institute of Technology Bulletin.) (3 cred.; prereq. 156 and 159; MTWThF III; 115C.) Mr. Koelsch.
- 301su. Research in Organic Chemistry. (Cred. ar.; prereq. 110; hrs. ar.) Mr. Lauer, Mr. Koelsch.

## SECOND TERM

- 2su.†† Elementary Organic Chemistry. (See description for 1su.) (4 cred.; prereq. 1; lect. MTWThF I, 325C; rec. TTh II, 315C; lab. MWF II-IV, 390C; lab. conference TTh III; ar.) Mr. Arnold and assistants.
- 139su.‡ Advanced Organic Chemistry Laboratory Work. Selected laboratory problems of an advanced nature, including some original work. Ability to read German is assumed. (2 or 3 cred.; prereq. 156 and 159; hrs. ar.) Mr. Arnold and assistants.
- 302su. Research in Organic Chemistry. (Cred. ar.; prereq. 110; hrs. ar.) Mr. Arnold.

## PHYSICAL CHEMISTRY

## FIRST TERM

- 107asu. Elementary Physical Chemistry. Primarily for pre-medical students. (6 cred. per qtr.; prereq. two years of college chemistry, one year of college physics; lect. MWFS I, 215C, rec. F IV 215C, lab. TTh I-III 190C.) Mr. Livingston, Mr. Sjoblom.
- 113su.\* Fundamentals of Reaction Kinetics. (3 cred.; prereq. 103; hrs. ar.) Mr. Livingston.
- 301su. Research in Physical Chemistry. Mr. Livingston.

## SECOND TERM

- 107bsu. Elementary Physical Chemistry. (Premed.) See 107asu. Mr. Livingston, Mr. Sjoblom.
- 175su. Photochemistry. (3 cred.; prereq. 103; hrs. ar.) Mr. Livingston.
- 302su. Research in Physical Chemistry. Mr. Livingston.

## CHEMICAL ENGINEERING§

## FIRST TERM

- 101su. Unit Operations. (See p. 67.) (3 cred.; jr.; prereq. 80, Anal. Chem. 1, 2; 3 lect. and 3 rec. hrs.) Mr. Mann, Mr. Comley.

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

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

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

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

- 103su.‡ Unit Operations. Continuation of 101 and 102. Discussions, problems and laboratory on distillation, absorption, extraction, and crystallization. (3 cred.; jr.; prereq. 102; 3 lect., 3 rec., and 4 lab. hrs. per week.) Mr. Stoppel, Mr. Pike.
- 105su.‡‡ Fuels and Combustion. (See p. 67.) (4 cred.; jr.; prereq. Anal. Chem. 1, 2; 3 lect., 4 rec., 8 lab. hrs. per week.) Mr. Stoppel, Mr. Jackson.
- 131su. Inorganic Technology. (See p. 67.) (Lectures and recitations; 4 cred.; prereq. 102; 4 lect. and 4 rec. hrs. per week.) Mr. Mann.
- 151-152su.‡‡ Chemical Manufacture. (See p. 68.) 3 cred. each; prereq. 103, 131; lab. daily 8 a.m. to 5 p.m.) Mr. Mann, Mr. Stoppel, Mr. Jackson, Mr. Comley, and assistants.
- 301-302-303su. Research in Chemical Engineering. (See p. 68.) Ar.

## SECOND TERM

- 103su.‡ Unit Operations, last half. (3 cred.; jr.; prereq. 1st half; 3 lect., 3 rec., 4 lab. hrs. per week.) Mr. Stoppel, Mr. Pike.
- 151-152su.‡‡ Chemical Manufacture. Repetition of first term. Mr. Mann, Mr. Stoppel, Mr. Pike, Mr. Jackson, and assistants.
- 301-302-303su. Research in Chemical Engineering. (See p. 68.)

† Each laboratory section is limited to 16 students.

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

‡‡ Each laboratory section is limited to 16 students.

# COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

## GENERAL INFORMATION

Agriculture offers a limited number of courses to college undergraduates interested in this field, and a larger number of courses from most of the agricultural divisions for graduate students. For high school teachers of agriculture a number of graduate courses in technical agriculture and in education are available; special emphasis will be given to the problems in farm mechanics.

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

### GRADUATE STUDY

Opportunity is offered in 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 courses and thesis work may be carried for the entire session. In other divisions thesis or course work only may be pursued through the Summer Session. Information concerning graduate work during the summer, in any division, 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, and the facilities offered during the summer are in most divisions especially attractive because of the field work possible only at that time.

In Home Economics graduate course work is given in the first term only. Home Economics students are able to take courses in certain related fields in other departments.

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

### ADMISSION

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

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

An *asterisk* (\*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 18.)

## AGRICULTURAL BIOCHEMISTRY

### FIRST TERM

- 4su. Introduction to Organic and Biochemistry. (Page 70§) (5 cred.; soph., jr., sr.; prereq. Inorg. Chem. 1 and 2 or 4 and 5; MTWThF I, II; 113SnH.) Mr. Greenwood.
- 113su.\*‡ Biochemical Laboratory Methods. (Page 71§) (2 cred.; jr., sr., grad.; prereq. Quant. Anal., parallel 119; MWF III, IV, TTh I, II, III, IV; 202,208SnH.) Mr. Briggs.
- 119su.\* Colloids. (Page 71§) (3 cred.; jr., sr., grad.; prereq. Zool. or Bot. 10 cred., and 5 cred. in Org. Chem. equiv. to 4su., Ag. Biochem. 5 or 6 (page 71§) advised; MWF I, II; 116SnH.) Mr. Briggs.

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

§ College of Agriculture, Forestry, and Home Economics Bulletin.

203asu.\*‡ Research Problems. (Page 26†) (2 to 5 cred.; grad.; prereq. permission of instructor; ar.; 202,208SnH.) Mr. Geddes, Mr. Briggs, Miss Kennedy.

SECOND TERM

114su.\*‡ Biochemical Laboratory Methods. (Page 71§) (2 cred.; jr., sr., grad.; prereq. Quant. Anal., parallel 120; MWF III, IV, TTh I, II, III, IV; 202,208SnH.) Mr. Sandstrom.

120su.\* Proteins. (Page 71§) (3 cred.; jr., sr., grad.; prereq. 119; MWF I, II; 116SnH.) Mr. Sandstrom.

203bsu.\*‡ Research Problems. (Page 26†) (2 to 5 cred.; grad.; prereq. permission of instructor; ar.; 202,208SnH.) Mr. Geddes, Mr. Briggs, Mr. Sandstrom, Miss Kennedy.

AGRICULTURAL ECONOMICS

FIRST TERM

1su. Principles of Economics 1. (Page 72§) (3 cred.; soph., jr., sr.; no prereq.; MTWThF I; 109HH.) Mr. Lowe.

40su. Principles of Marketing Organization. (Page 72§) (3 cred.; soph., jr., sr.; prereq. Agr.Econ. 2; MTWThF I; 312HH.) Mr. Cox.

107su. Farm Work Simplification. A study of principles and methods of accomplishing farm work in less time and with less effort. Methods of analyzing jobs, principles of motion economy, efficient working methods for different enterprises. Practice in planning improved working methods. (3 cred.; jr., sr., grad.; MTWThF III; lab. ar.; 312HH.) (Available to high school instructors in agriculture for three-week period; cred. ar.) Mr. Engene.

172su. Economics of World Agriculture. Distribution, quality, and utilization of agricultural resources; variations in population densities and characteristics; internal organization and techniques; comparative advantage; world trade in agricultural products; national and international policies relating to agriculture; future trends and prospects. (3 cred.; jr., sr., grad.; prereq. Agr.Econ. 2 and 110 or consent of instructor; MTWThF II; 312HH.) Mr. Dowell.

SECOND TERM

2su. Principles of Economics II. (Page 72§) (5 cred.; soph., jr., sr.; prereq. Agr.Econ. 1; MTWThF I-II; 109HH.) Mr. Lowe.

200su. General Seminar in Agricultural Economics. (Page 65†) (3 cred.; grad.; ar.) Mr. Jesness and staff.

AGRICULTURAL EDUCATION

For list of courses in Agricultural Education see courses listed under the College of Education, page 85.

AGRICULTURAL ENGINEERING

FIRST TERM

40su. Mechanical Training. Instruction and laboratory practice in mechanical trades embracing rope work, belt lacing and pulleys, cement work, soldering, electric wiring. (2 to 4 cred.; no prereq.; lect. TWThF VI; lab. ar.; 106,20En.) Mr. Dent.

† Graduate School Supplement.

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

§ College of Agriculture, Forestry, and Home Economics Bulletin.

41su. 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 of the above and concentrate on those of special interest. Special attention given to practical applications and features of special interest to teachers. (2 to 4 cred.; no prereq.; lect. TWThF VII; lab. ar.; 106,20En.) Mr. Dent.

#### SECOND TERM

40su. Mechanical Training. (Description the same as first term.) (2 to 4 cred.; no prereq.; lect. TWThF VI; lab. ar.; 106,20En.) Mr. Dent.

42su.‡ Art Metal Work. A course designed for persons interested in creating articles of permanent beauty and value from metals, including copper, pewter, brass, steel, aluminum, nickel silver, and sterling silver. Forming of plates, bowls and trays; use of jeweler's saw in pierced work; etching; soldering; making candlesticks, bookends, desk sets, lamps, bracelets. (2 to 4 cred.; no prereq.; lect. TWThF VII; lab. ar.; 106,20En.) Mr. Dent.

### AGRONOMY AND PLANT GENETICS

#### FIRST AND SECOND TERMS

#### AGRONOMY

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

#### PLANT GENETICS

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

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

### ANIMAL AND POULTRY HUSBANDRY

#### FIRST TERM

1su. Livestock Production. Opportunities and problems in livestock production. A survey of practices followed in the production of beef cattle, sheep, swine, and horses. Lect. and lab. practice in classifying and appraising livestock. (4 cred.; no prereq.; MTWThF VI, VII; CSt.) Ar.

56su. Livestock Feeding. A study of the nutritional requirements of farm animals and the composition and characteristics of livestock feeds. The value of individual feeds and of combinations of feeds for beef cattle, sheep, swine, and horses. (3 cred.; jr., sr.; prereq. 1; MWF III-IV; 3LsPav.) Mr. Ferrin.

113su. Livestock Management. A study of the management principles involved and the problems of care in each of the several types of specialization in livestock production. A general course covering beef cattle, sheep, hogs, and horses. (3 cred.; jr., sr.; prereq. 56-57; MWF VI-VII-VIII; 3LsPav.) Mr. Peters.

213su.\* Research in Animal Husbandry. Special problems assigned to students to be worked out under the supervision of a faculty member. (3 cred.; grad.; ar.) Mr. Peters, Mr. Ferrin, Mr. Winters.

214su.\* Research in Poultry Husbandry. Special problems assigned to students to be worked out under supervision of a faculty member. (3 cred.; grad.; ar.) Mr. Sloan.

† For description see Graduate School bulletin.

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

SECOND TERM

- 57su. Livestock Feeding. Continuation of An.Husb. 56. (3 cred.; jr., sr.; prereq. 1; MWF III, IV; 3LsPav.) Mr. Ferrin.  
 112su. Animal Breeding. The application of the physiology of reproduction and genetics to breeding of farm animals. (3 cred.; jr., sr.; prereq. Agron. 31; MWF I-II; 3LsPav.) Mr. Winters.  
 213su.\* Research in Animal Husbandry. (Same as first term.)  
 214su.\* Research in Poultry Husbandry. (Same as first term.)

DAIRY HUSBANDRY

FIRST AND SECOND TERMS

- 208su. Research in Dairy Production. (Page 59†) (Prereq. preliminary grad. work.) Mr. Fitch, Mr. Petersen, Mr. Gullickson, Mr. Gilmore.  
 209su. Research in Dairy Manufacturing. (Page 59†) (Prereq. preliminary grad. work.) Mr. Combs, Mr. Coulter.  
 215su. Research in Dairy Bacteriology. (Page 59†) (Prereq. preliminary grad. work.) Mr. Macy.

ENTOMOLOGY AND ECONOMIC ZOOLOGY‡

FIRST TERM

- 13su. Field Zoology. Offered at Itasca Park. (1½ cred.; fr.; no prereq.) Mr. Dawson.  
 55su. Entomological Techniques. Practical laboratory instruction in mounting, preservation of insect larvae, preparation of microscopic mounts of minute insects, labeling, classifying, and cataloging specimens of insects for scientific study. (9 hrs. lab.; 3 cred.; jr., sr.; ar.) Mr. Mickel.

FIRST AND SECOND TERMS

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

FORESTRY‡

FIRST TERM

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

- 5su. Field Silviculture. (Page 90§) (1½ cred.; no prereq.) Mr. Cheyney.  
 6su. Field Mensuration. (Page 90§) (1½ cred.; no prereq.) Mr. Brown.  
 11su. Camp Management. (Page 90§) (1 cred.; no prereq.) Mr. Brown.

† For description see Graduate School bulletin.

§ See College of Agriculture, Forestry, and Home Economics bulletin.

‡ For courses offered in the Biological Station, see page 60.

- Ent.13su. Field Zoology. (See also under Entomology and Economic Zoology above.) (1½ cred.; no prereq.) Mr. Dawson.
- Bot.6su. Forest Botany. (See under Botany.) (1½ cred.; no prereq.) Mr. Buell.

## HOME ECONOMICS

## FIRST TERM

- 50su. Textiles. A study of textile materials from the standpoint of the consumer. Discussions will include the characteristics of cotton, flax, wool, silk, rayon, nylon, casein, and other modern fibers and fabrics; the use of fundamental textile information as an effective tool in the selection and maintenance of textile products for clothing and home furnishing; the structure, design, and modern finishing of fabrics; factors which determine serviceability in fabrics and their recognition. Laboratory study of selected fabrics will parallel class discussions. (3 cred.; jr., sr.; prereq. H.E. 1 or permission of the instructor; MTWF III-IV, Th III and 1 hr. ar.; 305HE.) Miss Didier.
- 86su.† Home Management: Laboratory. Residence in one of the home management houses involving experience in sharing and managing the homemaking activities and responsibilities for the group. (4 cred.; jr., sr.; prereq. 85 or parallel 40, H.E.Ed. 90, P.H. 52a.b.) Miss Studley, Miss Burgeson.
- 120su. Art History and Appreciation. The historical development of painting, sculpture, architecture, decoration, furniture, and costumes, studied with special emphasis on design and influence upon modern styles. (3 cred.; sr. college and grad. only; MTWThF I and 1 hr. ar.; 313HE.) Miss Vetta Goldstein.
- 140su. New Developments in Food Preparation. Demonstrations, discussions, and some laboratory work illustrating recent trends in food preparation. Such topics as the following will be included: the use of pressure saucpans, the theory and practice of freezing foods, and comparisons of recently proposed quick methods of preparing cakes and yeast breads with conventional methods. (3 cred.; jr., sr., grad.; prereq. 40 or equiv.; MWThF VI, T VI, VII, VIII, IX; 213,107HE.) Miss Montgomery.
- 142su. Experimental Cookery. An intensive study of problems in foods and food preparation. Individual laboratory problems, adapted to student's specific food interests. (3 cred.; jr., sr., grad.; prereq. H.E. 40 or equiv., Agr.Biochem. 4 or equiv.; MTWThF I-II and 2 hrs. ar.; 107HE. Limited to 12 students.) Miss Montgomery.
- 150su. Textile Problems. The chief objective of this course is to provide an opportunity for workers in secondary schools, colleges, and adult classes, and other students to refresh their background in textiles and to acquire new information concerning recent and current developments in this field. Discussion will be adapted to the needs of the students who elect the course. Readings in current textiles literature will permit individual study of selected topics with oral and written reports. (3 cred.; prereq. preliminary credits in textiles; MTWThF II and 1 hr. ar.; 305HE.) Miss Didier.
- 171su. Child Nutrition. This course will include the facts and principles which should be known in selecting the right food for growing children beginning with the needs of the prenatal period. Attention also will be given to the problems of establishing good eating habits. The interests and needs of the students will be considered in providing information about and contacts with agencies which deal with the selection of food by children and their food habits. Facilities are available for observing or studying school lunches, nursery schools, or prenatal and infant welfare clinics. (3 cred.; jr., sr., grad.; prereq. H.E. 170 or equiv. and H.E.Ed. 90 or equiv., or consent of instructor; MTWF III and MW IV; 313HE.) Miss Young.

† Open only to students in regular attendance.

- 179su. Readings in Nutrition. This course is planned to acquaint the student with current nutrition books, journals, and bulletins which will be useful to her in her chosen profession. Opportunity will be afforded for preparing and presenting simple interesting oral reports of library material, and for the organization and preparation of a short but comprehensive written report involving the reading and evaluation of several original nutrition articles. Several local and state agencies promoting nutrition programs will be visited. (3 cred.; jr., sr., grad.; prereq. H.E. 34 or H.E. 170 or equiv. or consent of instructor; MTWF VII, MF VIII; 313HE.) Miss Young.
- 185su. Family Relationships. A study of the factors that promote satisfaction within the immediate family and for the family in relation to the community. (2 cred.; jr., sr., grad.; prereq. 86 or parallel H.E.Ed 90; MTWTh II; 203HE.) Miss Studley.
- 295su. Problems in Home Economics: Shelter. It is of paramount importance right now that home economists make their special contribution toward improving the houses in which families live. Two principal problems are involved: (1) Making the best use of what people now possess; (2) The wise utilization of savings in remodeling homes and building new ones. With these in mind, housing problems will be studied with reference to their effects on the family in its home and as a part of the community. Plans for both urban and rural homes will be considered and the economic, art, and social aspects will be evaluated. Discussions, field trips, and classroom analyses will constitute a part of the work. (3 cred.; grad. only; MTWF III, IV; 112HE.) Miss Vetta Goldstein.
- 295-296su. Home Economics Problems: Related Art. The course is intended for experienced college teachers who have had training in art and preferably some work in home economics. It will be an informal discussion of materials and resources through which art may be made to function in the life of a student in his home and community. Actual materials will be studied in the classroom and in the field. Houses, museums, schools, housing projects, home institutes, stores, and the like will be used. The Twin Cities and their environs offer exceptional opportunities for field study. Visual aids will be emphasized. Credit is optional but participation and attendance at class meetings and field work is expected. (6 cred.; grad. only; lect. and discussion MTWF III, IV; field experience MTWF V, VI, VII, VIII; 106HE.) Miss Harriet Goldstein.

SECOND TERM

- 85su. Home Management: Operation and Maintenance, Lectures. Discussion of the management aspects of homemaking with emphasis on the problems involved in the use of time, energy, and money. (4 cred.; jr., sr.; prereq. 40, H.E.Ed. 90 or parallel; MTWThF IV and 1 hr. ar.; 213HE.) Miss Jeary.
- 86su. Home Management: Operation and Maintenance, Laboratory. Same as first term. (4 cred.; jr., sr.; prereq. 40 or parallel, H.E. 85, C.W. 40 or H.E.Ed. 90; hrs. ar.) Miss Jeary, Miss Burgeson.

HOME ECONOMICS EDUCATION

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

HORTICULTURE

FIRST AND SECOND TERMS

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

† For description see Graduate School Bulletin.



## PLANT PATHOLOGY AND BOTANY¶

## FIRST AND SECOND TERMS

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

## SOILS

## FIRST AND SECOND TERMS

- 104su. Soil Mapping. (Page 112§) (3 cred.; jr., sr., grad.; prereq. 108; must obtain permission of instructor in advance of registration; ar.) Mr. McMiller.
- 202su. Research Problems in Soils. (Page 160†) (2-5 cred.; grad.; prereq. 107; must obtain permission of instructor in advance of registration; ar.) Mr. Rost, Mr. McMiller, Mr. Caldwell, Mr. MacGregor.

## BIOLOGICAL STATION SUMMER SESSION

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 Park.

These classes will be conducted co-operatively by various departments in the College of Agriculture, Forestry, and Home Economics and the College of Science, Literature, and the Arts. Classes will be held at the station beginning July 29, ending August 31.

## GENERAL INFORMATION

Courses are designed to provide opportunity for instruction and research and to train scientific investigators in the fields of terrestrial and fresh-water biology. The station affords an excellent opportunity for study of the flora and fauna found in the midwestern and lake states region.

Elementary courses are available in field botany, field entomology, wild-life conservation, field mycology, etc., of special interest to high school teachers and others interested in conservation and the teaching of conservation.

Field trips and indoor laboratory work are given on designated days. In the field the student visits typical habitats and gathers specimens for laboratory study, supplemented by informal lectures by instructors in charge of each tour. The same scholastic standards are maintained at the station as on the campus of the University of Minnesota and college credit is given for work satisfactorily completed.

The interested students may find the following opportunities offered by the Biological Station at Itasca Park:

1. Elementary and advanced instruction during the five weeks of the second term of the University Summer Session (July 29 to August 31) for college undergraduates, graduate students, high school and nature study teachers, and others interested.

† See Graduate School bulletin.

¶ For courses offered in Biological Station, see page 60

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.

FEES AND EXPENSES

Registrations will be accepted during June and July but not later than July 29. The following fees are payable by each registrant on or before July 29 and must be paid before registration is completed:

Tuition fee .....	\$25.80
Incidental fee .....	5.25
General deposit fee .....	2.00
Equipment fee .....	5.00
Dormitory and dining hall fee.....	5.00
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Total fees for the term.....	\$43.05

In addition it is estimated on the basis of the experience of other groups of students that the cost of board will not exceed a total of \$50 for the five weeks. No additional charge is made for room in the dormitories and cabins of the Biological Station.

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.

Equipment fees include the use of microscopes, nets, boats, various class supplies, and accessories.

The estimated cost of \$93.05 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 29. After July 29 the late registration fee will be charged according to the following schedule:

Tuesday, July 30 .....	\$2.00
Wednesday, July 31 .....	3.00
Thursday, August 1 .....	4.00
Friday, August 2 .....	5.00

No registration will be accepted after August 2 without the approval of the professor in charge and payment of a \$5 fee.

ADMISSION

The courses in the Biological Station are open to all qualified graduate and undergraduate students who have had usual preliminary courses in biological subjects, as well as to qualified high school graduates. Certain courses are especially designed for the teacher of biological subjects in colleges, high schools, and public schools, and for others interested in plant and animal life. Graduate registrations must be approved by the major department and these submitted to the Graduate School for final approval.

Registration may be completed at any time during the months of June and July, but not later than July 29, at the Office of Admissions and Records of either campus of the University of Minnesota or at the Biological Station. Application for admission to the station should be made on a form which may be obtained from the Office of Admissions and Records upon request.

For the 1946 session, not more than one hundred (100) applicants can be admitted, and the priority of registration will govern admission.

For further information write to the Director of the Summer Session of the University of Minnesota, Minneapolis 14, for special folder describing the Biological Station.

An asterisk (\*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 18.)

## SECOND TERM OF SUMMER SESSION

The courses to be given at the Biological Station will begin July 29 and close August 30. Special arrangements will be made for those whose school or other duties make it impossible to remain through the final week of the session.

The following courses are offered in the Biological Station for the year 1946 at Itasca Park during the second term of the Summer Session.

## BOTANY

- 8su. Elements of Field Taxonomy. The identification of common wild flowers, and a general study of the classification and relationship of flowering plants. Field work in forest, swamp, bog, lake, and prairie. Text: Moyle, *Field Key to the Common Non-Woody Flowering Plants and Ferns of Minnesota*. (3 cred.; prereq. Bot. 1, or consent of instructor; WS.) Mr. Buell.
- 20su. Elementary Field Ecology. An outline of the fundamental concepts of ecology illustrated directly by examples in the field. A study of the mature plant communities and the various lines of succession leading to them. (3 cred.; no prereq.; MTh.) Mr. Buell.
- 57su. Aquatic Flowering Plants. A study of the higher plants of aquatic and marsh habitats. Identification and collection; association of species; relations to the habitat; adaptive morphology and food value to wildlife. (3 cred.; prereq. bot. or zool. 10 cred., or consent of instructor; WS a.m., WF p.m.) Mr. Tryon.
- 70su. Bryophytes. Field and laboratory study of the mosses and liverworts of Minnesota. Text: Grout, *Mosses with a Hand Lens*, and Conard, *How To Know the Mosses*. (3 cred.; prereq. 10 cred. of biology, or consent of instructor; TF.) Mr. Evans.
- 76su. Freshwater Algae. The taxonomy and limnological relations of the freshwater algae of Minnesota. Text: Smith, *Freshwater Algae of the U. S.* (3 cred.; prereq. 10 cred. of biology, or consent of instructor; MTh.) Mr. Evans.
- 116su. Summer Flora of Minnesota. A survey of the summer flowering plants and ferns of the state with particular reference to the local flora. Collection and identification of species; distribution in Minnesota; literature and taxonomic methods. Text: *Gray's New Manual of Botany*. (3 cred.; prereq. Bot. 8, or consent of instructor; TF a.m., WF p.m.) Mr. Tryon.
- 196su. Problems in Ecology, Taxonomy, Bryology, or Algology. Advanced studies based on individual field work and research. (Cred. ar.; adv. students with proper qualifications.) Mr. Buell, Mr. Tryon, Mr. Evans.

## ENTOMOLOGY AND ECONOMIC ZOOLOGY

- 59su. Field Entomology. A study of the insect fauna in various natural habitats of the park and surrounding areas. The course includes field trips, collection and classification of insects, as well as studies of general morphology, life histories, and habits of local species under ecological conditions governing the distribution of insect fauna of the region. Lectures, laboratory, and field work. (3 cred.; jr., sr.; prereq. Zool. 1-2-3 or equiv.; TF.) Mr. Daggy.
- 68su. Natural History of the Higher Vertebrates. Life histories, habits, economic importance, and identification of amphibians, reptiles, birds, and mammals, with special reference to the local species. Texts: Peterson, *Field Guide to the Birds*; Hatfield, *A Checklist of the Mammals of Minnesota with Keys for Their Identification*; Swanson, Surber, and Roberts, *The Mammals of Minnesota*; Breckenridge, *Reptiles and Amphibians of Minnesota*. Dissecting set. (3 cred.; prereq. Zool. 1-2-3 or equiv.; TF.) Charges for car mileage for field trips in this course will average \$1 to \$2. Mr. Marshall.

- 76su. Techniques of Field Biology. A study of available flora and fauna including the methods of collection, preservation, arrangement, and demonstration of illustrative material and effective presentation to classes. This course is primarily designed to meet the needs of teachers of biological subjects. Lectures, laboratory, and field work. (2 cred.; prereq. bot. or zool. 10 credits or consent of instructor; WS.) Mr. Daggy.
- 168su. Ecology of Terrestrial Vertebrates. Detailed study of ecological relationships of northern Minnesota terrestrial vertebrates. Texts recommended: Field, *Keys to Vertebrates*. Lectures, laboratory, and field work. (3 cred.; prereq. Zool. 46-47, Ornithology, or Ent. 163 or Ent. 68 and Bot. 20; TF.) Charges for car mileage for field work in this course will average \$1 to \$2. Mr. Marshall.
- 196su.\* Special Problems in Entomology or Economic Zoology. Advanced work in entomology and economic zoology and ample opportunity for individual research, especially in various phases of faunistic studies in terrestrial, aquatic, and forest entomology and economic zoology. (Cred. ar.; adv. students with proper qualifications.) Mr. Daggy, Mr. Marshall.

