

*The Bulletin of the*  
UNIVERSITY of MINNESOTA

Course in Physical Therapy  
1946-1948

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## GENERAL INFORMATION

Physical Therapy is