### FORESTRY

- 12su. Field Dendrology. Trees and shrubs found in the Itasca Park Region, with special reference to identification by means of constant characters. (Not open for credit to students in Forestry.) Text required: Rosendahl and Butters, *Trees and Shrubs of Minnesota*. (3 cred.; prereq. 10 cred. in bot., or consent of instructor; WS.) Mr. Buell.
- 145su. Conservation of Natural Resources. A general course surveying our natural resources, the past treatment and changes in the public attitude towards their use. Designed principally as an informational course for those who will teach conservation in junior high school. Suitable exercises for junior high school students will be demonstrated and carried out. (1 cred.; prereq. 1 yr. of biol. sci.; TTh.) Mr. Schantz-Hansen.

### PLANT PATHOLOGY AND BOTANY

- 50su. Field Mycology. Collection and identification of the common fleshy fungi, molds, and plant parasites, with special emphasis on mushrooms. Techniques given for the growing of fungi in natural and artificial media. Field collection, laboratory work, and lectures. (3 cred.; prereq. 9 cred. of bot. or permission of instructor; WS.) Mr. C. M. Christensen.
- 56su. Introduction to the Study of Fungi. The structure, development, and identification of fungi, especially those of economic importance. Lecture and laboratory. (3 cred.; prereq. 9 cred. of bot. or instructor's permission; MTh.) Mr. C. M. Christensen.
- 210su.\* Special Problems in Mycology. Research work along the following suggested lines: taxonomy of natural groups, fungus flora of particular regions, localities, or habitats; morphology or physiology of special forms. (Cred. ar.; grad.; prereq. 105-106-107.) Mr. C. M. Christensen.

### ZOOLOGY

- 55su.‡ Natural History of Invertebrates and Fishes. A taxonomic and ecological survey of the local fauna, including life histories and habitats. Text required: Needham and Needham, *Guide to the Study of Fresh Water Biology*; References: Ward and Whipple, *Fresh Water Biology*. (3 cred.; prereq. Zool. 1-2-3 or equiv.; WS.) Mr. Eddy.

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

- 115su.‡ Advanced Natural History of Invertebrates and Fishes. An advanced taxonomic and ecological survey of the local fauna including a detailed and independent ecological study of several taxonomic groups. Text required: Ward and Whipple, *Fresh Water Biology*. (3 or 4 cred.; prereq. 15 cred. in zool.; MF.) Mr. Eddy.
- 116su.‡ Limnology. A study of the conditions of life and the distribution of organisms in the lakes of the Itasca region. Text required: Welch, *Limnology*. (3 cred.; prereq. 15 cred. in zool.; MF.) Mr. Eddy.
- 198su. Problems in Ecology and Limnology. Principles and further work on special lines adapted to needs of individual students. (Cred. ar.; prereq. Zool. 1-2-3, and special requirements; adv. students.) Mr. Eddy.

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## LAW SCHOOL

The Law School will offer a complete quarter (June 17 to August 31) of law work with courses for both beginning and advanced students. Registration will be for the quarter, not for the single term. Courses offered are:

### FIRST YEAR COURSES

#### *First and Second Terms*

- Torts. (9 cred.) Mr. Kinyon.  
Criminal Law. (5 cred.) Mr. Hall.

### ADVANCED COURSES

#### *First and Second Terms*

- Private Corporations. (7 cred.) Mr. Rottschaefer.  
Sales. (5 cred.) Ar.  
Judicial Administration. (6 cred.) Mr. Pirsig.  
International Law. (6 cred.) Mr. Read.  
Administrative Law. (6 cred.) Mr. Riesenfeld.  
Jurisprudence. (3 cred.) Mr. Hall.  
Damages. (3 cred.) Ar.

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

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

# MEDICAL SCHOOL

## GENERAL INFORMATION

### GENERAL

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

Medical classes of the Summer Session, 1946, will begin on July 1.

### FEES—MEDICAL STUDENTS

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

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

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

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

### FEES—SUMMER SESSION STUDENTS

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

### CLINICAL YEARS

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

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

### PROGRAMS FOR CLINICAL (JUNIOR AND SENIOR) YEARS

The courses offered in the clinical years are as follows:

The didactic and clinical courses for one regular quarter are offered in the Summer Session, and all of the regular students will be in attendance. Students of other schools

who desire to extend their clinical knowledge may register for the courses offered *if there is room in the classes.*

#### LABORATORY YEARS

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

#### OPPORTUNITY FOR PRACTITIONERS

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

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

#### ELECTIVES

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

#### GRADUATE COURSES

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

A special program of courses has been arranged through the Center for Continuation Study for medical officers returning to civilian life from military service. A limited number of such physicians may live at the Center for Continuation Study. Classes will be held in the Center and at the Medical School; University of Minnesota Hospitals; Minneapolis General Hospital; Ancker Hospital, St. Paul, and affiliated institutions.

#### ANATOMY

##### FIRST TERM

(June 17-July 27)

165su. Hematology. For medical technologists and others. Lecture and laboratory work. Class limited to 45 but minimum of 12 required. (4 cred.; prereq. Anat. 103 or equiv.; MWF I-III, TTh VI-VIII; 104,213IA.) (Microscope fee \$6.) Dr. Sundberg and assistants.

##### FIRST AND SECOND TERMS

(Beginning July 1)

59su. Systematic Anatomy. For freshman dental students. Lectures and laboratory work. Enrolment limited. (6 cred.; MWF VI-IX; 304,301IA.) Dr. Williams, Dr. Hartmann.  
61su. Histology and Embryology. For freshman dental students. Enrolment limited. Lectures and laboratory work. (6 cred.; MWF I-IV; 304,216IA.) (Microscope fee \$6.) Dr. Rasmussen, Dr. Kirschbaum.

- 101su.‡ Gross Human Anatomy. Dissection of head, neck, thorax, and arm. For freshman medical students. Permission of instructor required for students not enrolled in Medical School. (9 cred.; prereq. Zool. 1-2-3; lect. MTWTh VI, 102IA.; lab. MTWTh VII-IX, 306,308IA.) Dr. Boyden, Dr. Wells, and assistants.
- 152su. Prosection. Preparation of cadavers for demonstration. Limited to 4 students. (Cred. and hrs. ar.) Dr. Boyden, Dr. Wells.
- 156su.‡‡ Advanced Anatomy. Individual problems in gross anatomy, histology, hematology, embryology, or neurology. Includes advanced work for clinical grad. students. Permission of instructor required. (Cred. and hrs. ar.) Dr. Boyden, Dr. Rasmussen, Dr. Kirschbaum, Dr. Wells, Dr. Williams.
- 204su. Research in Anatomy. Research in gross anatomy, histology, hematology, embryology, or neurology. Permission of instructor required. (Cred. and hrs. ar.) Dr. Boyden, Dr. Rasmussen, Dr. Kirschbaum, Dr. Wells.

## BACTERIOLOGY AND IMMUNOLOGY

### FIRST TERM

- 53su. General Bacteriology. (Page 16†) (5 cred.; prereq. general chemistry and biology; MTWThF VI, VII, VIII; course fee \$1.50.) Dr. Skinner.
- 102su.†† Medcial Bacteriology. (Page 16†) (4 cred.; prereq. 53 and 101; lect. T III, Th IV, F VII, Dr. Larson; lab. Div. AB, T II, Th I, II, F VIII, Div. CD, M I, II, WF I.)
- 114su. Molds, Yeasts, and Actinomycetes. (Page 16†) (4 cred.; prereq. Bact. 53; MTThF II, III, IV.) Dr. Skinner.
- 116su. Immunity. (Page 16†) (3 cred.; prereq. Bact. 53 or 101; MTWTh VI, VII; course fee \$1.50.) Dr. Larson.
- 201su. Research in Bacteriology. (Page 16†.) (Cred. and hrs. ar.) Dr. Larson, Dr. Skinner.

### SECOND TERM

- 102su.†† Medical Bacteriology. (Page 16†) Continuation of first term. (Lect. T III, Th IV, F VII, Dr. Evans; lab. Div. AB, T II, Th I, II, F VIII, Div. CD, M I, II, WF I.)

## MEDICINE

### FIRST AND SECOND TERMS

#### DIVISION OF INTERNAL MEDICINE

##### *Required Courses*

- 18-19su. Principles of Medical and Surgical Nursing.
- 101su. Physical Diagnosis. Lectures and practical work on the examination of the normal body and on various aspects of physical diagnosis in disease. Students are assigned to hospital wards for the examination of selected cases. (3 cred.; soph.; prereq. Anat. 100, Physiol. 103; 44 hrs.) Dr. Watson and staff.
- 104su. Introduction to Internal Medicine. Systematic lectures and clinics in the field of internal medicine. Junior year. (6 cred.; 22 hrs. a qtr., 66 hrs. total; prereq. Med. 101, 102.) Dr. Watson and staff.
- 109su. Clinic in Medicine. Part of Course 112. (University Hospital.) Dr. Watson, Dr. Barron.

† Page numbers refer to Medical School Bulletin for 1943-45, where further information may be found.

†† Microscope required. Students (except medical) may obtain use of microscope by purchasing microscope card from bursar, \$3).

‡ A fee of \$7.50 is charged for this course.

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



- 111su. Clinical Clerkship in Medicine. Individual work in the medical wards of the University Hospital, taking and recording of case histories, making of physical examinations, and carrying out assigned laboratory work. Clerks are held responsible for history and course of disease as well as a detailed knowledge of the treatment given to patients assigned them. Junior year. (6 cred.; 260 hrs.; prereq. clear record in all prior subjects.) Dr. Watson and staff.
- 111xsu. Same as Course 111. (Minneapolis General Hospital.) Dr. Fahr and staff.
- 112su. Senior Clerkship in Internal Medicine (Admissions). Supervised study of new cases in the Outpatient Medical Clinic. Rotation through special clinics including cardiology, gastrointestinal diseases, chest diseases, diabetes, metabolism and endocrinology, hematology, allergy, rheumatoid disease, peripheral vascular disease, and gastroscopy. (6 cred.; 260 hrs.) Dr. Wetherby and staff.

#### *Elective Courses*

- 128su. Abnormal Physical Signs in the Chest. (Jr., sr.; 17 hrs. Not more than 4 students. Ancker Hospital.) Dr. Geer.
- 129su. Advanced Physical Diagnosis. (Prereq. Med. 101; jr.; not less than 3 or more than 6 students; Minneapolis General Hospital.) Dr. Peppard.
- 132su. Diagnosis and Treatment of Diseases of the Lungs. Three lectures and two clinics per week. (Hospital wards and dispensary.) Lectures with or without hospital work. (Cred. and hrs. ar.; soph., jr., sr.) Dr. Myers.
- 133su. Gastroenterology. Clinic demonstration and discussions of disorders of the gastrointestinal tract. (Jr., sr.; 4 to 8 students; University Hospital.) Dr. Carey.
- 136su. The Respiratory Organs in Health and Disease. (One or more qtrs.; limited to 6 students.) Dr. Myers.

#### *Courses for Graduate Students*

- 201su. Clinical Medicine. Dr. Watson, Dr. Barron, Dr. Fahr, Dr. Spink.
- 202su. Diseases of the Cardiovascular Apparatus. Dr. Fahr.
- 203su. Research in Medicine. Dr. Watson, Dr. Fahr, Dr. Spink.
- 205su. Tuberculosis. Dr. Myers.

For other courses see Graduate Medical School Bulletin.

### DIVISION OF DERMATOLOGY

#### *Required Courses*

- 123su. Courses in Dermatology. Clinical lectures upon the common skin diseases and syphilis, including diagnosis and treatment. (Senior year; prereq. Med. 101, 102; 22 hrs. summer qtr.; 2 cred.) Dr. Michelson and staff.
- 124su. Senior Clerkship in Dermatology. Sections of the senior class in dermatology and syphilis. (4 cred.; 90 hrs.; University Hospital.) Dr. Michelson and staff.
- 124xsu. Part of Course 124. (Minneapolis General Hospital.) Dr. Sweitzer and staff.

#### *Elective Courses*

- 159su. Assistantship, Dermatology, and Syphilis. (Prereq. jr. med. clerkship; limited to one student; Minneapolis General Hospital.) Dr. Sweitzer.
- 160su. Assistantship and Conference in Dermatology. (Prereq. jr. med. clerkship; limited to one student; University Hospital.) Dr. Michelson and staff.
- 161su. Assistantship in Dermatology. (Prereq. Med. 124; limited to 2 students; Minneapolis General Hospital.) Dr. Sweitzer.
- 163su. Treatment of Syphilis. (Limited to 2 students; University Hospital.) Dr. Michelson and staff.

- 164su. Seminar in Pathology. Histopathology of the skin. Clinical and pathological phases will be exemplified. (Prereq. Path. 102.) Dr. Michelson.  
 165su. Seminar in Dermatology. (Hrs. ar.) Dr. Michelson and staff.  
 166su. Allergy and Dermatology. (Cred. and hrs. ar.; limited to one student.) Dr. Michelson.

*Courses for Graduate Students*

- 225su. Clinical Dermatology and Syphilology. Wards and Outpatient Department of the University Hospital. Dr. Michelson and staff.  
 226su. Clinical Dermatology and Syphilology. Wards and Outpatient Department of the Minneapolis General Hospital. Dr. Sweitzer and staff.  
 227su. Histopathology of the Skin. Dr. Michelson and staff.  
 228su. Research in Dermatology and Syphilology. Dr. Michelson and staff.

Note: Graduate students in Dermatology are urged to elect Surgery 205, 206, 207, for instruction in the Tumor Clinic of the Outpatient Department of the University Hospitals.

DEPARTMENT OF NEUROPSYCHIATRY

*Required Courses*

- 101su. Clinical Neuropsychiatry. Systematic clinics, demonstrations, and lectures. (4 cred.; 44 hrs.; jr. yr.; prereq. Med. 101, 102.) Dr. Hastings, Dr. Hammes, and staff.  
 103su. Junior Clinical Clerkship in Neuropsychiatry. Sections of the class for nine-week periods in the University Hospital. (6 cred.; 260 hrs.) Dr. Hastings and staff.  
 105su. Neuropsychiatric Clinic. Seniors only. Tuesdays 4-5, Todd Amphitheater, Dr. Hastings and staff.

*Elective Courses for Nonmedical Students*

- 70su. Introductory Psychiatry (Social Work 170). For upper group only. (3 cred.; 33 hrs.; prereq. elem. psy. and soc.) Dr. Hinckley.  
 171su. Descriptive Neuropsychiatry (Social Work 171). (2 cred.; 22 hrs.; prereq. Neuropsy. 70 or Psy. 144-145.) Dr. Cottrell.  
 173su. Mental Hygiene Aspects of Public Health Nursing. For graduate nurses only. (3 cred.; 33 hrs.) Miss Shalit.

*Elective Courses for Medical Students*

- 143su. Problems in Neuropathology. (Same as Path. 114.) (Cred. and hrs. ar.; prereq. Path. 101 and 102; 19MH; limited to 2 students.) Dr. Baker, Dr. Noran.  
 144su. Pathology of the Nervous System. (Same as Path. 115 and Neuropsy. 207.) Individual gross and microscopic studies on existing preparation in neuropathology. (Cred. and hrs. ar.; prereq. Path. 101 and 102; 19MH.) Dr. Baker, Dr. Noran.  
 145su. Problems in Neuropsychiatry. The student will be assigned a topic for special study. (Cred. and hrs. ar.; prereq. Path. 102; limited to 2 students.) Dr. Hastings, Dr. Baker, Dr. Hathaway, Dr. Schiele.  
 146su. Psychiatric Problems in General Medical Practice, Including the Psychoneuroses. Junior year. (Not less than 5 students. University Hospital.) Dr. Schiele.  
 151su. Survey of Neuropathology. (Same as Path. 117 and Neuropsy. 212.) (Cred. and hrs. ar.; prereq. Neuropsy. 210; 19MH.) Dr. Baker, Dr. Noran.

*Courses for Graduate Students*

- 207su. Pathology of the Nervous System. Independent review of neuropathology. (Cred. and hrs. ar.; limited to 2 students; 19MH.) Dr. Baker.

- 208su. Clinical Neurology. Supervised practice, inpatient and outpatient services. (Cred. and hrs. ar.) Dr. Hastings, Dr. Baker, Dr. Schiele.
- 208xsu. Clinical Psychiatry. Supervised practice, inpatient and outpatient services. (Cred. and hrs. ar.) Dr. Hastings, Dr. Baker, Dr. Schiele.
- 209su. Research in Neurology and Psychiatry. (Cred. and hrs. ar.) Dr. Hastings, Dr. Baker, Dr. Hathaway.
- 212su. Survey of Neuropathology. (1 cred. per qtr.; prereq. Neuropsy. 210; 19MH.) Dr. Baker.
- 216su. Neuropsychiatric Case Conference. (Cred. and hrs. ar.) Dr. Hastings and staff.
- 218su. Child Neuropsychiatry. Clinical experience in the Children's Clinic. (Cred. and hrs. ar.) Staff.
- 224su. Survey of General Psychiatric Procedures. (1 cred. per qtr.) Dr. Schiele.

## OBSTETRICS AND GYNECOLOGY

### FIRST AND SECOND TERMS

#### *Required Courses*

- 121su. Obstetrics. The physiology of pregnancy, labor, and puerperium. For senior medical students. (1 cred.; 11 hrs.) Dr. McKelvey, Dr. Lund, Dr. Rogers, and staff.
- 135su. Clinical Clerkship in Obstetrics and Gynecology. Clinics in obstetrics and gynecology in the University Hospital and Dispensary. (6 cred.; 260 hrs.) Dr. McKelvey, Dr. Lund, Dr. Rogers, and staff.
- 135xsu. Clinical Clerkship in Obstetrics and Gynecology. Part of 135su given at the Minneapolis General Hospital.

#### *Courses for Graduate Students*

- 201su. Advanced Obstetrics and Gynecology. Part I. Required of first year fellows. Dr. McKelvey, Dr. Lang, and staff.
- 205su. Advanced Obstetrics and Gynecology. Part II. Required of second year fellows. Dr. McKelvey, Dr. Lang, and staff.
- 209su. Advanced Obstetrics and Gynecology. Part III. Required of third year fellows. Dr. McKelvey, Dr. Lang, and staff.
- 216su. Research. Staff.

## OPHTHALMOLOGY AND OTOLARYNGOLOGY

### FIRST AND SECOND TERMS

#### *Required Courses*

- 100su. Lectures in Ophthalmology. (2 cred.; sr. med. stud.) Dr. Hansen, Dr. Hoffman, Dr. Hymes, Dr. Pfunder, Dr. Stanford.
- 104su. Clinic in Diseases of the Ear. Diagnosis and treatment of cases. (2 cred.; sr. med. stud.; 45 hrs.; University Dispensary.) Dr. Boies, Dr. Connor, Dr. Hochfilzer, Dr. Tangen, Dr. Hilger, Dr. Priest.
- 105su. Clinic and Conferences in Diseases of the Nose and Throat. Diagnosis and treatment of cases. (2 cred.; sr. med. stud.; 45 hrs.; University Dispensary.) Dr. Boies and staff.
- 106su. Clinic in Diseases of the Eye. Diagnosis and treatment of cases. All sr. med. stud. are required to have an ophthalmoscope on an individual basis. Dr. Hansen and staff.

#### *Elective Courses*

- 121su. Operative Clinic in Eye. Limited to 6 stud. (1 cred.; T or Th 3:00 to 4:30.) Dr. Hansen and staff.

122su. Ophthalmoscopy. Limited to 8 stud. (2 cred.; 2 sec.; 22 hrs.; days and hrs. ar. with departmental office.) Dr. Hoffman, Dr. Schwartz, Dr. Stanford.

## PATHOLOGY

### FIRST AND SECOND TERMS

#### *Required Courses*

- 101su. General Pathology. (9 cred.; soph. med. stud.; prereq. histology, embryology, and special bacteriology; lect. MTWThF 8:00 to 8:50; 102IA.) Dr. McCartney, Dr. Hebbel, and assistants.
- 109su. Clinical-Pathological Conference. Presentation of clinical data on selected cases with discussion of etiology and diagnosis. Required in clerkship period. Elective for others. (1 cred.; prereq. Path. 102; F 4:00-5:00; 102IA.) Dr. Bell and staff.

#### *Elective Courses*

- 104su. Autopsies. Postmortem technique; examination of fresh organs, etc. (Cred. and hrs. ar.; prereq. Path. 102.) Dr. Bell and staff.
- 111su. Conference on Autopsies. (1 cred.; prereq. Path. 102; T 12:30-2:00; 104IA.) Dr. Bell and staff.
- 201su. Research. Students with the necessary preliminary training may elect research either as a major or minor in pathology. Permission required. (Cred. and hrs. ar.) Dr. Bell, Dr. Clawson, Dr. McCartney, Dr. Hebbel, Dr. Noble.

## PEDIATRICS

### FIRST AND SECOND TERMS

#### *Required Junior Courses*

- 120su. The Normal Child. (a) Physical growth and development. Dr. Beach, Dr. Bosma. (b) Psychological development. Mrs. Sanborn. (c) Physiology and metabolism of infancy and childhood. Dr. McQuarrie, Dr. Ziegler. (1 cred.; 11 hrs.; WS 8:00 to 8:50 a.m.; Eustis Amphitheater.)
- 121su. Clinical Diagnosis in Infancy and Childhood. The pathogenesis of all diseases and disorders of childhood, their recognition and classification, including the disturbances of speech, psychiatric disorders, dental diagnosis, and indications for orthodontia. Follows Course 120. (1 cred.; 11 hrs.; WS 8:00 to 8:50 a.m.; Eustis Amphitheater.) Dr. McQuarrie, Dr. Adams, Dr. Jensen, Dr. Stoesser, Dr. Cohen, and staff.
- 122su. Diseases of Infancy and Childhood and Their Treatment. Emphasis is placed on the diseases which are more or less peculiar to the age periods before the sixteenth year. Follows Course 121. (2 cred.; 22 hrs.; WS 8:00 to 8:50 a.m.; Eustis Amphitheater.) Dr. McQuarrie, Dr. Adams, Dr. Jensen, Dr. Stoesser, and senior staff.
- 123su. Divisional Demonstration Clinic on Noncontagious Diseases. One quarter for each student. (1½ cred.; 17 hrs.; W 9:00 to 10:30 a.m.; Minneapolis General Hospital.) Dr. Huenekens.
- 124su. Junior Clinical Clerkship in Pediatrics. Patients in the wards are assigned to individual students for examination, treatment, and "follow-up" observation under supervision. Each student has five weeks at Minneapolis General Hospital. (6 cred.; 260 hrs.) Dr. McQuarrie, Dr. Adams, Dr. Jensen, Dr. Stoesser, Dr. Beach, and junior staff.
- 130su. Divisional Demonstration Clinic on Contagious Diseases. One quarter for each student. (1 cred.; 11 hrs.; Minneapolis General Hospital and Ancker Hospital.) Dr. Stoesser and clinical staff.

*Required Senior Courses*

135su. Senior Clinical Clerkship in Pediatrics. Patients in dispensaries are assigned to individual students for examination, treatment, and "follow-up" observation under supervision. Special clinics in well-baby care, allergy, heart, metabolism, and child psychiatry are attended each week. One sixth of class on pediatric clerkship at one time—one half assigned to the University Hospital, the other half to the Minneapolis General Hospital. (4 cred.; 6 weeks; 160 hrs.; 9:00 to 12:00 noon daily.) Dr. McQuarrie, Dr. Adams, Dr. Jensen, Dr. Stoesser, and staff.

*Elective Courses*

- 150su.† Physiology and Diseases of the Newborn. Dr. Adams, Dr. Stoesser.  
 152su.† Fundamental Principles of Nutrition and Metabolism as Applied to Children. Seminar course. Dr. McQuarrie, Dr. Ziegler.  
 154su.† Endocrinology As Applied to Pediatrics. Seminar course. Dr. McQuarrie.  
 156su.† Advanced Study of Noncontagious Diseases. Both clinical and experimental subject matter included. Dr. McQuarrie, Dr. Adams.  
 158su.† Advanced Study of Contagious Diseases. Dr. Platou, Dr. Stoesser.  
 160su. Allergic Disorders in Childhood. Dr. Stoesser.  
 162su. Common Behavior Disturbances in Childhood. Their recognition and management. Dr. Jensen, Dr. Lippman.  
 166su. Weekly Seminar for Detailed Discussion of Fundamental Subjects Related to Pediatrics. Dr. McQuarrie, Dr. Ziegler.  
 168su. Speech Disturbances in Childhood. Clinic course. Dr. Jensen.  
 170su. Rheumatic Infection and Heart Diseases in Childhood. Dr. Adams, Dr. Dwan.  
 172su. Dental Disorders in Relation to General Health. Dr. Rudolph, Dr. Cohen, Dr. Armstrong.

*Courses for Graduate Students*

- 200su.§ Graduate Seminar in Pediatrics. (1½ cred. per qtr.; 17 hrs.) Dr. McQuarrie and senior clinical staff.  
 202su.†§ Pediatric Clinic. Outpatient department. University Hospitals. (Daily 9:00-12:00 noon.) Dr. Adams, Dr. Jensen, Dr. Beach.  
 204su.§ Three-month residence in pediatrics at the University Hospitals. Dr. McQuarrie, Dr. Adams, Dr. Jensen, Dr. Ziegler.  
 206su.§ Three-month residence in pediatrics at the Minneapolis General Hospital. Dr. Huenekens, Dr. Seham, Dr. Stoesser, Dr. Richdorf.  
 208su.†§ Pediatric Research. Special problems. Students may collaborate with members of the staff or with other students. Dr. McQuarrie, Dr. Ziegler, and staff.  
 210su.§ Special Clinics in Pediatrics. Dr. Adams, Dr. Jensen, Dr. Stoesser.

## PHARMACOLOGY

## FIRST AND SECOND TERMS

- 8su. Elementary Pharmacology. For student nurses. (3 cred.; 33 hrs.; lect. TTh VII, 113McS; lab. TTh VIII-IX, 101MH.) Dr. Bieter, Dr. Wright, Mr. McManus.  
 101su. Introduction to Pharmacology. For soph. med. stud. (1 cred.; prereq. Physiol. 100, 101, 103; 11 hrs.; 105MH.) Dr. Bieter, Dr. Wright.  
 109su.‡ Pharmacological Problems. Experimental study of special topics in pharmacology, with a review of the literature. (Cred. and hrs. ar.; 105MH.) Dr. Bieter, Dr. Wright.

† Not offered to fewer than 10 students.

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

§ Time and credit to be arranged with Dr. McQuarrie.

- 110,110xsu. Toxicology. A study of systematic qualitative toxicological analysis. Lectures only may be taken if desired. (Cred. and hrs. ar.; 105MH.) Dr. Bieter, Dr. Wright.
- 111su. Advanced Toxicology. A laboratory study of quantitative toxicological analysis. (Cred. and hrs. ar.; prereq. Pharm. 110, or may be taken simultaneously.) Dr. Bieter, Dr. Wright.
- 203su. Research in Pharmacology. For grad. and advanced stud. (Cred. and hrs. ar.; 105MH.) Dr. Bieter, Dr. Wright.

PHYSIOLOGY

FIRST TERM

- 4su. Human Physiology. An elementary course consisting of lectures and demonstrations for students desiring an introduction to the subject. (4 cred.; prereq. high school or college biology and chemistry; lect. and dem. MTWThF I, II.) Course fee \$2. Dr. Hemingway and others.
- 113su. Problems in Physiology. Each student will be assigned topics for special laboratory study or arrangements may be made for a survey of research techniques, including literature assignments. (Cred. and hrs. ar.; students must obtain permission of instructor; prereq. 103, 104 or equiv.) Graduate staff.
- 153su. Problems in Physiological Chemistry. Special work arranged with qualified students. May be taken one or more quarters. (Cred. and hrs. ar.; prereq. 100, 101.) Dr. Armstrong, Dr. Burr, Dr. Barnum, Dr. Holman.
- 203su. Research in Physiology. (Cred. and hrs. ar.) Dr. Visscher.
- 205su. Research in Physiological Chemistry. (Cred. and hrs. ar.) Dr. Armstrong, Dr. Burr, Dr. Barnum.

SECOND TERM

- 113su. Problems in Physiology. Each student will be assigned topics for special laboratory study or arrangements may be made for a survey of research techniques, including literature assignments. (Cred. and hrs. ar.; students must obtain permission of instructor; prereq. 103, 104, or equiv.) Graduate staff.
- 153su. Problems in Physiological Chemistry. Special work arranged with qualified students. May be taken one or more quarters. (Cred. and hrs. ar.; prereq. 100, 101.) Dr. Armstrong, Dr. Burr, Dr. Barnum, Dr. Holman.
- 203su. Research in Physiology. (Cred. and hrs. ar.) Dr. Visscher.
- 205su. Research in Physiological Chemistry. (Cred. and hrs. ar.) Dr. Armstrong, Dr. Burr, Dr. Barnum.

FIRST AND SECOND TERMS

- 100su. Physiological Chemistry. (7 cred.; jr., sr.; prereq. org. chem. and physics; lect. MTWF IV; ar.; quiz F I; lab. Div. A, MW I-II-III, Div. B, ThS I-II-III; 310MH.) Dr. Burr, Dr. Armstrong, Dr. Barnum, Dr. Holman.
- 104su. Physiology of Endocrines, Nervous System, etc. (6 cred.; soph. med. stud. and others; prereq. 103 or org. chem. and neurology; lect. MTWF IV, conference F VII; lab. Sec. 1, MW 9:00-11:20; Sec. 2, MW 1:30-4:00.) Dr. Visscher and others.

SCHOOL OF PUBLIC HEALTH

*Special Workshop—Problems of Administration in Public Health Nursing*

The School of Public Health has planned a Workshop in Problems of Administration in Public Health Nursing for the first two weeks of July (July 1-12). (See P.H. 185su.) After a brief orientation the class will be organized into small discussion groups under the direction of discussion leaders. These groups will study their particular administrative

and supervisory problems, and report periodically to the entire group. Special library and guidance facilities will be available. Anyone interested should make reservation for the course at least a month in advance of registration by writing to Miss Ruth Freeman, Director of the Course in Public Health Nursing, 121 Millard Hall, University of Minnesota, Minneapolis 14, Minnesota.

## FIRST TERM

- 50su.¶ Public and Personal Health. Causes of diseases and of physical defects; fundamental principles and working methods of health conservation and disease prevention. Lectures, discussions, and directed readings. (3 cred.; open to jrs. and srs. who have not taken 3, 4, 52, 53 or G.C. 10C Human Biology in the General College; no prereq.; MTWThF II; †.) Ar.
- 53su. 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. (5 cred.; prereq. 3 or 50 or equiv. and a course in bacteriology; public health nurses and students in presocial work; lect. MTWThF III, rec. MTWF IV; †.) Dr. Cowan, Miss O'Leary.
- 59su. Health of the School Child. Mental and physical growth; discovery of physical defects; exercise, fatigue, emotional problems; health habits; diseases of school children; practical problems of health supervision and health instruction. (3 cred.; prereq. 3 and 4, or 3 and 51, or G.C. 10C and 4, or G.C. 10C and 51, or 50, or 53 will be waived for teachers and school nurses, but cred. granted only after completion of prereq.; MTWThF II.) Miss Grout, Dr. Todd.
- 61su. Mental Hygiene Aspects of Public Health Nursing. 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; MTWThF I; †.) Miss Shalit.
- 66su.†§ Field Practice in Rural Nursing. Credits allowed according to experience in this field. The student accompanies the rural nurse on her rounds and observes and participates in the activities in a rural nursing program. Special attention to organization for rural health work, methods of health teaching, development of community leadership, planning and conducting classes of various types for differing age groups, home visiting, etc. (Cred. ar.; public health nurses only; jr., sr.; prereq. 53, 62, and 67.) Miss O'Leary.
- 67su.†§ Field Practice with Family Health Agency. Credits allowed according to experience in this field. Lectures, demonstrations, and supervised experience in prenatal and infant clinics, and in home visiting. This includes bedside care of all types of cases, with emphasis on promotion of physical and mental health and recognition of social problems. (Cred. ar.; public health nurses only; jr., sr.; prereq. 53, 62.) Miss O'Leary.
- 101su. Public Health Administration and Field Work. A series of field trips to acquaint the student with the activities of the State Board of Health and with problems of water filtration, sewage disposal, and milk sanitation. (2 cred.; sr. med. students only.) Dr. Anderson and associates.

† Room schedule posted on bulletin board outside of 121 Millard Hall.

§ Students must maintain a C average in theory completed before they are admitted to any field work.

†† A fee of \$50 per month is charged for this course.

¶ No credit is granted for this course in the major sequence in public health nursing.

- 102su. Environmental Sanitation I. Methods for promoting man's health and comfort by controlling his environment; water supply sanitation, food sanitation, pollution abatement; sewage, excreta, and waste disposal; bathing place sanitation, air hygiene, illumination, housing, control of insect and animal vectors of disease, industrial hygiene and sanitation. (3 cred.; sr., grad.; prereq. 50 or 51 or 53 or 100 or permission, or may be taken concurrently with any of these; MTWThF I; †.) Mr. Pierce.
- 125su. The Community Health Education Program. A course intended primarily for those preparing for leadership in community health education to include organization, administration, and evaluation of community health education programs and the selection, preparation, and use of media commonly employed in health education. (3 cred.; prereq. 53, or 104, and 106, or to be taken concurrently with 106; MTWThF IV; †.) Miss Grout.
- 129su. Principles and Problems of Teaching Social Hygiene. (Same as Ed.C.I. 129.) Emphasis will be placed on methods of teaching social hygiene in the public schools and materials for instructional use in the elementary and secondary schools. Designed for both school personnel and nurses. (3 cred.; jr., sr., grad.; prereq. grad. nurse, 9 hrs. in ed.; MTWThF III; 360SBH.) Dr. Pearce, Miss Biester.
- 170su. Supervision in Public Health Nursing. Nature of supervision, classification of activities; methods of supervision, including field visitation, individual counseling, group conferences, staff education programs, administrative functions of supervisors, preparation and selection of supervisors. (3 cred.; prereq. 53, 61, 63 and experience in public health nursing, or by permission; MTWThF II; †.) Miss Freeman and associates.
- 171su. Problems in Public Health Nursing. For advanced students who wish to work on special problems in public health nursing. (Cred. ar.; prereq. 170 or permission of instructor.) Miss Freeman and associates.
- 174su. Supervision Laboratory. Critical analysis of supervisory procedures. Construction of rating scales, experience and efficiency sheets, manuals, and other materials of supervision. (2 cred.; public health nurses only; to be taken concurrently with 170; MTWF IV; †.) Miss Freeman and associates.
- 185su. Problems of Administration in Public Health Nursing. (July 1-12.) A workshop course, group and independent study of administrative problems of public health nursing agencies. Relationships, program planning, personnel practices, cost accounting and budget making. (3 cred.; prereq. experience in public health nursing, supervision or administration; permission of instructor; hrs. ar.) Miss Buker, Miss Freeman, and guest lecturers.
- 227su. Problems in the Community Health Education Program. For advanced students who wish to pursue independent study and experimentation in health education. (Cred. ar.; prereq. consent of instructor; ar.) Miss Grout and associates.

## SECOND TERM

- 60su. Tuberculosis and Its Control. History of tuberculosis movement and campaign in the United States. Early diagnosis and sanatorium treatment; tuberculosis in children; the psychology of tuberculosis; supervision of returned sanatoria patients; state program for the eradication of tuberculosis; legislation. (2 cred.; jr., sr.; prereq. 4 or 50 or 51 or 52 or 53, and 62; MTWF IV; †.) Dr. Myers.
- 62-63su. Principles of Public Health Nursing. Trends, principles, and techniques in public health nursing service including family health guidance. Organization of public health nursing services; program planning; evaluation; professional problems in public health nursing. (3 cred.; public health nurses; prereq. 53 or equiv. but may be taken with 53; MTWThF II-III; †.) Miss Vavra.

† Room schedule is posted on bulletin board outside of 121 Millard Hall.



- 65su.††§ Field Practice in School Nursing. Credits allowed according to experience in this field. Working with the school nurse, the student observes and participates in the activities included in the school nursing program; special attention to organization, relationships, techniques, methods of informal health teaching, provision for handicapped children, and home visiting. (Cred. ar.; public health nurses only; jr., sr.; prereq. 53, 62, and 67.) Miss O'Leary.
- 66su.††§ Field Practice in Rural Nursing. Credits allowed according to experience in this field. The student accompanies the rural nurse on her rounds and observes and participates in the activities in a rural nursing program. Special attention to organization for rural health work, methods of health teaching, development of community leadership, planning and conducting classes of various types for differing age groups, home visiting, etc. (Cred. ar.; public health nurses only; jr., sr.; prereq. 53, 62, and 67.) Miss O'Leary.
- 67su.††§ Field Practice with Family Health Agency. Credits allowed according to experience in this field. Lectures, demonstrations, and supervised experience in prenatal and infant clinics and in home visiting. This includes bedside care of all types of cases, with emphasis on promotion of physical and mental health and recognition of social problems. (Cred. ar.; public health nurses only; jr., sr.; prereq. 53, 62.) Miss O'Leary.
- 101su. Public Health Administration and Field Work. A series of field trips to acquaint the student with the activities of the State Board of Health and with problems of water filtration, sewage disposal, and milk sanitation. (2 cred.; sr. med. stud. only.) Dr. Anderson and associates.
- 106su. 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, 100, 109, or equiv. or to be taken simultaneously with any of these prereq.; MTWThF I; †.) Dr. Anderson.
- 123su. Topics in Public Health. Selected readings in public health with discussion based on these readings. (Cred. ar.; prereq. permission of instructor; ar.) Dr. Anderson.

## BIOMETRY

### FIRST TERM

- 110su. Biometric Principles. An introduction to statistical analysis with emphasis on the basic principles of statistical reasoning. The description of univariate distributions, normal correlations, simple tests of significance, and goodness of fit. Course 111 will be taken concurrently. (3 cred.; prereq. 18 cred. in biol. sci. or math. through anal. geom.; MTWF I, IV; 118MH.) Mr. Treloar.
- 111su.‡ Biometry Laboratory. Practical training in machine calculation and statistical techniques. To be taken concurrently with Course 110. (2 cred.; lab. 12 hrs. ar. 118MH.) Mr. Treloar.

### SECOND TERM

- 80su.‡ Elementary Vital Statistics. Sources of data on population, mortality, morbidity, and natality. Calculation of rates and graphical comparison of time and age trends. (3 cred.; public health nurses and special permission of instructor; MWF VI-VIII; 118MH.) Mr. Treloar.

† Room schedule is posted on bulletin board outside of 121 Millard Hall.

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

†† A fee of \$50 per month is charged for this course.

§ Students must maintain a C average in theory completed before they are admitted to any field work.

140su.† Vital Statistics. Study of official sources of vital statistics, including population changes, calculation of rates and graphical exposition of trends. (3 cred.; permission of instructor; MWF VI-VIII; 118MH.) Mr. Treloar.

## RADIOLOGY

### FIRST AND SECOND TERMS

- 103asu. Neuroradiology for Neuropsychiatric Clerks. Part of Neuropsychiatry 103. Dr. Peterson.
- 111su. Medical Roentgenologic Conference for Medical Clerks. Part of Medicine 111. Dr. Rigler and staff.
- 112su. Roentgen Diagnostic Clinic for Medical Clerks. Part of Medicine 112. Dr. Rigler and staff.
- 121su. Roentgenology and Radiation Therapy and Biophysics. Dr. Rigler, Dr. Stenstrom.
- 124su. Pediatric-Roentgenologic Conference for Pediatric Clerks. Part of Pediatrics 124. Dr. Rigler and staff.
- 135asu. Radiation Therapy for Surgical Clerks. Part of Surgery 135. Dr. Stenstrom and staff.
- 135bsu. Roentgen Diagnostic Clinic for Surgical Clerks. Part of Surgery 135. Dr. Rigler and staff.
- 135csu. Surgical Roentgenologic Conference for Surgical Clerks. Part of Surgery 135. Dr. Rigler and staff.
- 163asu. Neurosurgical-Roentgenologic Conference for Neurosurgical Clerks. Part of Surgery 163. Dr. Peterson, Dr. Peyton.

## X-RAY TECHNOLOGY AND MEDICAL TECHNOLOGY

Before registering, students should consult special advisers in the Medical Technology Office, M-410, University Hospitals.

## PHYSICAL THERAPY

Consult Physical Therapy Office, W-300, University Hospitals.

## SURGERY

### FIRST AND SECOND TERMS

#### *Required Courses*

- 129su. Surgical Clinics for Juniors. Amphitheater clinic demonstrating surgical conditions in hospital patients. (3 cred.; 33 hrs.) Surgery staff.
- 135su. Clinical Clerkship. The individual study of assigned patients; case histories, laboratory examinations, provisional diagnoses with suggestions as to therapy; attendance at operation and observation of postoperative management. (6 cred.; 260 hrs.; jr.) Staff.
- 135asu. Clinical Pathology of Tumors. A combined clinical and pathological consideration of tumors. In so far as available material permits, a systematic presentation of the manifestations and effects of malignant tumors which come in the province of general surgery and its divisions. Part of Course 135. (University Hospital.) Staff.
- 135bsu. Reading Course. A weekly recitation during the clerkship on assigned reading in a standard textbook of surgery. Quiz and lecture. Part of Course 135. Surgery staff.

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

- 135csu. Surgical-Pathological Conference. A review of the gross and microscopic findings of surgical specimens removed during the preceding week; also an attempt will be made to review systematically some of the aspects of surgical pathology which are of especial importance to surgeons. Part of Course 135. Surgery staff.
- 135casu. Medico-Surgical-Pathological Conference. Weekly combined meetings of medical and surgical staffs in which the postmortem findings of particularly interesting and instructive cases are discussed.
- 135dsu. Roentgenological-Surgical Conference. The films of all surgical patients presenting interesting roentgen findings are reviewed. Part of Course 135 (see also Radiology program.) Radiology and Surgery staffs.
- 135esu. Surgical Conference. Cases presenting interesting problems are presented and discussed. Part of Course 135. Surgery staff.
- 135fsu. Physiological Pathology of Surgical Diseases. A weekly conference in which surgical problem cases are presented, emphasis being placed on the physiological aspects of the problem. Part of Course 135. Physiology and Surgery staffs.
- 135gsu. Outpatient Surgical Clinic, General Surgery, and Proctology. Sections daily in the Outpatient Department. Part of Course 135. Dr. Wangenstein, Dr. Paine, Dr. Dennis, Dr. W. A. Hanson, Dr. J. K. Anderson, Dr. Varco, Dr. Merendino, Dr. State.
- 135gasu. Applied Surgical Anatomy. Weekly demonstrations in which by the use of dissections prepared by surgical fellows a systematic review of the regional anatomy of the major conditions coming with the purview of surgery and its specialties is presented. Part of Course 135. Surgery staff.
- 135hsu. Fractures and Traumatic Surgery. Under the supervision of the hospital staff the student participates in the care of fractures. Part of Course 135. (Minneapolis General Hospital.) Surgery staff.
- 137su. Outpatient Surgical Clinic, General Surgery, Special Surgery Clinics and Proctology. Sections daily in the Outpatient Department. (2 cred.; 22 hrs.; sr.) Surgery staff.
- 163su. Neurosurgery Clerkship. For seniors. The individual study of assigned patients on the neurosurgical service. History taking, examination, special studies, diagnosis and therapy are considered, with attendance at operations. Dr. Peyton and staff.
- 163asus. Neurosurgical-Neurological-Roentgenologic Conference. A weekly review of X rays and case histories on neurosurgical and neurological services. (Part of Course 163.) Dr. Peyton, Dr. Baker, Dr. Peterson, and staffs.
- 170su. Urology Clerkship. For seniors. The individual study of assigned patients on the urological service. History taking, examination, special studies, diagnosis and therapy are considered, with attendance at operations. Dr. Creevy and staff.
- 190su. Orthopedic Clerkship. For seniors. The individual study of assigned patients on the orthopedic service. History taking, examination, special studies, diagnosis and therapy are considered, with attendance at operations.

#### *Elective Courses*

- 139su. Operative Surgery. The student is permitted to participate in surgical procedures on hospital patients in the operating room. (Cred and hrs. ar.) Staff.
- 152su. Problems in Clinical Investigations. A study of special case records correlated with literature study. (Cred. and hrs. ar.) Dr. Wangenstein, Dr. Paine, Dr. Peyton, Dr. Dennis, Dr. Varco.
- 159su. Clinic in Traumatic Surgery. Juniors and seniors. (11 hrs.; Minneapolis General Hospital.) Dr. Zierold.

- 167su. Problems in Experimental Surgery. Students under supervision will investigate problems assigned to them. As their experience increases, they are permitted to do the operations incident to their problems. (Cred. and hrs. ar.) Dr. Wangenstein, Dr. Paine, Dr. Peyton, Dr. Dennis, Dr. Varco.
- 168su. The Physiologic Pathology of Certain Aspects of Surgical Disease. Sixth year. (Cred. and hrs. ar.) Dr. Dennis, Dr. Varco.
- 169su. Diagnostic Bedside Surgical Clinic. At least four students must register if course is to be given. (Cred. and hrs. ar.; Minneapolis General Hospital.)

### DIVISION OF ANESTHESIA

#### *Required Courses*

- 121bsu. Principles of Anesthesia. Part of Course 121. Five lectures. Dr. Knight.
- 136esu. Individual Instruction in Anesthesia. Part of Surgical Specialties, Surgery 136.
- 136gsu. Clinical Conferences in Anesthesia. Part of Surgical Specialties, Surgery 136.

#### *Elective Course*

- 165su. Clinical Anesthesia. Selected students may spend additional time in the clinical administration of anesthetics. Dr. Knight.

#### *Course for Undergraduate and Graduate Students*

- 104su. Principles of Anesthesia. Lectures and conferences. (1 cred.; 11 hrs.) Dr. Knight.

### SCHOOL OF NURSING†

#### COURSES AND FEES

#### *Graduate Nurses*

The program of courses in the 1946 Summer Session has been especially planned to meet the needs of graduate nurses who are preparing for head nurse and supervisory positions, for returning veterans and for nursing school administrators. The student may complete courses totaling approximately eight or nine credits in the six-week period from June 17 through July 27. She may also carry approximately eight credits (chiefly non-professional) in the second term, July 29 through August 31. Students register in College of Education and pay Summer Session fees. See page 11.

#### *Postgraduate Nursing Students*

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

Students register in School of Nursing. They are exempt from tuition and incidental fee, but pay a \$10 matriculation deposit.

#### *Nursing Education Majors*

Nursing education majors may register for courses in their major during the Summer Session.

College graduates who have completed a basic professional program in nursing may begin specialization in the nursing education major in the Summer Session.

† For courses in Public Health Nursing see page 73.

Students register in College of Education and pay Summer Session fees. See page 11. Students interested in other programs offered by the School of Nursing should see the School of Nursing Bulletin.

### Fees—School of Nursing

The School of Nursing offers work on the quarterly (not term) basis. Fees charged for summer quarter 1946:

1st quarter in residence in School of Nursing:	11th and 12th quarters:
Tuition, resident and nonresident .....	Tuition (Senior Cadets) .....
Incidental fee .....	Postgraduates, tuition .....
Transportation fee .....	Psychiatric nursing .....
Deposit .....	Tuition per quarter .....
2nd through 10th quarters:	Incidental fee (1st quarter only) .....
Tuition, resident and nonresident .....	

### FIRST TERM

- Nurs.Ed.60su. Ward Administration. The organization of the hospital; principles of administration and their application to ward management; analysis and maintenance of nursing service; selection, orientation, assignments and motivation of personnel; planning and conducting clinical teaching programs. (4 cred.; graduate nurses§; no prereq.; MTWF III, IV; ar.§) Mrs. Randall.
- Nurs.Ed.62su. Personnel Program in Schools of Nursing. Survey of principles and techniques of personnel work applied to problems in schools of nursing. The relationship of such topics as individual differences, human behavior, personality, emotions, and intelligence to the problems of personnel guidance. Study of such techniques as psychological tests, personnel records, orientation periods, remedial programs, and counseling interviews in schools of nursing. (3 cred.; grad. nurses§; no prereq.; MTWThF I; ar.§) Miss Gordon.
- Nurs.Ed.65su. Analysis of Nursing Care. Studies of nursing practice. Each student works on an individual problem. (3 cred.; grad. nurse§§; MW VII, VIII and 2 hrs. ar.§) Miss Harrington.
- Nurs.Ed.68su. Construction and Use of Examinations and Other Measurements in Basic Nursing Courses. (3 cred.; grad. nurse§; MTWThF V; ar.§) Miss Gordon.
- Nurs.Ed.72su. Principles of Learning and Methods of Teaching. Study of learning situations in the basic professional program in nursing. Sources, selection, and organization of instructional materials; evaluation of nursing care; content and methods of clinical teaching; measurement of outcomes. (3 cred.; grad. nurses; no prereq.; MTWThF VI; ar.§) Miss Boyle.
- Nurs.Ed.73su. Principles of Economics in Nursing Service Administration. A study of the principles of business administration in their application to hospital organization and management. (1 cred.; grad. nurses§; no prereq.; TTh VII; ar.§) Miss Gorgas.
- Nurs.Ed.75su. Fundamentals of Administration in Schools of Nursing. Concepts of school of nursing and of nursing service; functions of administration in schools of nursing. (3 cred.; grad. nurse; prereq. permission of instructor; MTWThF II; ar.§) Miss Densford, Miss Petry, and others.
- Nurs.Ed.83su. Problems in Clinical Nursing. Each student works on an individual problem in advanced nursing in the clinical field of choice. (3 cred.; grad. nurse; TTh VIII, IX and 1 hr. ar.; ar.§) Miss Boyle.

§ This includes students in Part III of the degree curriculum.

¶ Classroom schedule will be posted on the bulletin board outside Room 125, Medical Sciences, at the beginning of the Summer Session.

§§ This course may not be taken for credit by students in the Nursing Education major.

Nurs.Ed.84su. Survey of Developments in Nursing during the War Period. Orientation conferences on trends in nursing for returning veterans. (1 cred.; Veteran Nurse; Th III and 1 hr. ar.; ar.§) Miss Densford.

FIRST AND SECOND TERMS

Ed.T.51Asu.††\*\* Special Methods of Teaching in Schools of Nursing. (3 cred.; sr.; prereq. Ed.51A-B or parallel; MWF II; ar.§) Miss Harrington.

## SCHOOL OF DENTISTRY

The School of Dentistry will discontinue its regular accelerated schedule in the summer of 1946. Fall quarter freshman dental subjects will be offered, however, for those freshman dental students who started their freshman work with the winter quarter, 1946. The clinic will be open to those who wish instruction in the clinical phases of dentistry. The following regular freshman fall quarter subjects will be offered:

59su Gross Anatomy	50su Oral Anatomy
61su Histology and Embryology	50su Prosthetic Dentistry

Tuition fees for the quarter are: resident \$65; non-resident \$108. Credit hour fee: resident \$5.50; nonresident \$9.00. There will be the usual incidental fee of \$9.65 for the Coffman Memorial Union, the Health Service, the *Minnesota Daily*, etc. Deposit fee for the summer quarter only, \$2.

## COLLEGE OF PHARMACY

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

Those students who are desirous of completing some or all of the academic subjects included in the first year of the pharmacy curriculum, (q.v.), may do so by registering for such courses during the Summer Session. Regular Summer Session fees will be charged.

Those who wish to engage in study at the graduate level with a major in Pharmaceutical Chemistry or Pharmacognosy during the summer should communicate with the Office of the Dean of the Graduate School, University of Minnesota, Minneapolis 14. Research laboratories will be open during the summer for research work. The dean of the College of Pharmacy will be glad to confer with any prospective pharmacy student or with high school principals.

† College of Education Bulletin, 1944-46.

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

§ Classroom schedule will be posted on the bulletin board outside Room 125, Medical Sciences, at the beginning of the Summer Session.

\*\* Requirements for registration in Ed.T. 51A-B are as follows:

1. A passing grade in Ed. 51A and B.
2. Taking the psychological examinations.
3. Attainment of a scholastic average of 1.5 in the field in which the practice teaching is to be done. A major portion of the work in the teaching field should be completed.
4. The recommendation for the subject matter department in the major field.
5. Passing of the required speech test.

## 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 with elementary and secondary education advisers or with the dean's office, College of Education, concerning a program for renewal of certificates.

Students reading this section of the bulletin should note that under Curriculum and Instruction, Educational Administration, Educational Psychology, and Methods and Directed Teaching, the courses are grouped for those interested in elementary, secondary, and higher education fields. Under each division courses of general interest are listed *General Courses* and these are followed by the offerings in *Elementary Education*, *Secondary Education*, and *Higher Education*.

Professional courses in education presuppose completion of Junior College requirements in the University of Minnesota or the equivalent in colleges of similar grade elsewhere. Graduation from the advanced course of Minnesota state teachers colleges is accepted as equivalent. Students with this training may be admitted to any course for which they have satisfied the prerequisite.

For all general matters relating to admission, advanced standing, credits, honor points, curricula, and requirements for graduation, students should consult the College of Education Bulletin.

Students expecting to become candidates for a degree should seek as early as possible the advice of the major adviser in the department concerned in order to learn the requirements of the special curriculum they will need to complete.

### STUDENTS' WORK COMMITTEE

Undergraduate students with questions concerning program adjustments and substitutions for required work should consult their advisers or the chairman of the Students' Work Committee. The office of the chairman in the first term will be 206 Burton Hall (Miss Alexander), and in the second term, 202 Burton Hall (Miss Edwards).

### WORKSHOPS AND SPECIAL COURSES

**Curriculum Workshops**—Two curriculum workshops are planned, one for each term. (See Ed.C.I. 171su.) In the first term selected Minneapolis teachers and 25 other applicants will be accepted for the Workshop on Curriculum Problems planned jointly by the College of Education and the Minneapolis Public Schools. Interested students should write to the director, Dr. Walter Anderson, General Assistant Superintendent of Schools, Minneapolis, or to the Dean's Office, College of Education, University of Minnesota. In the second term the curriculum workshop is planned for special study of the problems of schools cooperating in the experimental curriculum investigation, carried on in recent years under the direction of Dr. Nelson L. Bossing, College of Education. Applicants will be accepted in this workshop on permission of the director.

**Workshop in Guidance**—This workshop has been planned for the study of problems of group and individual guidance in the high schools. It will be closely coordinated with the Minneapolis section of the Workshop on Curriculum Problems, with joint use of facilities in Marshall High School and joint planning of some projects. Applications for admission should be sent to the Dean's Office, College of Education, University of Minnesota, Minneapolis 14. (See Ed.Psy. 200su, first term.)

**Workshops in Childhood Education and Child Development**—See Institute of Child Welfare, page 108.

**Music Education Workshop**—In the first summer term a Workshop in Music Education will emphasize problems of band, orchestra, and chorus in the high school. Experienced teachers, graduate students, and selected seniors will work together on group and individual problems in this area. (See Mu.Ed. 110Esu.)

**Workshop in High School Play Production**—A laboratory section in high school play production will be scheduled in the first summer term in University High School. Students will register for 3 credits in Speech 71, Dramatic Production, and for 3 additional credits in the workshop for practical applications in play production problems in the secondary school. (See Ed.C.I. 115su.)

**Workshop in Higher Education**—The workshop for the study of problems of teacher education in the liberal arts colleges and teacher training institutions will be scheduled for the first four weeks of the first term, jointly sponsored by the College of Education and the North Central Association of Colleges and Secondary Schools. Applicants should write to the Dean's Office, College of Education, University of Minnesota, Minneapolis 14, for permission to register. (See Ed.C.I. 228su.)

**Workshop in Rural Education**—A workshop for rural teachers and administrators has been planned for the second summer term as a full day's program for nine credits. Students will register for Ed.C.I. 117, Rural Education for Administrators and Teachers, 3 credits, and for 6 credits in Ed.C.I. 187, Workshop in Rural Education. The core course will be scheduled for nine o'clock daily, and will be followed by group and individual projects emphasizing special needs of rural teachers. Application forms for admission to the Workshop will be sent on request. Interested students should write to the Dean's Office, College of Education, 202 Burton Hall, University of Minnesota, Minneapolis 14.

### SUMMER DEMONSTRATION HIGH SCHOOL

The University High School will be in session during the first term of the Summer Session. Instruction will be offered in English, mathematics, general science, chemistry, physics, biology, history, social studies, typing, art, speech, home economics, Latin, and Spanish. The school is a six-year high school comprising grades seven to twelve, with courses organized to provide individual attention to the needs and capacities of the pupils.

Admission to the Summer Session is open to any pupil of normal high school age. Children of teachers or other professional workers who are attending the Summer Session of the University are especially welcomed in the summer term of the University High School. For information regarding fees and registration procedure, address the Director's Office, University High School, Minneapolis 14, Minnesota.

Students registered in Ed.T. 52 will be assigned to observation and directed teaching in the classes of the high school. The facilities of the school are available to the college classes in special methods and to other classes for demonstration purposes. (MTWThF I, II, III, MTWF IV.)

### SUMMER DEMONSTRATION ELEMENTARY SCHOOL

An elementary school, grades one to six inclusive, will be in operation during the first term of the Summer Session. This school will be staffed by the principal and teachers of the Tuttle School which is used as the demonstration elementary school of the College of Education by a co-operative agreement with the Board of Education of the city of Minneapolis. The school, conducted on an activity basis, may be observed by students of elementary school methods and supervision. A laboratory course in elementary school practices is available. (See Ed.C.I. 186su.) (MTWThF I, II, III, MTWF IV; Tuttle School, Talmadge Avenue and Eighteenth Avenue Southeast.)



## NURSERY SCHOOL AND KINDERGARTEN

The Institute of Child Welfare maintains a nursery school and kindergarten in the first term of the Summer Session which is open to children under the conditions described on page 108. These schools are also available for demonstration and observation. Courses, offered by the institute and listed on page 108, are given for teachers who wish nursery school and kindergarten training or who are interested in child development.

## MINIMUM FEE FOR GRADUATE STUDENTS

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

## SPECIAL FEES

By action of the Board of Regents, a fee of \$1 per credit is charged for all courses concerned with methods or problems of teaching. These fees are used in the provision of demonstration and practice facilities, and are charged for any course in this classification, whether or not observation is required for that particular course. The curriculum laboratory, the demonstration schools, and radio and visual materials are partially provided through these fees.

## DETAILED DESCRIPTION OF COURSES

For detailed description of courses and curricula in education see the Bulletin of the College of Education.

## NOTICE CONCERNING STARRED COURSES

Graduate students who wish to work on individual problems to count toward the nine credits in problems courses required for the Master's degree under Plan B, may register for this credit in any course starred in the following list. Other students taking these courses will not be held to the same quality of individual problems work, nor will written reports always be required of them. (See page 18.)

## GENERAL COURSES

## FIRST TERM

- Ed.51Asu.‡ Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. Ed.51C or consent of instructor; MTWThF VI; 109UHS.) Mr. Walter Johnson.  
 Ed.51Bsu.‡ Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. Ed.51A or consent of instructor; MTWThF V; 109UHS.) Ar.  
 Ed.51Csu.‡ Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF VII; 109UHS.) Mr. Ekstrom.  
 Ed.61Asu.‡‡ Introduction to Elementary School Teaching. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF VI; 109UHS.) Mr. Walter Johnson.

## SECOND TERM

- Ed.51Asu.‡ Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. Ed.51C or consent of instructor; MTWThF V; 210UHS.) Mr. Van Wagenen.  
 Ed.51Bsu.‡ Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. Ed.51A or consent of instructor; MTWThF VI; 206UHS.) Ar.

† Ed.61A should not be taken by graduates of normal schools.

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

Ed.51Csu.‡ Introduction to Secondary School Teaching. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF VIII; 210UHS.) Mr. Mork.

Ed.61Asu.†‡ Introduction to Elementary School Teaching. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF V; 210UHS.) Mr. Van Wagenen.

## AGRICULTURAL EDUCATION

### FIRST TERM

Agr.Ed.221su. Field Problems. Provision for study and development of special problems in the field of the student's individual choice. (3 cred.; ar.; 205Hort(UF).) Mr. Field.

Agr.Ed.232su. Research in Agricultural Education. Introduction to investigations in problems of teaching agriculture in the high schools. Experience in selecting problems, preparation of bibliographies, analyzing and interpreting data, and preparing manuscripts. Designed especially for meeting the Plan B research requirements. (3 cred.; ar.; 205Hort(UF).) Mr. Field.

Agr.Ed.237su. Adult Education in Agriculture. The organization, objectives, and techniques for conducting evening schools and part-time schools for farmers and out-of-school youth. (1 to 3 cred.; MTWThF IV; 301Hort(UF).) Mr. Ekstrom.

Agr.Ed.286su. Current Problems in Agricultural Education. Special emphasis this term on the analysis and discussion of problems involved in developing a suitable program in farm mechanics for students in agriculture. Individual and group discussions and practical laboratory work. Arrangement for special laboratory work for farm mechanics according to individual needs of teachers. (1 to 3 cred.; MTWThF I-II; lab. ar.; 301Hort(UF).) Mr. Field, Mr. Morrison.

### SECOND TERM

Agr.Ed.221su. Field Problems. Provision for study and development of special problems in the field of the student's individual choice. (3 cred.; ar.; 205Hort(UF).) Mr. Field.

Agr.Ed.232su. Research in Agricultural Education. Introduction to investigations in problems of teaching agriculture in the high schools. Experience in selecting problems, preparation of bibliographies, analyzing and interpreting data, and preparing manuscripts. Designed especially for meeting the Plan B research requirements. (3 cred.; ar.; 205Hort(UF).) Mr. Field.

## ART EDUCATION

In addition to professional courses, the department offers a variety of basic courses in creative art essential for the broad training of art teachers for elementary schools, secondary schools, colleges, and other educational positions. The Art Education curriculum provides opportunities to combine creative art careers with a teaching position, a combination popular with many outstanding contemporary artists.

The basic art courses are open to students in Fine Arts, Social Work, Home Economics, and other departments and colleges which require art training. Many courses are also open for purposes of general education and recreation.

Graduate students interested in courses counting towards a Master's degree in Art Education should consult the advisers for details.

### FIRST TERM

ArtEd.1su. General Design. Problems in art structure emphasizing the use of line, texture, area, color. Skills basic to work in pictorial composition, handcrafts, photog-

† Ed.61A should not be taken by graduates of normal schools.

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

- raphy, interior design, and commercial art. (3 cred.; MTWF III-IV and Th III; 207bJ.) Mr. Torbert.
- ArtEd.17su. Survey of Art in Life and Education. For elementary, child welfare, and other education majors; others by permission. A combination lecture and laboratory course for the layman, designed to develop understanding and appreciation of aspects of art important in contemporary living. (3 cred.; no prereq.; MTWThF I-II; 203J.) Mr. Gayne.
- ArtEd.24Asu. Drawing and Painting from Still Life and Pose. Water Color. (2 cred.; prereq. 6 cred. in Basic Drawing, equiv., or consent of instructor; MTWThF III, MTWF IV; 207aJ.) Mr. Breinin.
- ArtEd.26Asu. Drawing and Painting from Still Life and Pose. Oil Painting. (2 cred.; prereq. 6 cred. in Basic Drawing, equiv., or consent of instructor; MTWThF III and MTWF IV; 207aJ.) Mr. Breinin.
- ArtEd.28Asu. Drawing and Painting from Still Life and Pose. Advanced Drawing Techniques. (2 cred.; prereq. 6 cred. in Basic Drawing, equiv., or consent of instructor; MTWThF III and MTWF IV; 207aJ.) Mr. Breinin.
- ArtEd.46su. Metal. (3 cred.; MTWThF I-II; 10J.) Mr. Roysher.
- ArtEd.51su. Introduction to Industrial Design. (3 cred.; MTWF III-IV and Th III; 10J.) Mr. Roysher.
- ArtEd.52Asu. Interior Design. A course in the theory and practice of contemporary design applied to the planning of furniture, rooms, and apartments. Study of modern decorative materials and processes, their possibilities in new structures and in re-decoration. Laboratory, lectures, readings. (3 cred.; prereq. 6 cred. in Drawing and Design, equiv., or consent of instructor; MTWThF VI-VII; 207bJ.) Mr. Torbert.
- ArtEd.61Asu. Figure Drawing and Painting. (2 cred.; prereq. 12 cred. in Drawing and Painting, equiv., or consent of instructor; MTWThF I-II; 207aJ.) Mr. Breinin.
- ArtEd.63Asu. Landscape. (2 cred.; prereq. 12 cred. in Drawing and Painting, equiv., or consent of instructor; MTWThF I-II; 207aJ.) Mr. Breinin.
- ArtEd.70su.‡ Wood Sculpture and Carving. (3 cred.; MTWThF VI-VII; 10J.) Mr. Rood.
- ArtEd.73su.‡ Ceramics. (3 cred.; prereq. consent of instructor; MTWThF VIII-IX; 10J.) Mr. Rood.
- ArtEd.84su.‡‡ Methods of Teaching Art in the Elementary School. (3 cred.; jr., sr.; prereq. 61C-A-B and 9 cred. in art or permission of instructor; MTWF IV and 1 hr. ar.; 203J and observation in Tuttle Demonstration School.) Mr. Gayne.
- ArtEd.284Esu. Reading and Research in Art Education. (Cred. ar.; grad.; hrs. ar.) Mr. Gayne and staff.
- ArtEd.295Esu. Special Problems in Art Education. Including technical art projects involving advanced studio practice. (Cred. ar.; grad.; hrs. ar.) Mr. Gayne and staff.

## SECOND TERM

- ArtEd.19su. Survey of Art in Life and Education. For elementary, child welfare, and other education majors; others by permission. A combination lecture and laboratory course for the layman, designed to develop understanding and appreciation of aspects of art important in contemporary living. (3 cred.; no prereq.; MTWThF II-III; 203J.) Mr. Gayne.
- ArtEd.24Bsu. Drawing and Painting from Still Life and Pose. Water Color. (2 cred.; prereq. 6 cred. in Basic Drawing, equiv., or consent of instructor; MTWThF III, and MTWF IV; 207aJ.) Mrs. Rollins.

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

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

- ArtEd.26Bsu. Drawing and Painting from Still Life and Pose. Oil Painting. (2 cred.; prereq. 6 cred. in Basic Drawing, or consent of instructor; MTWThF III, and MTWF IV; 207aJ.) Mrs. Rollins.
- ArtEd.61su. Figure Drawing and Painting. (2 cred.; prereq. 12 cred. in Drawing and Painting; MTWThF VI-VII; 207aJ.) Mrs. Rollins.
- ArtEd.63su. Landscape. (2 cred.; prereq. 12 cred. in Drawing and Painting; MTWThF VI-VII; 207aJ.) Mrs. Rollins.
- ArtEd.68su. Print Processes. Lithography, silk screen, block print, etc. (2 cred.; MTWThF VI-VII; 207aJ.) Mrs. Rollins.
- ArtEd.75Msu.†† Advanced Metal. (3 cred.; MTWThF VI-VII; 10J.) Mr. Roysher.
- ArtEd.124Esu. Advanced Drawing and Painting. (2 cred.; grad.; hrs. ar.) Mrs. Rollins.
- ArtEd.125Esu. Advanced Drawing and Painting. (2 cred.; hrs. ar.) Mrs. Rollins.
- ArtEd.151su. Advanced Industrial Design. (3 cred.; MTWThF VIII-IX; 10J.) Mr. Roysher.
- ArtEd.153Esu. Significance of Home Design in Contemporary Society and Education. (3 cred.; MTWThF VI; 203J.) Mr. Gayne.
- ArtEd.284Esu. Reading and Research in Art Education. (Cred. ar.; grad.; hrs. ar.) Mr. Gayne and staff.
- ArtEd.295Esu. Special Problems in Art Education. Including technical art projects involving advanced studio practice. (Cred. ar.; grad.; hrs. ar.) Mr. Gayne and staff.

## CURRICULUM AND INSTRUCTION

### FIRST TERM

#### *General Courses*

- Ed.C.I.105su.‡ Visual Aids in Teaching. (3 cred.; jr., sr., grad.; MTWThF II; 101WeH.) Mr. Wendt.
- Ed.C.I.106su.‡ Coordinating of Visual Education Programs. (3 cred.; jr., sr., grad.; MTWF IV and 1 hr. ar.; 101WeH.) Mr. Wendt.
- Ed.C.I.107su.‡ Radio in Education. (3 cred.; jr., sr., grad.; prereq. 9 cred. in ed.; MTWThF I; 302MurH.) Mr. Tyler.
- Ed.C.I.129su.‡ Principles and Problems of Teaching Social Hygiene. Emphasis will be placed on methods of teaching social hygiene in the public schools and materials for instructional use in the elementary and secondary schools. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed.; MTWThF III; 360SBH.) Dr. Pearce, Miss Biester.
- Ed.C.I.145su.‡ Remedial Reading. (3 cred.; prereq. Ed.C.I. 143, or 144 or 159; MTWF IV and 1 hr. ar.; 210Bu.) Mr. Bond, Mr. Tinker.
- Ed.C.I.151su.‡ Diagnosis and Remedial Instruction. (3 cred.; sr., grad.; prereq. Ed.C.I. 150 or equiv.; MTWThF II; 106Pt.) Mr. Stein.
- Ed.C.I.171su.‡ Workshop in Curriculum Problems—Minneapolis Group. Jointly planned and sponsored by the Minneapolis Public Schools and the College of Education. Problems in curriculum development at the elementary and secondary level with group and individual projects planned to meet the needs, interests, and specializations of the registrants. Open to selected Minneapolis teachers and 25 students from outside Minneapolis. Consultants available for problems in child development, intercultural education, elementary and secondary curriculum, and the various subject fields for elementary and secondary schools. Admission by consent of the director, Dr. Walter Anderson, general assistant superintendent, Minneapolis Public Schools, and the College of Education Workshop Committee. Students may register for 6 to 9 credits or may be listed for 3 hours as auditors. The entire workshop group will be scheduled

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

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

for the first 4 weeks with a maximum of 6 credits, and those who wish to complete 9 credits will continue working with the staff for the following two weeks. (3 to 6 cred.; MTWThF, 9:00 to 4:00, June 17 to July 12 and hours ar. July 15 to 26; Marshall High School.) Mr. Walter Anderson, Miss Cutright, Mr. Goslin, visiting lectures and consultants.

Ed.C.I.271su.\*‡ Problems in Curriculum Construction. (Cred. ar.; prereq. cred. or current enrolment in Ed.C.I. 113, 119, 170, or equiv., and consent of instructor; ar.) Mr. Bond, Mr. Cook.

Ed.C.I.273su.\*‡ Problems in Reading. (Cred. ar.; prereq. consent of instructor; ar.) Mr. Bond, Mr. Tinker.

#### *Elementary Education*

Ed.C.I.59su.‡ Speech in the Elementary Grades. Discussion of the development of good speech habits for elementary school children and the identification and handling of speech difficulties in the elementary schoolroom. (3 cred.; jr., sr.; prereq. Ed. 61A-B or teaching experience, course in fundamentals of speech recommended; MTWThF III; ar.) Miss Zimmer.

Ed.C.I.102su.‡ Teaching the Social Studies in the Elementary School. (3 cred.; prereq. Ed. 61A-B-C or equiv.; MTWThF III; 100Pt.) Mr. Wesley.

Ed.C.I.103su.‡ Teaching of Science in the Elementary School. Emphasis on resources and materials, and their application in elementary grades. (3 cred.; sr., grad.; prereq. Ed. 61A-B or teaching experience; MTWThF VII; 106Pt.) Mr. Kenneth Anderson.

Ed.C.I.119su.‡ Elementary School Curriculum. (3 cred.; sr., grad.; prereq. Ed. 61C or equiv.; MTWF IV and Th V; 106Pt.) Mr. Archer.

Ed.C.I.143su.‡ Teaching of Reading in the Elementary School. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed. including Ed. 61A or equiv.; MTWF IV and observation and individual work ar.; 210Bu.) Mr. Bond.

Ed.C.I.146su.‡ Current Developments in Language Expression in the Elementary School. (3 cred.; jr., sr., grad.; prereq. Ed. 61A-B-C or equiv.; MTWF IV and 1 hr. ar.; 201WeH.) Miss Sterling.

Ed.C.I.149su.‡ The Teaching and Supervision of Arithmetic in the Elementary School. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed. including Ed.51A or 61A; MTWF IV and 1 hr. ar.; 210Bu.) Mr. Stein.

Ed.C.I.150su.‡ Supervision and Improvement of Instruction. (3 cred.; sr., grad.; prereq. Ed. 61C or equiv.; MTWThF III and W V; 210Bu.) Mr. Brueckner.

Ed.C.I.186su.‡ Laboratory in Elementary Instructional Practices. Daily observation of elementary classes with discussion of techniques, emphasis on activity units, visual aids, enriched materials, individual differences, and socialized situations. Students enrolling in this course must carry at least one other course in the College of Education. (2 cred.; experienced teachers only; observation 4 hrs. weekly, MTWThF ar., Tuttle School; lect. TTh VI; 100Pt.) Mr. Staudenmaier.

Ed.C.I.263su.\*‡ Recent Research in Arithmetic. (3 cred.; prereq. Ed.C.I. 148 or 149 or equiv.; MTWThF I; 7UHS.) Mr. Brueckner.

#### *Secondary Education*

Ed.C.I.113su.‡ High School Curriculum. (3 cred.; sr., grad.; prereq. 10 hrs. in ed. including Ed. 51A-B-C or equiv.; MTWThF III; 211UHS.) Mr. Mork.

Ed.C.I.115su.‡ Workshop in High School Play Production. Laboratory class limited to students registered in Speech 71, Play Production. (3 cred.; sr., grad.; prereq. consent of instructor; MTWF III-IV and Th III; ar. in UHS.) Mr. Brink.

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

- Ed.C.I.122su.‡ Literature for Adolescents. (3 cred.; jr., sr., grad.; prereq. Ed. 51C or junior-senior high school teaching experience; MTWThF I; 206UHS.) Mr. George Robert Carlsen.
- Ed.C.I.140su.‡ Teaching of Speech. (Also listed as Speech 151su.) Orientation in problems of speech education. Review of studies of teaching methods and special devices, voice recordings, tests. Direction of extra-curricular activities. (3 cred.; jr., sr., grad.; prereq. Speech 1-2-3 or Speech 5-6 or equiv. or permission of instructor; MTWThF III; 308F.) Mr. Gilkinson.
- Ed.C.I.144su.‡ Teaching of Reading in the Upper Grades and Junior and Senior High Schools. (3 cred.; sr., grad.; prereq. 9 hrs. in ed. including Ed. 51A or 61A; MTWThF III; 106Pt.) Mr. Tinker.
- Ed.C.I.168su.‡ Current Developments in the Social Studies. (3 cred.; grad. only; MTWThF II; 100Pt.) Mr. Wesley.
- Ed.C.I.191su.‡ Advanced Course in the Teaching and Supervision of Secondary School Mathematics. (3 cred.; prereq. Ed. 51B or permission of instructor; MTWThF V; 105UHS.) Mr. Donovan Johnson.
- Ed.C.I.201su.\*‡ Problems in Teaching the Social Studies. (Cred. ar.; grad.; prereq. consent of instructor; ar.) Mr. Wesley.
- Ed.C.I.266su.‡ Supervision of High School Instruction. (3 cred.; grad.; MTWF IV and additional hrs. ar.; 325 Marshall High School.) Mr. Boardman.
- Ed.C.I.294su.\*‡ Advanced Course in Methods of Teaching English. (3 cred.; prereq. Ed.T. 66A-B-C or equiv.; MTWF IV and 1 hr. ar.; 208UHS.) Mr. George Robert Carlsen.
- Ed.C.I.296su.\*‡ Special Problems in Teaching English. (Cred. ar.; grad.; ar.) Mr. George Robert Carlsen.

#### *Higher Education*

- Ed.C.I.228su.\*‡ Workshop: Problems of Higher Education and Teacher Training. (9 cred.; grad.; MTWThF ar.; ar.) Mr. Peik, Mr. Cooper, Mr. Clippinger, Mr. Furrow, Mr. Hill, and others.

#### SECOND TERM

##### *General Courses*

- Ed.C.I.107su.‡ Radio in Education. (3 cred.; jr., sr., grad.; MTWThF I; 302MurH.) Mr. Tyler.
- Ed.C.I.114su.‡ The School Health Education Program. Study of various health organizations in city and state in relation to the school health program; organization of the health education programs with the school; construction of the curriculum in school health; evaluation of the school health program; preparation and requirements for teaching school health education; health supervision and guidance. (3 cred.; sr., grad.; prereq. Ed.T. 83, P.H. 50 or equiv., or consent of instructor; MTWF IV and 1 hr. ar.; 201NGW.) Miss Starr.
- Ed.C.I.145su.‡ Remedial Reading. (3 cred.; prereq. Ed.C.I. 143 or 144 or 159; MTWF IV and 1 hr. ar.; 106Pt.) Mr. Thorsten Carlson.
- Ed.C.I.171su.‡ Workshop in Curriculum Problems—Experimental Schools. Specially planned for elementary and secondary teachers in the experimental curriculum study under the College of Education. Group and individual projects for curriculum development at the elementary and secondary levels. Admission by consent of the director, Dr. Nelson L. Bossing. (6-9 cred.; MTWThF, 9:00 to 4:00; UHS library.) Mr. Bossing and consultants.

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

- Ed.C.I.271su.\*‡ Problems in Curriculum Construction. (Cred. ar.; prereq. completion or current enrolment in one of the following: Ed.C.I. 113, 119, 170 or consent of instructor; ar.) Mr. Bossing, Mr. Cook.
- Ed.C.I.273su.\*‡ Problems in Reading. (Cred. ar.; prereq. consent of instructor; ar.) Mr. Thorsten Carlson.

#### *Elementary Education*

- Ed.C.I.102su.‡ Contents and Activities of the Social Studies in the Elementary Grades. (3 cred.; prereq. Ed. 61A-B-C or equiv.; MTWThF III; 210UHS.) Mr. Wesley.
- Ed.C.I.119su.‡ Elementary School Curriculum. (3 cred.; sr., grad.; prereq. Ed. 61C or equiv.; MTWF IV and Th VII; 210UHS.) Mr. Cook.
- Ed.C.I.143su.‡ Teaching of Reading in the Elementary School. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed. including Ed. 61A or equiv.; MTWThF I; 106Pt.) Mr. Thorsten Carlson.
- Ed.C.I.149su.‡ The Teaching and Supervision of Arithmetic in the Elementary School. (3 cred.; jr., sr., grad.; prereq. 9 hrs. in ed. including Ed. 51A or 61A; MTWF IV and 1 hr. ar.; 110UHS.) Mr. Harry Johnson.
- Ed.C.I.150su.‡ Supervision and Improvement of Instruction. (3 cred.; sr., grad.; prereq. Ed. 61C or equiv.; MTWThF II; 106Pt.) Mr. Harry Johnson.
- Ed.C.I.187su.‡ Workshop in Rural and Village School Problems. Students in the workshop must also be registered for Ed.C.I. 117su, Rural Education for Administrators and Teachers, 3 credits, 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. permission of the dean of the College of Education; not open to those who have received credit in Ed.C.I. 187 or 188 in previous sessions; MTWThF 9 to 4; ar. H.Ec.(UF).) Mr. Archer, Miss Corneliussen, and others.

#### *Secondary Education*

- Ed.C.I.113su.‡ High School Curriculum. (3 cred.; sr., grad.; prereq. 10 hrs. in ed. including Ed. 51A-B-C or equiv.; MTWThF I; 106UHS.) Mr. Bossing.
- Ed.C.I.168su.‡ Current Developments in the Social Studies. (3 cred.; MTWThF II; 209UHS.) Mr. Wesley.
- Ed.C.I.201su.\*‡ Problems in Teaching the Social Studies. (3 cred.; grad.; prereq. consent of instructor; ar.) Mr. Wesley.
- Ed.C.I.266su.‡ Supervision of High School Instruction. (3 cred.; grad.; MTWThF III; 210Bu.) Mr. Stetson.

### EDUCATIONAL ADMINISTRATION

#### FIRST TERM

#### *General Courses*

- Ed.Ad.124su. Public School Administration. The organization, administration, and general support of public schools in state and local school districts. (3 cred.; sr., grad.; prereq. 10 hrs. in ed.; MTWThF I; 210Bu.) Mr. Oppenheimer.
- Ed.Ad.125su. 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.; sr., grad.; prereq. 15 hrs. in ed.; including Ed.Ad. 124; MTWThF III; 201WeH.) Mr. Cramer.

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

- Ed.Ad.127su. *Teacher and Employee Administration.* Employment practices, salary schedules, personnel records and reports, welfare procedures, improvement in service and legal aspects of instructional and non-instructional school employee administration. (3 cred.; sr., grad.; prereq. 15 hrs. in ed., including Ed.Ad. 124; MTWThF I; 201WeH.) Mr. Fisk.
- Ed.Ad.210su.\* *Financial Aspects of School Business Administration.* Financial program planning, budgeting, accounting, cost finding, income and expenditure control, and the preparation and analysis of financial reports. (3 cred.; grad.; prereq. Ed.Ad. 124, 125; MTWThF II; 107UHS.) Mr. Domian.
- Ed.Ad.226su. *School Plant Planning and Management.* Plant program planning and financing, including operation and maintenance of public school buildings. (3 cred.; grad.; prereq. Ed.Ad. 124, 125; MTWF IV and 1 hr. ar.; 200Pt.) Mr. Domian.
- Ed.Ad.228su.\* *Special Problems in Educational Administration.* For the summer of 1946 this course will deal with recent research in the field of school administration. Superintendents may work on research problems in connection with their own school systems. (1 to 6 cred.; grad.; prereq. Ed.Ad. 124, 125; MWF IV; 109UHS.) Mr. Neale.
- Ed.Ad.230su.\* *Public Relations for Schools.* Theory and practice of educational interpretation. Principles involved; machinery and personnel; the teacher's contacts with the community; the role of the pupil; professional and lay organization; techniques and mediums of educational interpretation. Layout; news and feature writings, radio broadcasting, bulletins and reports, exhibits, special occasions. (3 cred.; grad.; MTWThF III; 200Pt.) Mr. Fisk.
- Ed.Ad.235su. *Seminar in Educational Administration.* Required of all candidates for Master's degrees under Plan A and of all candidates for Ph.D. degrees. (No credit; prereq. consent of instructor. Time and place to be arranged.) Mr. Neale.
- Ed.Ad.274su. *The Junior College.* Organization and control, faculty and employee personnel administration, administrative relationships to problems of curriculum and instruction. (3 cred.; grad.; MTWThF III; 106UHS.) Mr. Oppenheimer.
- Ed.Ad.280su. *Workshop in School Building Construction.* Begins on Wednesday, June 19 and ends on Tuesday, July 2. Round table discussions and conferences on the planning and construction of new school building. The conferences include the planning and designing of general classrooms, special rooms, libraries, gymnasiums, auditoriums, shops and laboratories, lunchrooms and cafeterias, toilet rooms, washrooms, showers, facilities for audio-visual education, heating and ventilating systems, lockers and wardrobes. General types of construction, styles of architecture, provisions for community use and educational planning of school buildings will be among the other general topics considered. May be taken without credit or for two weeks or for three or four credits by doing additional work during the last three weeks of the Summer Session. (Cred. 2, 3, or 4; MTWThF 9-12 with additional conferences arranged.) Mr. Neale, Mr. Clapp, Mr. Friswold, Mr. Viles, and others.

#### *Elementary Education*

- Ed.Ad.115su. *Organization of the Elementary School.* Problems relating to the organization for instruction and classification of pupils in elementary schools with critical examination of current practices. (3 cred.; jr., sr., grad.; prereq. 10 hrs. in ed.; MTWThF I; 106Pt.) Mr. Cramer.

#### *Secondary Education*

- Ed.Ad.133su. *Guidance in Secondary Schools.* (Also listed as Ed.Psy. 133.) (3 cred.; sr., grad.; prereq. 9 cred. in ed.; MTWThF VII; 210Bu.) Mr. Dugan.



- Ed.Ad.167su. Junior High School. (Not offered.) Elementary education majors who need this course for junior high school endorsement should substitute Ed. 51C. (See page 84.)
- Ed.Ad.263su. The Organization of the Secondary School. (3 cred.; grad.; MTWThF III; 325 Marshall High School.) Mr. Boardman.
- Ed.Ad.264su. The Administration of the Instructional Activities of the Secondary School. (3 cred.; grad.; MTWThF II; 325 Marshall High School.) Mr. Drake.
- Ed.Ad.265su. The Administration of the Non-instructional Activities of the Secondary School. (3 cred.; grad.; MTWThF I; 325 Marshall High School.) Mr. Drake.
- Ed.Ad.270su.\* Special Problems in Secondary Education. (Cred. ar.; prereq. consent of instructor; ar.) Mr. Boardman.

## SECOND TERM

### *General Education*

- Ed.Ad.124su. Public School Administration. (3 cred.; sr., grad.; prereq. 10 hrs. in ed.; MTWThF I; 210Bu.) Mr. Neale.
- Ed.Ad.125su. Pupil Personnel Administration. (3 cred.; sr., grad.; prereq. 15 hrs. in ed.; including Ed.Ad. 124; MTWThF II; 105UHS.) Mr. Cramer.
- Ed.Ad.127su. Teacher and Employee Administration. (3 cred.; sr., grad.; prereq. 15 hrs. in ed., including Ed.Ad.124; MTWThF III; 200Pt.) Mr. Rope.
- Ed.Ad.210su.\* Financial Aspects of School Business Administration. (3 cred.; grad.; prereq. Ed.Ad. 124, 125; MTWThF I; 105UHS.) Mr. Domian.
- Ed.Ad.226su. School Plant Planning and Management. (3 cred.; grad.; prereq. Ed.Ad. 124, 125; MTWThF III; 105UHS.) Mr. Domian.
- Ed.Ad.228su.\* Special Problems in Educational Administration. (1-6 cred.; grad.; prereq. Ed.Ad. 124, 125, 127; MTWF IV; 105UHS.) Mr. Neale.
- Ed.Ad.230su.\* Public Relations for Schools. (3 cred.; grad.; MTWF IV and 1 hr. ar.; 200Pt.) Mr. Rope.
- Ed.Ad.235su. Seminar in Educational Administration. Required of all candidates for Master's degrees under Plan A and for all Ph.D. degree candidates with a major in general school administration. (No cred.; prereq. consent of instructor. Time and place to be arranged.) Mr. Neale.

### *Elementary Education*

- Ed.Ad.115su. Organization of the Elementary School. (3 cred.; jr., sr., grad.; prereq. 10 hrs. in ed.; MTWThF I; 210UHS.) Mr. Cramer.

### *Secondary Education*

- Ed.Ad.133su. Guidance in Secondary Schools. (Also listed as Ed.Psy. 133su.) (3 cred.; sr., grad.; prereq. 9 cred. in ed.; MTWThF VII; 210Bu.) Mr. Walter Johnson.
- Ed.Ad.264su. The Administration of the Instructional Activities of the Secondary School. (3 cred.; grad.; MTWF IV and individual work ar.; 210Bu.) Mr. Stetson.
- Ed.Ad.270su.\* Special Problems in Secondary Education. (Cred. ar.; prereq. consent of instructor; ar.) Mr. Stetson.

## EDUCATIONAL PSYCHOLOGY

### FIRST TERM

#### *General Courses*

- Ed.Psy.60su. Introduction to Statistical Methods. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF VI; 209UHS.) Mr. Van Wagenen.

- Ed.Psy.120su. Basic Principles of Measurement. (3 cred.; sr., grad.; prereq. Ed.Psy. 60 or equiv.; MTWThF II; 200Pt.) Mr. Cook.
- Ed.Psy.140su. Instruments and Techniques of Measurement. (3 cred.; sr., grad.; prereq. 120 or equiv.; MTW IV, 200Pt.; Th VI-VII, 206WeH.) Mr. Cook.
- Ed.Psy.216su. Statistical Methods in Education. (3 cred.; grad.; MTWThF I; 110UHS.) Mr. Palmer O. Johnson.
- Ed.Psy.218su. Statistical Methods in Education. (3 cred.; grad.; MTWThF II; 105UHS.) Mr. Palmer O. Johnson.
- Ed.Psy.225su.\* Diagnosis and Counseling in a Student Personnel Program. (3 cred.; grad.; prereq. Ed.Psy. 133 and 140 or consent of instructor; MTWThF VII; 209UHS.) Mr. Wrenn.
- Ed.Psy.233su.\* Problems in Guidance and Personnel Work. (Cred. ar.; grad.; prereq. consent of instructor; individual work ar.) Mr. Cook, Mr. Wrenn.
- Ed.Psy.253su.\* Research Problems. (Cred. ar.; grad.; prereq. consent of instructor; individual work ar.) Mr. Cook, Mr. Palmer O. Johnson, Mr. Van Wagenen, Mr. Wrenn.
- Ed.Psy.281su. Practice in Personnel Work: Guidance Clinic. (3 cred.; grad.; limited enrolment, admission by consent of instructor only; ar.; 101EdH.) Mr. Bordin.
- Ed.Psy.290-291su. Individual Differences. Graduate students may substitute Psy. 125-126su, Psychology of Individual Differences. (See page 37.)
- Ed.Psy.293su.\* Psychology of Learning. (3 cred.; grad.; prereq. 12 cred. in psy. and ed. psy.; MTWThF VI; 210UHS.) Mr. Mork.

#### *Elementary Education*

- Ed.Psy.114su. Psychology of Elementary School Subjects. (3 cred.; jr., sr., grad.; prereq. 10 cred. in psy. and ed.) MTWF IV and 1 hr. ar.; 7UHS.) Mr. Van Wagenen.

#### *Secondary Education*

- Ed.Psy.133su. Guidance in Secondary Schools. (3 cred.; sr., grad.; prereq. 9 cred. in ed.; MTWThF VII; 210Bu.) Mr. Dugan.
- Ed.Psy.200su.‡ Guidance Workshop. Problems of group and individual guidance in the high school. Special projects to meet the needs of registrants. Closely coordinated with Workshop on Curriculum Problems with joint use of facilities and joint planning of some projects. Applications should be sent to the Dean's Office, College of Education, University of Minnesota, Minneapolis 14. (6 to 9 cred.; grad.; limited enrolment; prereq. consent of instructor; MTWThF 9:00 to 4:00; ar. in Marshall High School.) Miss Wright (director), Mr. Dugan, Mr. Wrenn, and consultants.

#### SECOND TERM

#### *General Courses*

- Ed.Psy.60su. Introduction to Statistical Methods. (3 cred.; jr., sr.; prereq. 6 cred. in psy.; MTWThF III; 209UHS.) Mr. Palmer O. Johnson.
- Ed.Psy.120su. Basic Principles of Measurement. (3 cred.; sr., grad.; prereq. Ed.Psy. 60 or equiv.; MTWThF II; 210Bu.) Mr. Cook.
- Ed.Psy.159su. Personality Adjustments in Education. (3 cred.; sr., grad.; prereq. 9 hrs. in ed. and psy. including one recent course in psy.; MTWThF III; 206WeH.) Mr. Wrenn.
- Ed.Psy.183su. Education of Gifted Children. (3 cred.; jr., sr., grad.; prereq. Ed. 51A or equiv.; MTWF IV and 1 hr. ar.; 206UHS.) Mr. Van Wagenen.

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

- Ed.Psy.217su. Statistical Methods in Education. (3 cred.; grad.; MTWF IV and 1 hr. ar.; 209UHS.) Mr. Palmer O. Johnson.
- Ed.Psy.225su.\* Diagnosis and Counseling in a Student Personnel Program. (3 cred.; grad.; prereq. Ed.Psy. 133 and 140 or consent of instructor; MTWThF I; 202WeH.) Mr. Wrenn.
- Ed.Psy.233su.\* Problems in Guidance and Personnel Work. (Cred. ar.; grad.; prereq. consent of instructor; individual work ar.) Mr. Cook, Miss Edwards, Mr. Wrenn.
- Ed.Psy.253su.\* Research Problems. (Cred. ar.; grad.; prereq. consent of instructor; individual work ar.) Mr. Cook, Mr. Palmer O. Johnson, Mr. Van Wageningen, Mr. Wrenn.
- Ed.Psy.293su.\* Psychology of Learning. (3 cred.; grad.; prereq. 12 cred. in psy. and ed. psy.; MTWThF VII; 210UHS.) Mr. Mork.

#### *Secondary Education*

- Ed.Psy.133su. Guidance in Secondary Schools. (Also listed as Ed.Ad. 133su.) (3 cred.; sr., grad.; prereq. 9 cred. in ed.; MTWThF VII; 210Bu.) Mr. Walter Johnson.

### HISTORY AND PHILOSOPHY OF EDUCATION

#### FIRST TERM

#### *General Courses*

- H.Ed.155su. History of Education in the United States. Emphasis on the development of elementary and secondary education in the nineteenth century; special movements; rise of state school systems. (3 cred.; jr., sr., grad.; MTWThF III; 109UHS.) Miss Alexander.
- H.Ed.176su. Conflicting Issues in Modern Education. (3 cred.; jr., sr., grad.; prereq. 6 hrs. in psy.; MTWF IV and Th V; 100Pt.) Mr. Kilpatrick.
- H.Ed.180su. The School and the Social Order. (3 cred.; jr., sr., grad.; prereq. 6 hrs. in psy.; MTWThF VII; 100Pt.) Mr. Kilpatrick.

### HOME ECONOMICS EDUCATION

#### FIRST TERM

- H.E.Ed.94su.†† Supervised Teaching in Home Economics. Teaching experience under supervision in school and community groups. (3 cred.; sr.; prereq. H.E.Ed. 91, 93 or consent of the instructor; limited to twelve students. Conference hour MTWThF II and three consecutive hours daily for four days a week; 114HE(UF).) Miss Rose.
- H.E.Ed.191su. Advanced Course in the Teaching of Home Economics. A study of materials, equipment, and teaching procedures based on newer concepts of learning and changing social and economic needs of families. Offers the experienced teacher an opportunity to study problems related to her own situation at the secondary or higher educational level. (3 cred.; sr., grad.; prereq. H.E.Ed. 91, 93 or consent of instructor; MTWThF I; 114HE(UF).) Miss Rose.
- H.E.Ed.243su. Trends in Home Economics. The place of home economics in the educational program today; the ways in which content and procedures are being modified to meet changing conditions. (3 cred.; grad.; prereq. permission of instructor; MTWThF II; 114HE(UF).) Miss Rose.

† Students registering for this course must make out the application required for methods courses and directed teaching. Forms are available in the office of the director of student teaching, 102 University High School.

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

## INDUSTRIAL EDUCATION

## FIRST TERM

- Ind.1su.‡ Hand Woodwork. (3 cred.; no prereq.; substitute for M.E. 1; required of undergraduate majors; MTWThF II-III; 6Pt.) Mr. Nelson.
- Ind.11su.‡ Special-Class Woodwork. (3 cred.; no prereq.; for teachers of art, elementary and subnormal classes; MTWThF VI-VII; 6Pt.) Mr. Nelson.
- Ind.42su. Course Organization. (3 cred.; prereq. Ind. 40, or consent of instructor; MTWThF I; 6aPt.) Mr. Micheels.
- Ind.50ABCsu.‡ Directed Teaching. (3 cred. A, B, or C; 6 cred. required for B.S. degree; prereq. Ind. 70 or 75 and 80 with C+ average in manipulative and professional Industrial Education courses; 10 periods per week, consult instructor; 6Pt.) Mr. Nelson.
- Ind.66su. Related Subjects. (3 cred.; prereq. Ind. 40, 42, or consent of instructor; MTWF IV and 1 hr. ar.; 6aPt.) Mr. Widdowson.
- Ind.100su. Industrial Instruction. (3 cred.; grad.; except those with credit in Ind. 70; MTWThF I; 106UHS.) Mr. Smith.
- Ind.103su. Instructional Aids. (3 cred.; jr., sr., grad., or consent of instructor; MTWThF III; 6aPt.) Mr. Micheels.
- Ind.109su. Conference Leading for Industry. (3 cred.; consent of instructor; MTWThF II; 6aPt.) Mr. Widdowson.
- Ind.200su.\* Research Problems. (3, 6, or 9 cred.; grad.; individual conferences about independent papers under Plan B for the M.A. degree, and Plan Y for the M.Ed. degree.) Mr. Smith, Mr. Micheels.
- Ind.213su. Literature of Industrial Education. (3 cred.; grad.; prereq. Ind. 250; MTWF IV and 1 hr. ar.; 213UHS.) Mr. Smith.

## SECOND TERM

- Ind.61su. Practices in Vocational Education. (3 cred.; prereq. Ind. 60, or consent of instructor; MTWThF I; 6aPt.) Mr. Widdowson.
- Ind.101su. Tests in Industrial Subjects. (3 cred.; prereq. 9 cred. of general and educational psychology; MTWThF II; 6aPt.) Mr. Micheels.
- Ind.107su. Coordination. (3 cred.; prereq. Ind. 60, 61, or 105, or 125, or consent of instructor; MTWThF III; 6aPt.) Mr. Widdowson.
- Ind.115su. Supervision of Industrial Education. (3 cred.; prereq. Ind. 60, 61, or 105, or 125, or consent of instructor; MTWF IV and 1 hr. ar.; 6aPt.) Mr. Micheels.
- Ind.200su.\* Research Problems. (3, 6, or 9 cred.; grad.; individual conferences about independent papers under Plan B for the M.A. degree, and Plan Y for the M.Ed. degree.) Mr. Smith, Mr. Micheels.

*Shop and Drawing—Both Terms*

First degree candidates should keep in mind the maximum of 45 quarter credits in shopwork and drawing combined. More such credits may be earned and recorded, but they will not be counted toward the degree. Shop and drawing courses may be pursued by graduate students, with credits recorded but without acceptance toward advanced degree requirements. In selecting such courses, see other parts of this bulletin—Agricultural Engineering, Architecture, Art Education, Drawing and Descriptive Geometry, Fine Arts, Mechanical Engineering, and other schedules of the Institute of Technology. The long-time cooperative arrangement with Dunwoody Industrial Institute continues in effect. In view of unusually crowded conditions at the Institute, those desiring to take courses there will confer first with Mr. Homer J. Smith.

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

## Notes

A copy of the four-year curriculum which leads to the B.S. degree will be mailed upon request. Statements are available in mimeographed form concerning program patterns and requirements for the M.A. degree in the Graduate School and for the M.Ed. degree in the College of Education. Persons who desire more advanced work are invited to open correspondence about their backgrounds and professional intentions.

The University of Minnesota is designated by the State Board of Vocational Education for the offering of federally-aided courses, leading to certification for vocational-industrial teaching and other positions under the Smith-Hughes, George-Deen, and allied acts and regulations.

Letters of inquiry may be addressed to Department of Industrial Education, 200 Eddy Hall, University of Minnesota, Minneapolis 14, Minnesota.

## METHODS AND DIRECTED TEACHING

## FIRST TERM

*General Courses*

Ed.T.52su.†† Practice Teaching. Open to students who wish to register for a limited number of credits in practice teaching to qualify for the secondary school certificate through the College of Education. (Cred. ar.; prereq. consent of instructor; ar.; UHS.) Ar.

*Elementary Education*

Ed.T.55su.‡ Principles of Early Childhood Education. (3 cred.; jr., sr.; prereq. Psy. 1-2; MTWThF I and 1 hr. ar.; 100Pt.) Miss Peterson.

Ed.T.76Asu.‡ Methods and Observation in the Nursery School. (2 cred.; jr., sr.; prereq. Ed.T. 55 or simultaneously; F IV and observation hrs. ar.; 204E Pt.) Miss Peterson.

Ed.T.76Csu.‡ Methods and Observation in the Kindergarten. (2 cred.; jr., sr.; prereq. Ed.T. 55 or simultaneously; F IV and observation hrs. ar.; 204E Pt.) Miss Headley.

Ed.T.77A or Csu.†† Directed Teaching. (4 cred.; sr.; prereq. Ed.T. 55, 56, 57, 59, and 76A, B, C. Offered by special arrangement on advance application to a limited number of students.) Mrs. Fuller.

Ed.T.78su.‡ Workshop in Childhood Education. Credit will be allowed toward nursery school, kindergarten, or elementary education major. Also listed as C.W. 86su. For further details see page 108. (9 cred.; jr., sr.; permission of director of Institute of Child Welfare; hrs. ar.; 5Pt.) Mrs. Fuller, Miss Headley, Miss Peterson.

*Secondary Education*

Ed.T.66Amsu.†† The Teaching of Composition in the Senior High School. (2 cred.; sr.; MTWTh V; 206UHS.) Miss Sterling.

Ed.T.66Bmsu.†† The Teaching of Literature in the Senior High School. (2 cred.; sr.; MTWTh VI; 206UHS.) Miss Sterling.

Ed.T.67Am,Bmsu.†† The Teaching of Secondary School Mathematics. (4 cred.; sr.; MTWThF V and individual work ar.; 105UHS.) Mr. Donovan Johnson.

Ed.T.69Am,Bmsu.†† Methods of Teaching History and Social Studies. (4 cred.; sr.; MTWThF VI-VII; 211UHS.) Mr. Maynard.

† Students registering for this course must make out the application required for methods courses and directed teaching. Forms are available in the office of the director of student teaching, 102 University High School.

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

## MUSIC EDUCATION

## FIRST TERM

- Mu.Ed.4†,5†,6†su. Applied Instrumental Technique. (2 cred. each; no prereq.; MTWThF I; 4NMA.) Mr. Winslow, Mr. Prescott, and ar.
- Mu.Ed.50Asu.† Primary Methods. (2 cred.; jr.; no prereq.; MTWF IV; 4Mu.) Mr. Winslow.
- Mu.Ed.53su.† High School Methods. (3 cred.; jr., sr.; prereq. Ed. 51C and Mu.Ed. 50A,B; MTWThF III; 4Mu.) Ar.
- Mu.Ed.68su. Conducting of Instrumental Music and Survey of Materials. (4 cred.; sr.; prereq. Mu.Ed. 65; MTWThF V-VI; 4NMA.) Mr. Prescott.
- Mu.Ed.110Esu.† Workshop in Music Education—Emphasis on Problems of Band, Orchestra, and Chorus in the High School. Individual and group projects planned for experienced teachers, M.Ed. candidates and selected seniors. Full-time program for 9 credits or two-thirds time with possibility of carrying another course. (6 to 9 cred.; prereq. consent of instructors; MTWThF II and other hrs. ar.; 4NMA.) Mr. Winslow, Mr. Prescott, and others.
- Mu.Ed.200Esu.§ Survey and Application of Research in Music Education. (3 cred.; prereq. Mu.Ed. 101; open to candidates for the M.Ed. degree in music education and others with consent of instructor; ar.) Mr. Winslow.
- Mu.Ed.224Esu.§ Seminar and Individual Research Problems in Music Education. (Cred. ar.; prereq. consent of instructor; ar.) Mr. Winslow.
- Mu.Ed.225Esu.††§ Advanced Applied Music. (Cred. ar.; prereq. entrance examination; ar.) Ar.

## SECOND TERM

- Mu.Ed.4†,5†,6†su. Applied Instrumental Technique. (2 cred. each; no prereq.; MTWThF II; 4Mu.) Mr. Winslow.
- Mu.Ed.50Asu.† Primary Methods. (2 cred.; jr.; no prereq.; MTWTh III; 4Mu.) Mr. Winslow.
- Mu.Ed.50Bsu.† Intermediate Methods. (2 cred.; prereq. Mu.Ed. 50A or equiv.; MTWF IV; 4Mu.) Ar.
- Mu.Ed.55su.† Vocal Materials and Methods. (4 cred.; sr.; prereq. Mu.Ed. 50A, 50B, 53; MTWThF V-VI; 4Mu.) Ar.
- Mu.Ed.220Esu.§ Survey and Application of Research in Music Education. (3 cred.; prereq. Mu.Ed. 101; open to candidates for the M.Ed. degree in music education and others with consent of instructor; ar.) Mr. Winslow.
- Mu.Ed.224Esu.§ Seminar and Individual Research Problems in Music Education. (Cred. ar.; prereq. consent of instructor; ar.) Mr. Winslow.
- Mu.Ed.225Esu.††§ Advanced Applied Music. (Cred. ar.; prereq. entrance examination; ar.) Ar.

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

†† Two lessons a week, fee \$25; four lessons a week, fee \$50.

§ Courses marked "E" carry credit toward the master of education degree.

## PHYSICAL EDUCATION AND ATHLETICS

### PHYSICAL EDUCATION FOR MEN

The gymnasium, swimming pools, tennis courts, baseball diamonds, running track and handball and squash courts will be available to students in the Summer Session.

#### FIRST TERM

- 4A,B,Csu. Football, Basketball, Track Fundamentals. (2 cred.; MTWThF II; CH.) Mr. Beise, Mr. MacMillan, Mr. Kelly.
- 5Asu. Physical Education Activities. Gymnastics and Tumbling. (1 cred.; MTWThF VII; CH.) Mr. Beise.
- 6Csu. Intramural Sports. Swimming and Diving. (1 cred.; MTWThF VI; CH.) Ar.
- 9su. Rhythms. Tap and Social Dancing. (1 cred.; MTWThF VIII; CH.) Mr. Piper.
- 32su. Introduction to Physical Education. An orientation course for teachers. History, vocational significance and fundamental principles of physical education. (3 cred.; MTWThF III; 214CH.) Mr. Bartelma.
- 50su. Human Anatomy. A study of the structure of the human body with emphasis upon the bones, nerves, and muscles and their significance in physical education. (3 cred.; MTWThF I; 206CH.) Dr. Hauser, Mr. Osell.
- 51su. Mechanics of Movement. A discussion of the principles and mechanics of body movements; the effect of various exercises upon the tissues and organs of the body. (3 cred.; MTWThF III; 206CH.) Mr. Osell.
- 53,54,55su.‡ 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. (3 cred.; MTWThF IV; 214CH.) Mr. Bartelma.
- 60su. 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. (2 cred.; MTWThF IV; 206CH.) Mr. Stein.
- 63su. Organization and Administration of Physical Education. Problems of organization, administration and supervision in required and elective courses, intramural and interschool athletics. (3 cred.; MTWThF IV; 214CH.) Mr. Piper.
- 67,68,69su. Coaching of Athletic Sports. Football, Basketball, and Track. (2 weeks each.) Study of the theory, strategy, and generalship. Styles of offense and defense, methods of organizing practice, conduct of meets, practice schedules, etc. (3 cred.; MTWThF I; 214CH.) Mr. Bierman, Mr. MacMillan, Mr. Kelly.
- 101Esu. 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.; MTWThF I; 215CH.) Mr. Keller.
- 103Esu. Physical Examination and Adaptation of Activities. The physical educator's responsibility in diagnosis, amelioration, and correction of physical abnormalities. (3 cred.; MTWThF II; 206CH.) Dr. Hauser, Mr. Osell.
- 133Esu. Special Administrative Problems in Physical Education in Secondary Schools. Survey of staff organizations in typical situations such as small towns, cities, states, and schools: construction, maintenance, and policies for use of facilities; purchase, care, and use of equipment; legal aspects of physical education and athletic activities. 3 cred.; sr., grad.; prereq. 63 or equiv.; MTWThF III; 215CH.) Mr. Nordly.
- 135Esu. Tests and Measurements in Physical Education. Critical analysis of existing research studies in physical education with special emphasis upon tests and measure-

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

- ments. Study of existing tests from both practical and theoretical standpoints. Use of tests in the administration of physical activity programs. Application of the principles of test construction to specific problems. (3 cred.; sr., grad.; prereq. Ed.Psy. 60 or equiv.; MTWThF II; 214CH.) Mr. Keller.
- 137Esu. Recent Literature and Research in Physical Education. Directed readings and class discussions of recent literature; critical analysis of research in physical education; selection and presentation of an outline for the solution of a problem. (3 cred.; grad.; prereq. permission of instructor; MTWThF V; 214CH.) Mr. Nordly.
- 141Esu. Administration and Supervision of Public Recreation. Organization of public recreation; policies and procedures relating to recreation; finance; the activity program, facilities, office management, promotion, and public relations. (3 cred.; grad.; MTWThF IV; 215CH.) Mr. Haislet.
- 142Esu. Group Leadership and Community Organization for Recreation. Inquiry into the nature, scope, principles, and procedures in community organization, with attention to those principles and practices of group leadership that have particular reference to community organization work. (3 cred.; grad.; MTWThF II; 215CH.) Mr. Haislet.
- 237Esu. Problems in Health Education, Physical Education, and Recreation. (Cred. and hrs. ar.) Mr. Nordly.

## SECOND TERM

- 5Csu. Gymnastic Stunts, Contests, and Relays. (1 cred.; MTWThF VI; CH.) Mr. Beise.
- 6Asu. Intramural Sports. Soccer, speedball, and volleyball. (1 cred.; MTWThF VII; CH.) Mr. Beise.
- 7Asu. Recreational Games and Sports. Team and non-team games; social games and mixers; progressive game parties. (1 cred.; MTWThF IV; CH.) Mr. Piper.
- 7Csu. Recreational Games and Sports. Badminton, archery, aerial darts, deck tennis, etc. (1 cred.; MTWThF VII; CH.) Mr. Piper.
- 32su. Introduction to Physical Education. An orientation course for teachers. History, vocational significance, and fundamental principles of physical education. (3 cred.; MTWThF IV; 214CH.) Mr. Bartelma.
- 53,54,55su.‡ 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. (3 cred.; MTWThF III; CH.) Mr. Bartelma.
- 58su. Coaching of Boxing and Wrestling. Methods of teaching and coaching; conditioning; techniques of offense and defense, etc. (2 cred.; MTWThF VI; 215CH.) Mr. Bartelma, Mr. Haislet.
- 63su. Organization and Administration of Physical Education. Problems of organization, administration, and supervision in required and elective courses, intramural and inter-school athletics. (3 cred.; MTWThF II; 215CH.) Mr. Piper.
- 133Esu. Special Administrative Problems in Physical Education in Secondary Schools. Survey of staff organizations in typical situations such as small towns, cities, states, and schools; construction, maintenance, and policies for use of facilities; purchase, care, and use of equipment; legal aspects of physical education and athletic activities. (3 cred.; grad.; MTWThF III; 214CH.) Mr. Nordly.
- 134Esu. The Secondary School and College Curriculum in Physical Education. Theory and principles of program construction applied to physical education. Critical analysis of existing programs and evaluation of activities in the light of modern trends. Practical application of principles in the construction of a program for a specific situation. (3 cred.; grad.; MTWThF IV; 215CH.) Mr. Nordly.

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



- 135Esu. Tests and Measurements in Physical Education. Critical analysis of existing research studies in physical education with special emphasis upon tests and measurements. Study of existing tests from both practical and theoretical standpoints. Use of tests in the administration of physical activity programs. Application of the principles of test construction to specific problems. (3 cred.; sr., grad.; MTWThF I; 214CH.) Mr. Keller.
- 136Esu. Leadership in Community Recreation. A study of problems of leadership in community recreation; finance, coordination of existing agencies promoting recreation facilities, activities, and public relations. (3 cred.; grad.; MTWThF II; 215CH.) Mr. Haislet.
- 138Esu. Administration of Physical Education in Colleges and Universities. A study of the problems connected with the administration of the facilities and programs in physical education and athletics in institutions of higher education. (3 cred.; grad.; MTWThF II; 214CH.) Mr. Keller.
- 141Esu. Administration and Supervision of Public Recreation. Organization of public recreation; policies and procedures relating to recreation; finance; the activity program, facilities, office management, promotion and public relations. (3 cred.; grad.; MTWThF III; 206CH.) Mr. Haislet.

## PHYSICAL EDUCATION FOR WOMEN

### INSTITUTE ON THE "POSTWAR PROGRAM FOR HIGH SCHOOL GIRLS"

The two-day institute will be held at the Center for Continuation Study on June 21 and 22. The focus will be upon present problems in health, physical education, and recreation in the average high school girls' program. A nominal fee will be charged.

### 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 to the nine-credit endorsement for teaching in the state of Minnesota are: Phys.Ed. 4, 10, 11, 13, 16, 18, 37, 41, 52, 53, 61, 64, and 84.
2. Courses applying to the state minor in physical education are: Phys.Ed. 4, 10, 11, 13, 16, 18, 37, 41, 51, 52, 53, 61, 63, 64, 65, 73, 84, 90, 116, and Ed.T. 83.
3. Courses applying to the undergraduate major in physical education are: Phys.Ed. 10, 13, 18, 37, 61, 63, 64, 65, 84, Ed.T. 83, and Ed.C.I. 114, 116E.
4. Courses applying to the degree of master of education with a major in physical education are: Phys.Ed. 111E, 112E, 113E, 116E, and Ed.C.I. 114.

### STUDENT TEACHING

The opportunity of teaching in the University Demonstration School is presented to those who can satisfy the one-credit student teaching requirement of the minor, only in the Summer Session. Integration of the physical education program with the regular classroom program is featured wherever possible. Student teaching in the form of directed observation, assistance, and substitution for the regular teacher is carefully supervised.

### FACILITIES FOR RECREATION

The swimming pool is open for recreational use from 3:00 to 5:00 p.m. Monday through Friday during both the first and second terms.

The university tennis courts and the university golf course are open to students.

¶ See Physical Education for Men for additional physical education courses at M.Ed. level.

## FEES

The rental fee for suits and towels for swimming is 10 cents apiece. The charges for tennis are \$1 for each term and for golf 50 cents for 18 holes (45 cents if one buys a coupon book of ten tickets). Towels for shower bath may be procured from the matron for 5 cents apiece.

The maximum course fee for students taking two or more courses in physical education is \$3.50 per term.

## PHYSICAL EXAMINATION

It is recommended that every woman student avail herself of the opportunity offered by the Students' Health Service for a physical examination. Everyone, but especially a teacher, should 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 and recreational swimming.

## FIRST TERM

- 1su.‡ A Course in Personal Conditioning. Meets the requirement for college credit. (½ cred.; no prereq.; MWF V; 151NGW.) Miss Bermingham.
- 4su.‡ Fundamentals of All Rhythmic Work. (1 cred.) (Not offered in 1946.)
- 7su.‡ Tennis for Beginners. (½ cred.) (Not offered in 1946.)
- 8su.‡ Golf for Beginners. Limited to 20. This course is open to those with little or no experience in golf. The fundamental strokes and individual analysis of the player's game are stressed along with the rules and etiquette of the game. (½ cred.; no prereq.; TTh V and 1 hr. ar.; 60NGW.) Miss Bermingham.
- 9su.‡ Elementary-Intermediate Golf. (½ cred.) (Not offered in 1946.)
- 10su.‡ Teachers' Course in Fundamentals of Physical Education. (1 cred.) (Not offered in 1946.)
- 11su.‡ Modern Dance. Elementary modern dance skills usable in an average high school. Simple adaptations of modern principles of composition. (1 cred.; no prereq.; MTWTh I and 1 hr. ar.; 151NGW.) Miss Bell.
- 12su.‡ Social Recreation. (1 cred.) (Not offered in 1946.)
- 13su.‡ Tumbling, Stunts, and Pyramids for Junior and Senior High Schools. Instruction and practice in technique of individual, companion, and group tumbling and stunts with progression from elementary to more advanced. Discussion and application of principles underlying pyramid building. (Self-testing activities and track and field events for girls of junior and senior high school age.) (1 cred.; no prereq.; MTWTh V and 1 hr. ar.; 153NGW.) Ar.
- 16su.‡ Elementary Tap and Social Dancing. (1 cred.) (Not offered in 1946.)
- 18su.‡ Elementary Folk Dancing and Games. (1 cred.) (Not offered in 1946.)
- 32su.‡‡ Elementary Swimming. This course is for those who are unable to swim in deep water. Instruction is given in the following aquatic skills: orientation activities, water safety skills, crawl, side stroke and backstroke, and diving for those who desire it. (1 cred.; no prereq.; MTWThF VI; 58NGW.) Miss Eibner.
- 33su.‡‡ Intermediate and Advanced Swimming. This is a course for those who can swim in deep water. Instruction in the following is included: the crawl, side stroke and back crawl, personal water safety skills, diving. The class will be divided into groups according to the ability, interests, and experience of the swimmers. (1 cred.; prereq. permission of instructor; MTWThF VII; 58NGW.) Miss Eibner.

† Health Service approval must be secured for participation in this course.

‡ A fee of \$1.75 is charged for this course.

- 37su.‡ Individual and Dual Games. This course deals with the various methods and techniques suitable for the teaching of the following sports: table tennis, archery, badminton, deck tennis, tether ball, shuffleboard. Consideration of group methods adaptable to the organization and teaching of these activities on the junior and senior high school level. This course consists of lectures and laboratory work. (1 cred.; no prereq.; MTWF VII and 1 hr. ar.; 153NGW.) Ar.
- 41su.‡ Team Sports—Fieldball, Soccer, Speedball, Volleyball, Basketball, Softball. (1 cred.) (Not offered in 1946.)
- 41su. Ballroom and Country Dance. Ballroom dance skills and country dances selected for use in high school teaching. (1 cred.; no prereq.; MTWTh II and 1 hr. ar.; 151NGW.) Miss Bell.
- 51su. School Health and Safety Education. (2 cred.) (Not offered in 1946.)
- 52su. Principles and Curriculum of Physical Education. In this course principles of philosophy, curriculum, method, and evaluation are studied in the light of their psychological, biological, and social significance. (2 cred.; prereq. permission of instructor; MTWTh II and 1 hr. ar.; 201NGW.) Miss Baker.
- 53su. Organization and Administration of Physical Education. (Not offered first term.)
- 61ABsu.‡‡ Technique of Teaching Team Sports. Special techniques for each sport and methods of teaching. Organization of extra-curricular activities. Practice in skills and student teaching within the group. (2 cred.; prereq. 21 and 41 or permission of instructor; MTWThF VI; 151NGW.) Miss Barr.
- 63su.‡‡ Technique of Folk Dancing. (Not offered first term.)
- 64su.‡‡ Technique of Teaching Group Gymnastics. A study is made of the principles of progression and methods of teaching gymnastics. Student teaching is done within the group. (1 cred.; prereq. permission of instructor; MTWF IV and 1 hr. ar.; 153NGW.) Ar.
- 65su.‡‡ Technique of Teaching Individual and Dual Games. (2 cred.) (Not offered in 1946.)
- 73Bsu.‡‡ Technique of Teaching Rhythm. A study of the methods of teaching all types of rhythmic activities. Opportunity will be given to class members to apply the methods to different types of dance. (1 cred.; MTWTh III and 1 hr. ar.; 151NGW.) Miss Bell.
- 83su.‡‡ Methods and Materials for School Health Education. (Not offered in 1946.)
- 84su. Problems in Physical Education. (Not offered in 1946.)
- 90su.‡‡ Student Teaching. An opportunity of teaching elementary school children and assisting in college classes will be provided for those who must meet a student teaching requirement in the summer. (1 cred.; prereq. permission of instructor; hrs. ar.) Ar.
- 112Esu.§ Supervision of Physical Education. Presents a consideration of the function, organization, and administration of supervision in physical education; adaptations of accepted procedures for inspection, guidance, and training of teachers in the field; standards for qualifications of supervisors; problems peculiar to supervision of physical education. (3 cred.; MTWThF III and 1 hr. ar.; 201NGW.) Miss Baker.
- 113Esu.§ Physical Education in the Elementary Schools. (Not offered first term.)
- 114Esu.§ The School Health Education Program. (Not offered first term.)
- 116Esu.§ Problems in Physical Fitness. Analysis of current physical fitness problems on the elementary, secondary, and college levels in relation to health, physical education, and recreation. Undergraduates with sufficient background in physical edu-

‡ A fee of \$1.75 is charged for this course.

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

§ Courses marked "E" carry credit toward the degree of master of education.

cation may register for the course. The number of credits allowed will depend upon the type of individual problems studied. (1 to 3 cred.; prereq. permission of instructor; MTWF IV and 1-2 hrs. ar.; 3NGW.) Miss Barr.

SECOND TERM

- 32su.†† Elementary Swimming. Class instructions given. This course is for those who are unable to swim in deep water. Instruction is given in the following aquatic skills: orientation activities, water safety skills, crawl, side stroke and backstroke, and diving for those who desire it. (1 cred.; no prereq.; MTWThF V; 58NGW.) Ar.
- 37su.‡ Individual and Dual Games. (Not offered second term.)
- 52su. Principles and Curriculum of Physical Education. (Not offered second term.)
- 53su. Organization and Administration of Physical Education. Study of care and use of facilities and equipment; organization of the physical education program from the standpoint of classification of the students, appraisal of activities, management of class. Relationship of physical education program to community. (2 cred.; prereq. permission of instructor; MTWTh VII; 201NGW.) Ar.
- 64su.†† Techniques of Teaching Group Gymnastics. (Not offered second term.)
- 65su.†† Technique of Teaching Individual Sports. (2 cred.) (Not offered in 1946.)
- 83su.†† Methods and Materials of School Health Education. (Not offered in 1946.)
- 84su. Problems in Physical Education. (2 cred.) (Not offered in 1946.)
- 111Esu.§ An Advanced Course in Methods of Teaching Physical Education. (Not offered in 1946.)
- 112Esu.§ Supervision of Physical Education. (3 cred.) (Not offered second term.)
- 113Esu.§ Physical Education in the Elementary Schools. The course deals with the problems at the elementary school level; those of the child, of the classroom teacher, of planning, of instruction, and of evaluation. (3 cred.; MTWThF II; 201NGW.) Ar.
- 114Esu.§ The School Health Education Program. (3 cred.) (See Ed.C.I. 114 on page 89.) Miss Starr.
- 115Esu. Philosophy and Trends in Physical Education. A course showing present trends and problems in physical education that would be of special interest to other health workers in the school besides the physical educator. This course is therefore not open to professional students in physical education. (3 cred.; MTWThF III; 201NGW.) Miss Starr.

† Health Service approval must be secured for participation in this course.

‡ A fee of \$1.75 is charged for this course.

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

§ Courses marked "E" carry credit toward the degree of master of education.

# SCHOOL OF BUSINESS ADMINISTRATION

## GENERAL INFORMATION

### ADMISSION

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

### SPECIAL STUDENTS

High school graduates who have reached the age of twenty-four and can furnish evidence that they have had business experience in an executive capacity may be admitted as special students. If later they decide to become candidates for a degree, they must complete the requirements for admission.

### STUDENTS IN OTHER SCHOOLS OR COLLEGES OF THE UNIVERSITY

Regularly enrolled students in other schools or colleges of the University may be admitted to such courses in the School of Business Administration as are authorized by the faculties of the School of Business Administration and the school or college concerned. Such students are urged to select their business subjects in accordance with a definite plan, and as far as possible to complete a systematic course of business study.

NOTE—Special provision has been made this summer for the direction of graduate students working on theses. For further information inquire at the office of the dean of the School of Business Administration.

An *asterisk* (\*) indicates courses that may be taken by graduate students for independent work under Plan B. (See page 18.)

### FIRST TERM

Econ.3su. Elements of Money and Banking. The basic principles of money and a description of the various types of financial institutions, their functions and relations to the whole economic organization. (3 cred.; 2nd and 3rd qtr. fr., soph., jr., sr.; no prereq.; Sec. 1, MTWThF I, 205VH, Miss Canoyer; Sec. 2, MTWThF V, 205VH, Mr. Graves.)

Econ.5su. 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.; Sec. 1, MTWThF III, 207VH, Mr. Graves; Sec. 2, MTWThF V, 207VH, Mr. Childs.)

Econ.6su. Principles of Economics. A course in the fundamental principles of economics intended to serve as a foundation for advanced courses in business administration and economics. (3 cred.; soph., jr., sr.; no prereq.; Sec. 1, MTWThF I, 6VH, Mr. Stigler; Sec. 2, MTWThF III, 221VH, Mr. Childs.)

Econ.7su. Principles of Economics. A continuation of Econ. 6su. (3 cred.; soph., jr., sr.; prereq. Econ. 6; MTWThF IV; 221VH.) Ar.

B.A.54su.† Elementary Accounting: Combined Course. The financial statements; analysis of transactions; recording; special books and journals; adjusting and closing entries; worksheets; capital stock; surplus and reserves; funds. (4 cred.; jr., sr.; no prereq.; Sec. 1, MTWF II and MW VI-VII½, 6VH, Mr. Ostlund; Sec. 2, MTWF III and TTh VI-VII½, 6VH, ar.)

† B.A. 54-55 is a combination of Econ. 20 and 25-26.

- B.A.89su. Production Management. Location and layout of industrial plants; types of operating organization; shop personnel; standards of operation; purchasing and inventory control; routing, scheduling, and dispatching of product; scientific management; practical problems in production control. (3 cred.; jr., sr.; no prereq.; MTWThF I; 2VH.) Mr. Filipetti.
- B.A.101su. Advanced General Economics. (For the Summer Session this course is the equiv. of Econ. 103.) A detailed analysis of price determination under competitive and monopolistic conditions, with special emphasis on rigorous training in the techniques of modern economic analysis. The major topics are laws of return, demand curves, cost curves, and short and long run prices under various types of competition. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; Sec. 1, MTWThF II, 221VH, Mr. Boddy; Sec. 2, MTWThF III, 2VH, Mr. Stigler.)
- B.A.118su. Auditing Procedure. A laboratory course in auditing procedure. Class instruction in auditing technique and the preparation of a complete set of working papers and an audit report. (3 cred.; jr., sr., grad.; prereq. B.A. 139 or 151; MW III, 105VH and TThF VI-VII, 307VH.) Mr. Miller.
- B.A.130su.‡ Cost Accounting Survey. A general survey of cost accounting from the point of view of the executive who must use cost information in the conduct of his business. (3 cred.; jr., sr., grad.; prereq. Econ. 25-26; MTWThF IV; 2VH.) Mr. Ostlund.
- Econ.140su. The Cooperative Movement. The history and philosophy of various cooperative developments. Similarities and contrasts between such movements as agricultural marketing cooperatives, consumer cooperatives, trade unions, and others. Consumer cooperation as a medium for economic control. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF IV; 205VH.) Miss Canoyer.
- B.A.142su. Advanced Money and Banking. (For the Summer Session this course is the equiv. of Econ. 141.) The problems of a central bank and the theory of the value of money. Includes control of reserves, providing a scientific currency, regulation of credit; fluctuations of the general price level—their causes and possible reduction. (3 cred.; jr., sr., grad.; prereq. Econ. 3 and either 6-7 or 83; MTWThF V; 6VH.) Mr. Myers.
- Econ.149su.\* Business Cycles. Analysis of factors involved in business fluctuations. Comparison of theories of the cause of prosperity and depression. Introduction to the statistical data and methods of business forecasting. (3 cred.; sr., grad.; prereq. Econ. 141 or B.A.142 or consent of instructor; MTWThF II; 205VH.) Mr. Myers.
- B.A.150su. Accounting Practice and Procedure. A course in the practice and technique of accounting for students who intend to specialize in accounting. (3 cred.; jr., sr., grad.; prereq. Econ. 26 or B.A. 55; MTWThF I; 221VH.) Mr. Miller.
- Econ.175su. Government Regulation of Business. A general course on the economic aspects of legislation affecting the pricing process and the distribution of the national income. Topics studied include economic origins of modern business limitations on free competition; regulation of public utilities, trusts and combinations, and "unfair competitive practices;" positive assistance to industrial groups. (3 cred.; jr., sr., grad.; prereq. 20 cred. in soc. sci. including Econ. 6-7 or 83; MTWThF V; 221VH.) Mr. Boddy.
- Econ.176su. International Commercial Policies. Theory of international commerce; protective tariffs, free trade, reciprocity, subsidies, preferential treatment, the open door, international finance, commercial treaties, foreign politics, and other governmental and organized efforts to affect trade. American problems emphasized. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF I; 207VH.) Mr. Blakey.

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

- B.A.184su.\* The Administration of Industrial Enterprises (Scientific Management in Industry). The purpose of the course is to provide an interpretation of the function of administration in the field of business organization and operation. It includes an analysis of the evolution, present status, and trend of administration; of the relationship of administration to public policy and to the management of industry. Persons interested in business fields, government administration, or in teaching business subjects will find this course of particular value. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or equiv.; MTWThF III; 205VH.) Mr. Filipetti.
- Econ.189su. Principles of Taxation. (For the Summer Session this course may be substituted for B.A. 58.) Development of taxation; property, income, commodity, sales, inheritance, and other taxes; shifting incidence and other effects; federal, state, and local relations; special problems. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF II; 207VH.) Mr. Blakey.

NOTE—A student may not receive credit for both Econ. 189 and Econ. 191-192.

Econ.260su. Graduate Research. (Arranged.) Major members of the staff.

#### SECOND TERM

- Econ.3su. Elements of Money and Banking. The basic principles of money and a description of the various types of financial institutions, their functions and relations to the whole economic organization. (3 cred.; 2nd and 3rd qtr. fr., soph., jr., sr.; no prereq.; MTWThF I; 6VH.) Mr. Nightingale.
- Econ.6su. Principles of Economics. A course in the fundamental principles of economics intended to serve as a foundation for advanced courses in business administration and economics. (3 cred.; soph., jr., sr.; no prereq.; MTWThF II; 205VH.) Ar.
- Econ.7su. Principles of Economics. A continuation of Econ. 6su. (3 cred.; soph., jr., sr.; prereq. Econ. 6; Sec. 1, MTWThF II, 6VH, Mr. Nightingale; Sec. 2, MTWThF V, 205VH, ar.)
- Econ.20su. Elements of Accounting. The principles underlying bookkeeping and accounting. Sufficient practice in technical processes will be given to serve as a background for more advanced work. Preparation and analysis of statements. (3 cred.; 3rd qtr. fr., soph., jr., sr.; no prereq.; MTWThF III; 6VH.) Mr. Chute.
- B.A.55su.† Elementary Accounting: Combined Course. Bonds and amortization, sinking funds, determination of income, depreciation, intangibles, inventories. (4 cred.; jr., sr.; prereq. B.A. 54; MTWF IV and MW VI-VII½; 6VH.) Mr. Heilman.
- B.A.102su. Advanced General Economics. (A continuation of B.A. 101su. For the Summer Session this course is the equivalent of Econ. 104.) Theory of the distribution of wealth and income. General distribution theory, wages, rent, and interest. (3 cred.; jr., sr., grad.; prereq. B.A. 101 or Econ. 103; MTWThF I; 2VH.) Mr. Mudgett.
- B.A.112su.‡ Business Statistics. Survey and criticism of methods used in analyzing time-series, with special applications to the study of cyclical fluctuations of economic phenomena. (3 cred.; jr., sr., grad.; prereq. Econ. 5 or B.A. 70; MTWThF II, 2VH.) Mr. Mudgett.
- B.A.134su. Income Tax Accounting. The principles involved in determining taxable net income and the computation of federal and state income taxes for corporations, individuals, and trusts. (3 cred.; jr., sr., grad.; prereq. B.A. 139 or 150-151; MTWThF III; 205VH.) Mr. Reighard.
- B.A.135su. Auditing and Public Accounting. The application of principles and technical methods used in professional auditing practice. Typical fraud and errors in account-

† B.A. 54-55 is a combination of Econ. 20 and 25-26.

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

- ing records, auditors' working papers, financial exhibits, certificates, and reports are studied. (3 cred.; jr., sr., grad.; prereq. B.A. 118; MTWThF V; 207VH.) Mr. Reighard.
- B.A.146su. Investments. A general survey of the external and internal factors influencing the prices of securities and of the principles of an investment policy for the needs of the average conservative investor. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF II; 221VH.) Mr. Stehman.
- B.A.151su. Accounting Practice and Procedure. A continuation of B.A. 150su. (3 cred.; jr., sr., grad.; prereq. B.A. 150; MTWThF II; 207VH.) Mr. Heilman.
- B.A.155su. Corporation Finance: Incorporation. The various types of corporate securities and their uses. Financial plans for industrial, utility, and other types of corporation. Financial affairs of an established business. General financial problems of the holding company, consolidations, mergers, and reorganizations. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF IV; 221VH.) Mr. Stehman.
- Econ.161su. Labor Problems and Trade Unionism. A discussion of employment, hours, wages, types of unionism, policies, and practices of labor organization. Special emphasis upon economic implications of modern working conditions. (3 cred.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF I; 221VH.) Mr. Yoder.
- B.A.167su. Personnel Administration. Evaluation of managerial policies and devices designed to secure the cooperation and efficient participation of employees in business, industry, and government. Attention is directed especially to the determination of labor needs, job analysis and classification, methods of recruiting workers, selective devices, training and safety programs, service rating, employment stabilization, collective bargaining, and compensation. (3 cred.; jr., sr., grad.; prereq. Econ. 161; MTWThF III; 2VH.) Mr. Yoder.
- Econ.185su. Economics of Marketing. (For the Summer Session this course may be substituted for B.A. 77.) 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.; jr., sr., grad.; prereq. Econ. 6-7 or 83; MTWThF V; 221VH.) Mr. Chute.
- Econ.260su. Graduate Research. (Arranged.) Major members of the staff.



## INSTITUTE OF CHILD WELFARE

The Institute of Child Welfare was organized for three purposes: research in child development; the training of future workers with children; and bringing to the people of the state information on the care and training of children by means of a parent education program. The institute offers graduate and undergraduate courses, some of which are in co-operation with the College of Education, and conducts a nursery school and kindergarten for demonstration and research purposes.

### NURSERY SCHOOL AND KINDERGARTEN

The Nursery School and Kindergarten will be in session from 9:00 a.m. to 1:00 p.m. beginning June 19 and closing July 26. Applications for the enrolment of children will be received at the office of the institute. The fee will be \$20 for tuition, which includes orange juice and lunch at noon. A few additional children can be accommodated from 9:00 to 11:45 a.m., with no lunch served but including orange juice, at a tuition fee of \$15.

Responsibility for transportation to and from schools must be taken by the parents.

### WORKSHOPS IN CHILDHOOD EDUCATION AND CHILD DEVELOPMENT

During the first term of the Summer Session the Institute of Child Welfare, with the cooperation of the College of Education, offers two Workshops in Childhood Education and Child Development, one at the undergraduate level and one at the graduate level, which will be of special interest to teachers in the primary grades, kindergarten, and the nursery school. These workshops will be of value to people wishing to secure more training to renew certificates or to prepare for work with children. Credits obtained may be used toward an elementary education major. Students may register for these workshops under either Ed.T. 78su. or C.W. 86su., or Ed.C.I. 131su. or C.W. 186su. for 9 quarter credits. Registration is limited. Anyone interested should write to Dr. John E. Anderson, Director, Institute of Child Welfare, 101 Pattee Hall, University of Minnesota, Minneapolis 14, Minnesota.

#### FIRST TERM

40su. Child Training. (3 cred.; soph., jr., sr.; prereq. Psy. 1-2; MTWF IV and 1 hr. ar.; 202Pt.) Mrs. Cummings.

86su.‡ Workshop in Childhood Education. (Same as Ed.T. 78su.) A full program for six weeks. Students attend the lectures in Ed.T. 55su., Principles of Early Childhood Education. For the remaining credit, students are divided into individualized study and special interest groups, but also work as a whole. Experience in the use of play and plastic materials, story telling and rhythms, and other educational and group activities for young children will be given. Conferences, supervised group work, and independent study. Observations in the Nursery School, Kindergarten, and the Elementary Demonstration School. Credit allowed toward nursery-kindergarten-primary or elementary education major and substitution, upon petition, permitted for certain required courses in the outlined curriculum. (9 cred.; jr., sr.; hrs. ar.: 5Pt.) Mrs. Fuller, Miss Headley, Miss Peterson.

131su. Personality, Emotional, and Social Development of the Child. (3 cred.; sr., grad.; prereq. 12 cred. in psy, or equiv.; MTWThF I; 202Pt.) Miss Templin.

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

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

- 150su.‡ Problems of Childhood Education. (Same as Ed.C.I. 130.) (3 cred.; sr., grad.; prereq. 12 cred. in ed.; MTWF IV and 1 hr. ar.; 5Pt.) Mrs. Fuller.
- 170su. Parent Education. (3 cred.; sr., grad.; prereq. 15 cred. in psy., ed., home econ., or soc.; MTWThF II, 202Pt.) Mrs. Cummings.
- 186su.‡ Laboratory in Childhood Education and Child Development. (Same as Ed.C.I. 131.) Workshop. A full program for six weeks open to 50 applicants. Each student will be required to attend C.W. 150 (Ed.C.I. 130) Problems of Childhood Education and the lectures in either Ed.T. 56su., Permanent Play Materials, or Ed.T. 59su., Story Telling for Young Children, or in special instances in another approved course. For the remainder of their work the students will be in a workshop divided into special interest groups, but also working as a whole. Independent study, conferences, observations, group work, etc., under the supervision of Mrs. Fuller, Miss Headley, and Miss Peterson. Observation in the Nursery School, Kindergarten, child care centers, and the Demonstration School. (9 cred.; sr., grad.; prereq. permission of the director of the Institute of Child Welfare to whom advance application should be made; hrs. ar.; 5Pt.) Mrs. Fuller, Miss Headley, Miss Peterson.
- 270su.\* Readings in Child Development. (Cred. ar.; grad. students only; hrs. ar.) Mr. Anderson.

The following courses: Ed.T. 55su, Principles of Early Childhood Education; Ed.T. 76Asu., Methods and Observation in the Nursery School; Ed.T. 76Csu., Methods and Observation in the Kindergarten; Ed.T. 77A or Csu., Directed Teaching, and Ed.T. 78su., Workshop in Childhood Education, listed under Methods and Directed Teaching on page 96; and Ed.C.I. 130su., Problems in Childhood Education, and Ed.C.I. 131su., Laboratory in Childhood Education and Child Development are also offered by the College of Education.

#### SECOND TERM

- 80su. Child Psychology. (3 cred.; jr., sr.; prereq. Psy. 1-2; MTWThF II; 202Pt.) Ar.
- 130su. Motor, Linguistic and Intellectual Development of the Child. (3 cred.; sr., grad.; prereq. 12 cred. in psy. or equiv.; MTWThF III; 202Pt.) Miss Kuenne.
- 141su. Behavior Problems of Older Children. (3 cred.; sr., grad.; prereq. 12 cred. in psy., ed. psy. or soc.; MTWThF I; 202Pt.) Miss Kuenne.
- 270su.\* Readings in Child Development. (Cred. ar.; grad. students only; hrs. ar.) Miss Kuenne.

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

## LIBRARY INSTRUCTION

Beginning with the 1946 Summer Session, the Division of Library Instruction is offering the first of a series of integrated eight-week terms, which will allow a student to complete the full library course in four summers in place of the five or more required formerly. During these eight weeks, basic courses will be offered jointly for beginners and advanced courses for students who have already partially completed the program. The same procedure will be followed in succeeding summers.

NOTE—Course numbering follows that of the revised curriculum; see the Division of Library Instruction Announcement for the years 1945-47.

Fees for the eight-week term include: tuition \$34.40, incidental fee \$7, deposit \$2, total \$43.40.

In order to provide for completion of courses in the proper sequence in subsequent Summer Sessions, students enrolling in the division for the first time who plan to complete a major should enroll for the following courses:

Lib.Sci.50su .....	3 credits	Lib.Sci.62su .....	2 credits
Lib.Sci.60su .....	3 credits	Pol.Sci.121su .....	3 credits

### FIRST TERM (8 Weeks)

- Lib.Sci.50su. Libraries and Society. History of libraries; types of libraries, library agencies and services; libraries in the modern world; librarianship as a profession. (3 cred.; no prereq.; MWF II and 1 hr. ar.; 5Lib.) Mr. Strout.
- Lib.Sci.51su. Origins of the Book. Survey of writing and the materials and methods of writing from earliest times through the spread of printing in the fifteenth century. (2 cred.; no prereq.; TTh III and 1 hr. ar.; 5Lib.) Mr. Strout.
- Lib.Sci.53su. School Library Administration. The organization and management of libraries in schools. (3 cred.; prereq. Ed. 51A-B-C, or Ed.Ad. 263, or Pol.Sci. 121w; MWF II and 1 hr. ar.; 3Lib.) Mrs. Douglas.
- Lib.Sci.54su. Public Library Administration. Management problems in public libraries; finance, personnel, equipment, extension work, etc. (3 cred.; prereq. Pol.Sci. 121w; MWF I and 1 hr. ar.; 3 Lib.) Ar.
- Lib.Sci.55su. College Library Administration. A survey of administrative problems in libraries of institutions of higher education. (3 cred.; prereq. Pol.Sci. 121w; MWF I and 1 hr. ar.; 5Lib.) Mr. Strout.
- Lib.Sci.60su. Sources of Information about Books. Reviewing media, "best" lists, trade bibliographies, etc. Principles of book selection and order work. (3 cred.; no prereq.; MWF III and 1 hr. ar.; 5Lib.) Ar.
- Lib.Sci.61su. Library Practice. Practice under supervision, in Minneapolis and St. Paul libraries. The time and character of the practice will be individually arranged to suit student aptitudes and needs. (4½ cred. for College of Education students to meet requirements of the Minnesota State Education Department for school librarians; for others, 3 cred.; prereq. 15 cred. in Lib.Sci. or satisfactory library experience.) Mr. Strout.
- Lib.Sci.62su. Reference I. General reference tools and other sources of information in reference work; theory and practice of reference work. (2 cred.; no prereq.; TTh II and 1 hr. ar.; 5Lib.) Mrs. Douglas.

- Lib.Sci.65su. National and Regional Bibliography. The most important national and regional bibliographies in English and other languages; their use as aids in book selection and acquisition; the history of bibliography. (2 cred.; no prereq.; TTh I and 1 hr. ar.; 5Lib.) Miss Rosholt.
- Lib.Sci.72su. Reading Guidance for Adolescents. Book selection and reading guidance for the adolescent; the adolescent in the public library and in the high school library. (3 cred.; prereq. Lib.Sci. 70f; MWF IV and 1 hr. ar.; 3Lib.) Mrs. Douglas.
- Lib.Sci.73su. Reading Guidance for Adults. Factors affecting adult use of the library; reading interests of adults; book selection for adults; biography of the book world. (3 cred.; prereq. Lib.Sci. 70f; MWF IV and 1 hr. ar.; 5 Lib.) Ar.
- Lib.Sci.82su. Cataloging and Classification. Methods of dictionary card cataloging and shelf classification, especially for small libraries; Sears' *Subject Headings* and Dewey's *Decimal Classification*. (4 cred.; MTWThF VI; 5Lib.) Miss Rosholt.
- Lib.Sci.85su. Special Problems. Individual study on library problems for advanced students in Library Science. (1-3 cred.; prereq. approval of director, Division of Library Instruction; ar.) Mr. McDiarmid, Mr. Strout, Mrs. Douglas.
- Pol.Sci.121su. Municipal Administration. A general survey of overhead administration with special emphasis upon such topics as administrative organization, personnel, purchasing, contracting, budgeting, accounting, reporting. (3 cred.; 6 weeks; jr., sr., grad.; prereq. 120 or consent of instructor; MTWThF I; ar. Mr. Ludwig.

# THE GENERAL COLLEGE

## GENERAL INFORMATION

The General College offers a two-year program in higher education leading to the degree of associate in arts. Admission to the college requires graduation from an accredited high school or the passing of university entrance tests, but no specific pattern of high school subjects is required. Students who because of inadequate preparation or poor high school record do not qualify for admission to other colleges of the University, may remedy these deficiencies or demonstrate their ability to handle work of college calibre through a careful selection of courses in the General College.

For general information about the college program, requirements for transfer to other colleges, requirements for the associate in arts degree, and general regulations, students should consult one of the administrative or counseling officials or the complete bulletin of the General College. Courses successfully completed in the Summer Session may be applied towards fulfilling the requirements of comprehensive areas and examinations described in detail in the college bulletin.

### FIRST TERM

- 5su. Problems of Contemporary Society. Emphasis on analysis of world problems resulting from the Industrial Revolution; the interplay of nationalism; the sovereign states; power politics; imperialism, and the solution of those problems; historical background of present society; the understanding of the causes of war; unemployment; and over-production; the kind of international political and economic order, and the amount of social security that might be expected in the foreseeable future. The point of departure is contemporary America. The obligations and responsibility of individuals in contributing to the solution of world problems is a primary objective. (3 cred.; all; no prereq.; MTWThF I; 101WeH.) Mr. McCune.
- 6su. 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.; MTWThF III; 101WeH.) Mr. McCune.
- 10ABsu.† Human Biology. This course covers the fundamental portions of general biology and human physiology. The general objective is to develop understanding of man as a biological animal. (6 cred.; all; no prereq.; MTWThF VI-VII; 201WeH.) Mr. J. Merle Harris.
- 23Asu.‡‡ Art Laboratory. The work in the Art Laboratory aims to give students actual experience in art production. The problems of the laboratory are individual and may be selected according to the student's own needs and interests. Supplies and equipment are available for experimentation and production in a variety of mediums. The purpose of the course is to give the students a fundamental knowledge of various mediums in relation to art today. No special skills necessary. (3 cred.; all; no prereq.; MTWThF I-II; 301WeH.) Mr. Hulse.
- 30Bsu. Literature Today. This course considers themes and techniques of literature today and will assist students in evaluating and selecting contemporary books, both fiction and non-fiction. (3 cred.; all; no prereq.; MTWThF II; 206WeH.) Mr. Reisman.

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

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

- 31Asu. Writing Laboratory. This course uses the student's writing abilities as a basis for individual instruction in effective written expression. (3 cred.; all; no prereq.; Sec. 1, TWThF I-II, 302WeH, Miss Sheldon; Sec. 2, MTWTh VI-VII, 302WeH, Mr. Reisman.)
- 31Bsu. Business Letters and Reports. The course, which applies the materials in 31A to expository writing, emphasizes letter writing and reports. (3 cred.; all; prereq. 31A; MWF III-IV; 302WeH.) Miss Sheldon.
- 32Asu.†† Speech Laboratory. This is a basic course planned to promote better understanding of and greater proficiency in the speech skills of everyday communication. Problems of mental hygiene and speech fears and inadequacies are analyzed. Special emphasis is also given to language and vocabulary. Recordings serve as a basis for ear training and voice improvement. (3 cred.; all; no prereq.; MTWThF III; 306WeH.) Mrs. Graves.
- 33Asu.†† Speech Studio. Students experiment in creating and in interpreting speech art forms. Radio scripts are studied and produced. Special emphasis is given to the voice element of speech. This course is planned to give students more insight into the problems of interpreting imaginative literature, to promote critical listening, to encourage active participation in speech arts. (3 cred.; all; no prereq.; MTWThF I; 306WeH.) Mrs. Graves.
- 35Asu. Fundamentals of Mathematics. A review of certain useful parts of elementary mathematics, and such topics as our number system, fundamental operations with arithmetic and algebraic fractions, simple equations, factoring, and exponents. (3 cred.; all; prereq. one year of high school algebra; Sec. 1, MTWThF II, 201WeH, Th VII, 206WeH; Sec. 2, MTWThF VI, Th VII, 206WeH.) Ar.
- 42Asu. Human Development. This course presents a general outline of human development through childhood, adolescence, and early maturity by surveying physical growth, learning, and development of motor, linguistic, intellectual, and social skills, emotional life and adjustment. The primary purpose is to achieve understanding of one's self and others. (3 cred.; all; no prereq.; MTWThF I; 206WeH.) Mr. Dale Harris.
- 42Bsu. Personal Adjustment. This course deals with the individual's effective adjustment to social environment and pressures, the origin and nature of attitudes and complexes, and the psychology of social conflict. Attention is given to educational and vocational adjustment, the role of family life in democratic society, and the problems of personal adjustment in family and married life. (3 cred.; all; no prereq.; MTWThF III; 206WeH.) Mr. Dale Harris.

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

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*Bulletin of the University of Minnesota*

KUOM  
RADIO  
PROGRAM  
IN  
AMERICAN  
STUDIES

SUMMER  
1946

# American Studies

The Summer Session of the University of Minnesota and the University radio station, KUOM (770 kilocycles) join in presenting the following events in the Program in American Studies, from June 17 to August 30, 1946. These broadcasts will bring to the general public in Minnesota and the upper Mississippi Valley representative lectures and recitals which supplement the classroom curricula of the program, and two of the numerous courses in American Studies offered during the summer.

## Convocations in American Studies

Five summer convocations sponsored by the Program in American Studies will be held at 11:00 a.m. on Thursdays in Northrop Auditorium. Like all university convocations they will be open to the public and will be broadcast by KUOM.

July 11: ORCHESTRAL PROGRAM OF AMERICAN MUSIC, Paul Oberg, Chairman of the Department of Music, conducting.

July 18: LITERATURE OF THE AMERICAN NEGRO, Sterling A. Brown, Professor of English in Howard University, poet, author of *The Negro in American Literature*, and co-editor of *The Negro Caravan*.

August 1: ORCHESTRAL PROGRAM OF AMERICAN MUSIC, Paul Oberg, Chairman of the Department of Music, conducting.

August 15: AN ENGLISHMAN IN THE UNITED STATES, Denis W. Brogan, Professor of Political Science, Cambridge, University, author of *The American Character*, *The English People*, *Government of the People*, etc.

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## BULLETIN OF THE UNIVERSITY OF MINNESOTA

Volume XLIX

Number 17

May 20, 1946

Entered at the post office in Minneapolis as semimonthly second-class matter, Minneapolis, Minnesota. Accepted for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 12 1918.

August 22: AMERICA IN GERMANY, J. Frank Dobie, Professor of English in the University of Texas and Lecturer in the American Army of Occupation, author of *Coronado's Children*, *A Texan in England*, etc.

11:00 a.m. over KUOM (770) on July 11, July 18, August 1, August 8, and August 22.

## Lectures on American Civilization

Free public lectures on Civilization in the United States will be presented by the Program in American Studies during the first term of the Summer Session, at 3:00 p.m. in the auditorium of the Museum of Natural History.

The lectures will be broadcast by KUOM one hour after delivery, at 4:00 p.m.

June 19: Arthur Bestor, Associate Professor of History, Stanford University: AMERICAN STUDIES.

June 26: William H. Kilpatrick, Emeritus Professor of Philosophy of Education, Columbia University: MODERN EDUCATION.

July 3: Herbert W. Schneider, Professor of Philosophy, Columbia University: PHILOSOPHY TODAY.

July 10: Paul Engle, poet: AMERICAN EARTH.

July 17: James Farrell, novelist: SOCIAL OBLIGATIONS OF THE NOVELIST.

July 24: Alfred Kazin, literary critic: REPORT TO THE NATION.

4:00 p.m. over KUOM (770) on June 19, June 26, July 3, July 10, July 17, and July 24.

## Lecture-Recitals on American Music

Alfred Frankenstein, Music Critic of the San Francisco *Chronicle* and Program Editor of the San Francisco Symphony Orchestra, will give four lectures in American Music in Murphy Hall Auditorium at 3:00 p.m. on June 24, 25, 26, 27, and 28. These lectures will not be broadcast.

These public lectures will be followed by radio talks on American Music by Mr. Frankenstein, on Monday, Wednesday, and Friday, June 24, 26, and 28; from 7:30 to 8:00 p.m. KUOM will follow each talk by a concert of American Music. These studio programs are not open to the public.

7:30 p.m. over KUOM (770 kilocycles), June 24, 26, 28.

## Classroom Lectures

One course in the Program in American Studies will be broadcast by KUOM directly from the classroom during each term of the Summer Session, at 11:00 on Monday, Tuesday, Wednesday, and Friday.

*First term (June 19-July 26): THE NEGRO IN AMERICAN LITERATURE* by Sterling A. Brown, Professor of English, Howard University.

*Second term (July 29-August 30): THE AMERICAN CHARACTER* by Denis W. Brogan, Professor of Political Science, Cambridge University.

11:00 a.m. over KUOM (770) on Monday, Tuesday, Wednesday, Friday, June 17-August 30.

## Studio Broadcasts of American Music

KUOM will broadcast a weekly program of American Music, both folk and classical, on Mondays 7:30-8:00 p.m., using local and visiting artists and commentators, recordings, and transcriptions. These studio recitals are not open to the public.

7:30 p.m. over KUOM (770) on Mondays, June 17 to August 26.

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## BULLETIN

of the

UNIVERSITY OF MINNESOTA  
MINNEAPOLIS 14, MINNESOTA

Entered as second-class matter at  
the Post Office in Minneapolis

*The Bulletin of the*  
**UNIVERSITY of MINNESOTA**

I Term Summer 1946  

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Registration Instructions  

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Bulletin Changes

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**Volume XLIX, Number 19**

**June 10, 1946**

*Entered at the post office in Minneapolis as semi-monthly second-class matter, Minneapolis, Minnesota. Accepted for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 12, 1918*

## Registration Procedure for Veterans

Upon arriving at the University report to the Office of the University Bureau of Veterans Affairs, 203 Eddy Hall for general instruction and information. Bring your letter of eligibility for training obtained from the Veterans Administration. If enrolling in the College of Agriculture, Forestry, and Home Economics report to 207 Administration Building, University Farm.

Veterans who have not applied for authorization for training should

Fill out a copy of Veterans Administration Form 1950, which is a request for educational benefits under Public Law 346 "G.I. Bill." If disabled, due to a service-connected disability, file Form 526. If you are eligible and are given a pension, and have a vocational handicap, you may be entitled to a full four-year educational course under Public Law 16. Copies of these forms may be obtained at the Veterans Administration Facility at 54th St. and 48th Ave., Minneapolis 6.

Send or take the forms to the Veterans Administration (54th St. and 48th Ave., Minneapolis 6).

Every quarter for the duration of your training authorization you should proceed as follows:

1. **Register** in the same manner as all other students in your college and obtain statement of fees.
2. **Present fee statement and Veterans Administration authorization for training to Trainee Account Clerk.** Window 18, Office of Admissions and Records, to have statement approved for collection from Veterans Administration. If you are enrolling in the College of Agriculture, Forestry, and Home Economics, present fee statement to Office of Admissions and Records, 203d Administration Building, University Farm. **Veterans who do not have authorizations** may present their fee statements to the trainee account clerk for special accommodation. The Veterans Administration will not pay the \$5 matriculation deposit required of new students. Veterans will be required to pay this fee personally.
3. **Obtain fee receipt from Bursar.** Turn in your approved fee statement to the Bursar, who will give you a receipt showing that your fees are being paid by the Veterans Administration. If you are enrolling in the College of Agriculture, Forestry, and Home Economics, turn in your approved fee statement to the Cashier, 203b Administration Building, University Farm, who will give you a receipt showing your fees are being paid by the Veterans Administration.
4. **Present fee receipt and Veterans course list, signed by your adviser, to Bureau of Veterans Affairs, 150 Physics Building,** to obtain purchase voucher on the basis of which books and supplies may be obtained from one of the University Bookstores. **Veterans enrolled in the College of Agriculture, Forestry, and Home Economics should present fee receipt and Veterans course list at 207 Administration Building, University Farm.** Required books and supplies, including Chemistry Deposit Cards and rental cards for lockers and microscopes are issued on the basis of these vouchers. Each department in the University prepares lists of requirements for each course and approval is based on these lists.
5. **Cancellation of registration.** It is very important that veterans who discontinue attendance notify the Office of Admissions and Records; University Bureau of Veterans Affairs, 203 Eddy Hall, or 207 Administration Building, University Farm (Agriculture, Forestry, and Home Economics students); and Mr. J. G. Pease, Veterans Administration, Minneapolis 6, of this fact as soon as they terminate their attendance.

# Registration Instructions, First Term, Summer 1946

Monday-Tuesday, June 17-18

## ADMISSION: FIELD HOUSE

Students who have had no previous college work must satisfy admission requirements to attend Summer Session. Admission certificates may be obtained at the Field House.

Students with previous college work may attend the Summer Session as special students without submitting credentials. **Students must file credentials and satisfy admission requirements to continue fall quarter.**

Nonresidents must satisfy the following requirements to continue at the University beyond the current Summer Session.

By action of the Board of Regents of the University of Minnesota taken because of the present veterans' educational emergency, our admissions requirements necessarily have been revised for nonresident undergraduates. Only if you are a veteran whose home is in the area which is economically and educationally related to Minnesota (adjacent states), and only if you rank in the upper 25 per cent of your high school class or have an average of "B" or better for transfer purposes, are we permitted to give preliminary consideration to your application. If you are a nonveteran from the same region, you must stand in the upper 10 per cent of your high school class or have an average of "B" or better for advanced standing to enable our consideration of your application.

## REGISTRATION

### 1. Registration material and approval of registration

#### a. Field House

Students in the following colleges will obtain registration material and have their programs approved at the department tables in the Field House: (See floor plan, pages 8-9.)

Veterans should request Veterans' course list in addition to regular registration material.

**ALL STUDENTS**—Business Administration, Education, Graduate School, Library Training, Physical Therapy, Public Health, Public Health Nursing.

**SPECIAL STUDENTS FOR SUMMER ONLY**—Institute of Technology, Medical School, Science, Literature, and the Arts.

**S.L.A. STUDENTS IN RESIDENCE SPRING, 1946**, who did not register in advance for Summer Session.

**Graduate registrations must be approved by the major department and also by the Graduate School.**

A maximum of nine credits or two five-credit courses is considered a full program for either term. Registration for a greater number of credits requires approval of the college. See floor plan, pages 8-9, for location of college representatives.

#### b. College Offices

Students in the following colleges will obtain registration material and have their programs approved at their college offices:

Veterans should request Veterans' course list in addition to regular registration material.



## ALL STUDENTS

Agriculture, Forestry, and Home Economics	Farm Campus, 203d Administration Building
Dentistry	149 Medical Sciences Building
Dental Hygiene	106 Medical Sciences Building
General College	300 Westbrook Hall
Law School	204 Law Building
Medical School (Regular students)	136 Medical Sciences Building
Medical and X Ray Technology	M410 University Hospitals
Pharmacy	101 Wulling Hall
University College	146 Physics Building

**REGULAR STUDENTS** continuing beyond Summer Session in Institute of Technology:

Architecture and Engineering Curricula, Main Engineering Building, Chemistry, Chemical Engineering, and Physics, Chemistry Library, Mines and Metallurgy, 103 Appleby Hall.

Science, Literature, and the Arts, 103 Folwell Hall (except students who were in Science, Literature, and the Arts spring, 1946)

2. **Tally**—Approved registration blanks for all colleges except Agriculture, Forestry, and Home Economics must be tallied at the Tally Desk in the Field House. (Agriculture, Forestry, and Home Economics students will tally, obtain fee statements, post office box assignment and pay fees at the Administration Building, University Farm.)
3. **Fee Statements**—Tallied registration blanks for all colleges should be turned in at a fee statement table in the Field House where statement of fees will be issued. Freshmen must present admission certificates, slips showing Medical and Speech Tests to have been taken or appointments made and census cards. (Census cards may be obtained at new student table at Field House entrance.)
4. **Post-office Boxes**—Present fee statement at post-office table to receive post-office box assignment. The post-office boxes are located on the ground floor of the Coffman Union. All official communications as well as other mail will be placed daily in the post-office box assigned.
5. **Pay Fees at Bursar's Office**, first floor, Administration Building by 4 p.m. Tuesday, June 18. Students should retain their fee receipts for presentation to instructors and for admission to Summer Session activities.
6. **Classes begin Wednesday, June 19**, at 8 a.m. Farm campus classes start at 7:45 a.m.

# Summer Session Bulletin Changes

## COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

### American Studies Program

#### *Second Term*

#### Room Change:

132su. The Cowboy in History and Literature. (MTWThF III; 322F.)

#### Classics

##### GREEK

#### *First Term*

#### Room Change:

171su. Independent Reading Course. (MTWThF II; 115F.)

#### English

##### LITERATURE

#### *First Term*

#### Cancellation:

37su. Twentieth Century Literature.

#### Addition:

38su. Twentieth Century Literature. Poetry and Drama. (3 cred.; fr. qualified to take Eng. A-B-C, soph., jr., sr.; MTWThF III; 322F.) Mr. Cronin.

#### Room Changes:

56su. Shakespeare. (MTWThF II; 113F.)

105su. Dryden and Pope. (MTWThF II; 316F.)

#### COMPOSITION

#### Room Changes:

Preparatory Composition. (MTWThF I, II, III; 12F.)

4su. Freshman Composition. (Sec. 2, MTWThF II, 321F.; Sec. 3, MTWThF III, 145Ph. and 306F.)

5su. Freshman Composition. (Sec. 1, MTWThF III, 109F., 125F., 311½F., 8F.; Sec. 2, MTWThF II, 311½F. and 8F.; Sec. 3, MTWThF III, 212F.)

6su. Freshman Composition. (Sec. 1, MTWThF II; 205F., 9F., 10P., 218P.; Sec. 2, MTWThF IV, 6F.)

27su. Advanced Writing. (Sec. 1, MTWThF II, 304F., 10F.; Sec. 2, MTWThF III, 10F.)

28su. Advanced Writing. (Additional Section MTWThF I, 10F.)

#### *Second Term*

##### COMPOSITION

Preparatory Composition. (MTWThF I, 12F.)

5su. Freshman Composition. (MTWThF I, Sec. 1, 306F., 8F.; Sec. 2, MTWThF II, 306F. and 10F.)

6su. Freshman Composition. (Sec. 1, MTWThF III, 304F., 8F., 305F., 311F., 9F.; Sec. 2, MTWThF II, 311½F., 109F., 321F., 8F.; Sec. 3, MTWThF III, 6F.)

28su. Advanced Writing. (MTWThF IV, Th V; 304F., 302F., 316F.)

#### General Studies

##### HUMANITIES

#### *First Term*

#### Sections Added:

4su. Humanities in the Modern World. (Sec. 3, MTWThF I, 110P.) Mr. Kampelman.

#### *Second Term*

4su. Humanities in the Modern World. (MTWThF I, 321F.) Mr. Kampelman.

## German

### First Term

#### Additions:

- 2su. Beginning B. (5 cred.; prereq. German 1 or one yr. of high school German; Sec. 1, MTWThF I-II, 209 F.; Sec. 2, MTWThF I-II, 212F.)

### History

#### First Term

#### Sections Added:

- 3su. Civilization of the Modern World. (MTWThF III, 210P.)

#### Additions:

- 70su. English Constitutional History. (Open to prelegal students) (3 cred.; MTWThF I; 113F.) Miss Thompson.

#### Cancellations:

- 64su. European Overseas Expansion (Modern Imperialism)  
73su. English History (Tudor-Stuart periods)

### Second Term

#### Room Changes:

- 2su. Civilization of the Modern World. (MTWThF III, changed from 111Bu. to 206Pt.)  
65su. Twentieth Century Europe. (MTWThF I, 110P.)  
92su. The Trans-Mississippi West. (MTWThF III; 112Bu.)

#### Additions:

- 64su. European Overseas Expansion. (See description in first term of bulletin; 200Pt.) Mr. McNiff.  
71su. English Constitutional History. (Open to prelegal students) (3 cred.; MTWThF I; 210P.) Miss Thompson.  
73su. English History. (See description in first term of bulletin; 221Bu.) Mr. McNiff.

## Mathematics

### First Term

#### Room Changes:

- 1su. Higher Algebra. (MTWThF I-II; 104F., 105F., 110F., 11F.)  
6su. Trigonometry. (MTWThF I-II; 102F., 125F., 114F.)  
7su. College Algebra. (MTWF III-IV, Th III, V; 104F. and 110F.)  
15su. Elementary Mathematical Analysis I. (MTWF III-IV, Th III, V; 105F., 113F., 114F., Jones Aud.)

#### Additions:

- 8su. Commerce Algebra. (5 cred.; prereq. Math. 1 or high school algebra; MTWThF I-II; 133Ph.) Ar.

### Second Term

#### Room Changes:

- 1su. Higher Algebra. (MTWThF I-II; 104F., 113F., 125F.)  
6su. Trigonometry. (MTWThF I-II; 105F., 114F.)  
7su. College Algebra. (MTWThF I-II; 101F., 110F.)  
16su. Elementary Mathematical Analysis II. (MTWF III-IV, Th III, V, 105F.; 113F.)

#### Additions:

- 20su. Mathematics of Investment. (5 cred.; prereq. Math. 8, or 6 and 7; MTWThF I-II; 124F., 212F.)

## Music

### First Term

#### Room Changes:

- 70su. Normal Piano. (MTWF IV; 104Mu.)

#### Room and Hour Change:

- 101su. American Music. (MTWThF VIII, 103Mu.)

## Philosophy

### First Term

#### Room Changes:

- 1su. Problems of Philosophy. (MTWThF I; change from 302F. to 322F.)  
2su. Logic. (MTWThF II, change from 321F. to 210Bu.)

### Second Term

- 3su. Ethics. (MTWThF III; change from 302F. to 133Ph.)  
70su. Modern Philosophies of Social Reform. (Change from 302F. to 133Ph.)

## Political Science

### First Term

#### Room Changes:

- 10su. Fundamentals of Government and Politics. (MTWThF IV; 133Ph.)
- 15su. Elements of Political Science. (MTWThF III; 133Ph.)

## Romance Languages

### FRENCH

#### Second Term

#### Additions:

- 4su. Intermediate French. Equivalent either to French 3 or French 4. (5 cred.; all; prereq. 2 or 3 or two or three years high school French; MTWThF III, MTWF IV and 1 hr. ar.; 209F.) Ar.

### Spanish

#### Correction:

- 4su. Intermediate Spanish. Equivalent either to Spanish 3 or Spanish 4. (5 cred.; all; prereq. 2 or 3 or two or three years high school Spanish; MTWThF III, MTWF IV and 1 hr. ar.; 201F.) Ar.

### Russian

#### First Term

#### Change of Instructor:

- 1su. Miss Niemi instead of Mr. Reichardt.
- 30su. Miss Niemi instead of Mr. Reichardt

#### Cancellation:

- 102su. Dostoevski and Tolstoy.

## Sociology and Social Work

#### First Term

#### Room Changes:

- 1su. Introduction to Sociology. (Sec. 2, MTWThF II, 6F.)

#### Room and Hour Changes:

- 129su. Principles of Social Case Work. (TTh III-IV, S III; 101 Nicholson.)

#### Additions:

- 176su. Dynamics of Human Behavior Based on Psychoanalytic Theory. (TTh I-II and 2 hrs. ar.) Dr. Lippman. (See description in bulletin second term.)

#### Cancellation:

- 170su. Introductory Psychiatry. (See second term.)

#### Second Term

#### Room and Hour Changes:

- 134su. The Child and the State. (MTWThF II; 210P.)
- 160su. Population Problems. (MTWF IV, Th VI; 104J.)

#### Addition:

- 170su. Introductory Psychiatry. MTWThF III. (See description in bulletin first term.)

#### Cancellation:

- 176su. (See first term.)

## Speech

#### First Term

#### Corrections and Additions:

- 1su. Fundamentals of Speech. (MTWThF I, 321F., Mr. Gilkinson; MTWThF VI, 308F., Mr. Howell; MTWThF I, 311½F.; MTWThF VI, 321F.)
- 2su. Fundamentals of Speech. (MTWF IV and 1 hr. ar.; 308F.; ar.; MTWThF IV, 321F.)
- 3su. Fundamentals of Speech. (MTWF IV and 1 hr. ar.; 308F.; ar.; MTWThF IV, 321F.)

#### Second Term

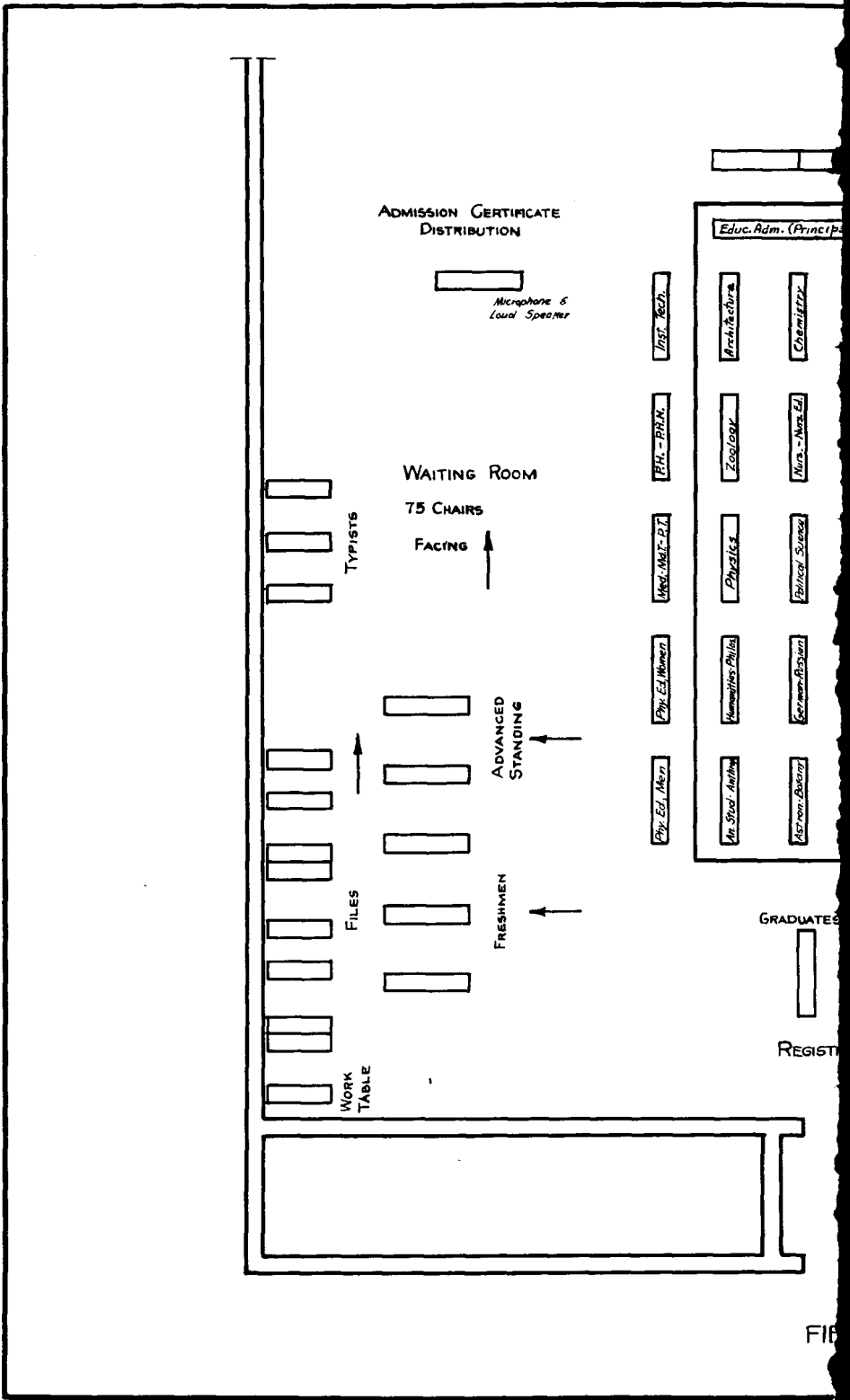
- 1su. Fundamentals of Speech. (MTWThF III; 308F. and 321F.)
- 2su. Fundamentals of Speech. (MTWThF II; 204F., 9F., 6F.) Ar.
- 3su. Fundamentals of Speech. (MTWThF II; 204F., 9F., 6F.) Ar.

## Zoology

#### First Term

#### Room Changes and Additional Laboratory Sections:

- 1su. General Zoology. (Lect. MTWF I, Th I-II; 150Ph.; Lab. MTWTh VI-VII-VIII.)



ADMISSION CERTIFICATE DISTRIBUTION

Microphone & Loud Speaker

WAITING ROOM

75 CHAIRS

FACING

TYPISTS

FILES

WORK TABLE

ADVANCED STANDING

FRESHMEN

Educ. Adm. (Principals)

Inst. Tech.

Arch./Archura

Chemistry

P.H. - PRIN.

Zoology

Nurs. - Nat. Ed.

Med. Asst. - P.T.

Physics

Botical Science

Phy. Ed. Women

Humanities-Philis

Science-Biology

Phy. Ed. Men

Art. Stud. - Art/Ar

Astron. - Geogr.

GRADUATES

REGISTRATION

vc. Adm. (Superintendent)

Elem. Educ.

Elem. Educ.

Art Educ.

Elem. Ed. Pk.

Soc.-Sci.-Sp. Sc.

Speech

Mathematics

Misc. - M. Ed.

English

Eng. - Grad.

En. Mkt. Libr.

H. Educ. - Educ.

Business

S. L. A.

Graduate

POST OFFICE BOX  
NUMBERS

FEE STATEMENTS

TALLY

FILE DIRECTORY TYPISTS

TABLES FOR STUDENT USE

REGULAR STUDENTS  
(Expecting to continue  
Fall Quarter)

MATERIAL

USE

UNIVERSITY OF MINNESOTA  
OFFICE OF ADMISSIONS AND RECORDS  
SUMMER SESSION REGISTRATION

## Second Term

### Room Changes and Additional Laboratory Sections:

2su. General Zoology. (Lect. MTWF I, Th I-II; 150Ph.; Lab. MTWTh VI-VII-VIII.)

## COLLEGE OF ENGINEERING AND ARCHITECTURE

### Summer Quarter

Bulletin showing class hours will be distributed in the main office of the College of Engineering.

#### Aeronautical Engineering

Additions:

- 101su. Aerodynamics.
- 120su. Airplane Design.
- 122su. Airplane Design.
- 126su. Propeller Design.

#### Civil Engineering

Additions:

- 15su. Surveying.
- 33su. Elementary Structural Design
- 233su. Advanced Foundations.
- 243su. Dynamics of Structures.

#### Drawing and Descriptive Geometry

Cancelled:

- 34su. Lettering.

#### Electrical Engineering

Additions:

- 37su. Electric Power.
- 38su. Electric Power.
- 64su. Elements of Communication.
- 65su. Elements of Communication.
- 66su. Elements of Communication.
- 113su. Junior Electrical Engineering.
- 114su. Junior Electrical Engineering Laboratory.
- 115su. Junior Electrical Engineering.
- 116su. Junior Electrical Engineering Laboratory.
- 117su. Engineering Electronics.
- 119su. Engineering Electronics.

Cancelled:

- 140su. Power Systems.

#### English (Engineering)

Addition:

- 37su. Technical Discussion.

#### Mathematics and Mechanics

Additions:

- 17su. Refresher Course for Veterans in College Mathematics through Integral Calculus. (MTWThF VI-VII: 10 G. I. cred.) Mr. Laws.
- 84su. Technical Mechanics (Chem., Chem.E., and Pre-Bus.).
- 154su. Vector Analysis (Page 83, I. T. Bulletin) (3 cred.; prereq. 26, MWF V or ar.) Mr. Wilcox.
- 162su. Advanced Technical Mechanics. (Page 83, I. T. Bulletin) (3 cred.; prereq. 161; MWF IV.) Mr. Wilcox.
- 183su. Applied Elasticity. (Page 84, I. T. Bulletin) (3 cred.; prereq. M.&M. 182; MWF III.) Mr. Priester.

#### Mechanical Engineering

Additions:

- 15su. Survey of Manufacturing Processes (Chem. and Chem.E.).
- 23su. Dynamics of Machine Design.
- 24su. Elements of Machine Design.
- 34su. Mechanical Laboratory.
- 35su. Elementary Steam and Power Laboratory.
- 55su. Internal Combustion Engines.
- 72su. Machine Shop (M.E.).

- 121su. Machine Design.
- 132su. Thermodynamics.
- 141su. Heat Power Engineering.
- 150su. Internal Combustion Engines.
- 154su. Design of Airplane Engines.
- 157su. Design of Internal Combustion Engines.
- 158su. Aeroplane Engine Testing.
- 160su. Heating and Ventilation.
- 161su. Heating, Ventilation, and Air Conditioning Design.
- 169su. Heating and Ventilation Laboratory.
- 180su. Refrigeration.
- 190su. Seminar.

*First Term*

Changes in Credit:

- 2su. Machine Woodworking (3 cred.).
- 3su. Wood Finishing and Furniture Construction (3 cred.).

**SCHOOL OF CHEMISTRY**

**Inorganic Chemistry**

*First Term*

Correction of lab. hrs. and additional lab. sections:

- 6su. General Inorganic Chemistry. (Lab. TTh II-V and F VI-IX, 290C.; or M VII-IX and WF VI-IX, 110C.)
- 9su. General Inorganic Chemistry. (Lab. TTh II-V and F VI-IX; or MF VI-IX and W VII-IX, 110C.)

*Second Term*

- 7su. General Inorganic Chemistry. (Lab. TTh II-V and F VI-IX, 290C; or M VII-IX and WF VI-IX, 110C.)
- 10su. General Inorganic Chemistry. (Lab. TTh II-V and F VI-IX, 290C.; or MF VI-IX and W VII-IX, 110C.)

**Physical Chemistry**

*First Term*

Changes in Hours:

- 107asu. Elementary Physical Chemistry. (Lect. MTWTh I, quiz. F I, Lab. MW VI-VIII.)

*Second Term*

- 107bsu. Elementary Physical Chemistry. (Lect. MTWTh I, quiz. F I, Lab. MW VI-VIII.)

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

**Animal Husbandry**

*First Term*

Correction of Hours:

- 56su. Livestock Feeding. (MTWThF IV.)

*Second Term*

- 57su. Livestock Feeding. (MTWThF IV.)

**Rhetoric**

*First Term*

Additions:

- 2su. Rhetoric. (MTWThF I; 308En.) Miss Thurston.
- 3su. Rhetoric. (MTWThF IV; 311En.) Mr. Nichols.
- 22su. Rhetoric. (MTWThF III; 311En.) Mr. Nichols.
- 51su. Rhetoric. (MTWThF IV; 308En.) Miss Thurston.

*Second Term*

- 3su. Rhetoric. (MTWThF IV; 311En.) Mr. Drake.



## BIOLOGICAL STATION SUMMER SESSION AT LAKE ITASCA

### Zoology

#### *Second Term*

Change of Days:

115su. Advanced Natural History of Invertebrates and Fishes. Will meet on WS

## MEDICAL SCHOOL

### Neuropsychiatry

#### Elective Courses for Nonmedical Students

#### *First Term*

To Clarify Term Offerings:

171su. Descriptive Neuropsychiatry. (Social Work 171.)

#### *Second Term*

70su. Introductory Psychiatry. (Social Work 170.)

173su. Mental Hygiene Aspects of Public Health Nursing.

### Physiology

#### *Second Term*

Addition:

60su. Human Physiology. Primarily for medical technology and physical therapy students. (6 cred.; prereq. permission of instructor except for students enrolled in physical therapy or medical technology; lect. and conf. MTWThF I-II; lab. TTh VI-VIII; ar.)

## SCHOOL OF PUBLIC HEALTH

#### *First Term*

Change of Hour:

50su. Public and Personal Health. MTWThF I instead of II.

## COLLEGE OF EDUCATION

### General Courses

#### *First Term*

Change in Instructor:

Ed.51Asu. Introduction to Secondary School Teaching. Mr. Van Wageningen.

Ed.51Bsu. Introduction to Secondary School Teaching. Mr. Kenneth Anderson.

Ed.61Asu. Introduction to Elementary School Teaching. Mr. Van Wageningen.

#### *Second Term*

Ed.51Bsu. Introduction to Secondary School Teaching. Mr. G. Robert Carlsen.

### Agricultural Education

#### *First Term*

Additions:

Agr.Ed.54su. Rural Education and Community Leadership. Mr. Field.

Agr.Ed.90su. Observation and Participation. Mr. Field.

Agr.Ed.91su. Supervised Teaching Experience. Mr. Field.

Agr.Ed.104su. Planning Programs. Mr. Field.

#### *Second Term*

Agr.Ed.54su. Rural Education and Community Leadership. Mr. Field.

Agr.Ed.90su. Observation and Participation. Mr. Field.

Agr.Ed.91su. Supervised Teaching Experience. Mr. Field.

Agr.Ed.104su. Planning Programs. Mr. Field.

## Art Education

### *First Term*

#### Change in Instructor:

- ArtEd.1su. General Design, Miss Birch.  
ArtEd.52Asu. Interior Design, Miss Birch.

## Curriculum and Instruction

### *First Term*

#### Cancellations:

- Ed.C.I.103su. Teaching of Science in the Elementary School. (See Second Term.)

#### Additions:

- Ed.C.I.130su. Problems in Childhood Education. (See Child Welfare 150su, page 108.) (9 cred.; jr., sr.; hrs. ar.; 5Pt.) Mrs. Fuller.  
Ed.C.I.131su. Laboratory in Childhood Education and Child Development—Workshop. Credit will be allowed toward kindergarten or elementary education major. Also listed as C.W.186. For details see page 109. (9 cred.; sr.; grad.; prereq. permission of director of Institute of Child Welfare; hrs. ar.; 5Pt.) Mrs. Fuller, Miss Headley, Miss Peterson.  
Ed.C.I.204su. Social Studies Curriculum. (3 cred.; grad.; prereq. consent of instructor. MTWThF II; 104 Nicholson.) Mr. Maynard.

#### Change in Room, Days, Hours:

- Ed.C.I.143su. Teaching of Reading in the Elementary School. (MTWThF II; 105MurH.)  
Ed.C.I.149su. The Teaching and Supervision of Arithmetic in the Elementary School. (204 Nicholson.)

### *Second Term*

#### Change in Instructor:

- Ed.C.I.102su. Teaching the Social Studies in the Elementary School. Mr. Cordier.  
Ed.C.I.168su. Current Developments in the Social Studies. Mr. Cordier.  
Ed.C.I.201su. Problems in Teaching the Social Studies. Mr. Cordier.

#### Additions:

- Ed.C.I.103su. Teaching of Science in the Elementary School. Emphasis on resources and materials and their application in elementary grades. (3 cred.; sr.; grad.; prereq. Ed.61A-B or teaching experience; MTWThF VIII; 106Pt.) Mr. Kenneth Anderson.

#### Change in Room, Days, Hours:

- Ed.C.I.119su. Elementary School Curriculum. (MTWF IV, 210UHS and Th VII, 209Bu.)

## Educational Administration

### *First Term*

#### Change in Room, Days, Hours:

- Ed.Ad.280su. Workshop in School Building Construction. Natural History Museum, Aud.

## Educational Psychology

### *First Term*

#### Change in Course Number:

- Ed.Psy.200su. Workshop in Guidance should be listed as **Ed.Psy.100**.

#### Change in Instructor:

- Ed.Psy.281su. Practice in Personnel Work: Guidance Clinic—Student Counseling Bureau High School Personnel Practice. Mr. Dugan.

#### Change in Room, Days, Hours:

- Ed.Psy.60su. Introduction to Statistical Methods. (MTWThF VII; 105UHS.)  
Ed.Psy.140su. Instruments and Techniques of Measurement. (MTW IV and ThF VI-VII; 104 Nicholson.)

#### Cancelled:

- Ed.Psy.114su. Psychology of Elementary School Subjects.

## History and Philosophy of Education

### First Term

Change in Course Number and Title:

- H.Ed.176su. Conflicting Issues in Modern Education should be listed as **H.Ed.161su.**  
Philosophy of Education: Aims and General Theory.  
H.Ed.180su. The School and the Social Order should be listed as **H.Ed.160su.** Philosophy  
of Education: Process and Method.

## Industrial Education

### First Term

Changes in Room, Days, Hours:

- Ind.100su. Industrial Instruction. 200Pt.  
Ind.251su. Literature of Industrial Education. 106UHS.

## Methods and Directed Teaching

### First Term

Additions:

- EdT.85ABCsu. Practice and Field Work in Recreation Leadership. (Cred. ar.; prereq.  
Phys.Ed.57, 136, or permission of instructor.) Mr. Haislet.

## Music Education

### First Term

Change of Course Number:

- Mu.Ed.200Esu. Survey and Application of Research in Education should be listed as  
**Mu.Ed.220Esu.**

Cancelled:

- Mu.Ed.53su. High School Methods.

Change in Room, Days, Hours, and credits:

- Mu.Ed.4-5-6su. Applied Instrumental Technique. (MTWThF VI.)  
Mu.Ed.68su. Conducting of Instrumental Music and Survey of Materials. (MTWThF  
II-III.)  
Mu.Ed.110Esu. Workshop in Music Education. (3 cred.; MTWThF I-III and other hrs.  
ar.)

## SCHOOL OF BUSINESS ADMINISTRATION

### First Term

Course added:

- Econ.26su. Principles of Accounting. (Additional sections: MTWThF IV, 105VH;  
MTWThF I, 113VH; MTWThF II, 113VH.)

Change in Rooms, Days, Hours:

- Econ.3su. Elem. of Money and Banking. (Additional sections: MTWThF II, 105VH;  
MTWThF III, 1VH; MTWThF IV, 115VH.)  
Econ.5su. Elem. of Statistics. (Additional sections: MTWThF I, 112VH; MTWThF II,  
2VH; MTWThF IV, 207VH; MTWThF V, 112VH. Changes: MTWThF V from 207VH  
to 221VH.)  
Econ.6su. Principles of Economics. (Additional sections: MTWThF I, 115VH; MTWThF  
II, 112VH; MTWThF IV, 6VH; MTWThF V, 2VH; MTWThF VI, 2VH; MTWThF  
VII, 2VH; MTWThF III, 2VH; MTWThF IV, 2VH.)  
Econ.7su. Principles of Economics. (Additional sections: MTWThF V, 115VH; MTW-  
ThF VI; 115VH; MTWThF II, 221VH.)  
B.A.54su. Elementary Accounting—Combined Course. (Additional sections: MTWF I  
and MW VI-VII½, 105 VH; MTWF II and MW VI-VII½, 307VH; MTWF III and  
TTh VI-VII½, 112VH; MTWF IV and TTh VI-VII½, 113VH; MTWF V and TTh  
VII-VIII½, 105VH.)  
B.A.89su. Production Management. Change from 2VH to Botany Aud.  
B.A.101su. Advanced General Economics. (Additional section: MTWThF I, 1VH.  
Changes: MTWThF II from 221VH to 1VH and MTWThF III from 2VH to 4VH.)  
B.A.130su. Cost Accounting Survey. (Change from 2VH to 1VH.)  
B.A.142su. Advanced Money and Banking. (Change from 6VH to 1VH.)  
Econ.149su. Business Cycles. (Change from 205 to 207VH.)  
B.A.150su. Accounting Practice and Procedure. (Change from 221 to 207VH.)  
Econ.175su. Government Regulation of Business. (Change from 221 to 207VH.)  
Econ.176su. International Commercial Policies. (Change from 207 to 221VH.)  
Econ.189su. Principles of Taxation. (Change MTWThF II from 207 to 205VH. Add  
MTWThF IV, 112VH.)

## Second Term

### Courses Added:

- Econ.5su. Elements of Statistics. (MTWThF I, 112VH; MTWThF III, 105VH.)
- B.A.71su. Transportation: Services and Charges I. (MTWThF IV, 112VH.)

### Change in Rooms, Days, Hours:

- Econ.3su. Elem. of Money and Banking. (Additional sections: MTWThF II, 112VH; MTWThF III, 112VH; MTWThF IV, 105VH; MTWThF V, 2VH.)
- Econ.7su. Principles of Economics. (Additional sections: MTWThF I, 207VH; MTWThF III, 113VH; MTWThF IV, 113VH; MTWThF IV, 2VH; MTWThF VI, 2VH, MTWThF II, 113VH; MTWThF I, 115VH; MTWThF II, 115VH.)
- Econ.20su. Elements of Accounting. (Additional sections: MTWThF I, 105VH.)
- B.A.55su. Elementary Accounting—Combined Course (Additional sections: MTWF I and TTh VI-VII $\frac{1}{2}$ , 113VH; MTWF II and MW VI-VII $\frac{1}{2}$ , 105VH; MTWF III and TTh VI-VII $\frac{1}{2}$ , 115VH; MTWF III and TTh VI-VII $\frac{1}{2}$ , 221VH; MTWF IV and MW VI-VII $\frac{1}{2}$ , 115VH; MTWF V and TTh VI-VII $\frac{1}{2}$ , 6VH.)
- B.A.102su. Advanced General Economics. (Additional section: MTWThF I, 1VH.)
- B.A.112su. Business Statistics. (Additional section: MTWThF II, 1VH.)
- B.A.155su. Corporation Finance. (Change from 221VH to 1VH.)
- B.A.161su. Labor Problems and Trade Unionism. (Change from 221VH to 4VH.)
- B.A.167su. Personnel Administration. (Change from 2VH to Bot.Aud.)
- Econ.185su. Economics of Marketing. (Change from 221VH to 1VH.)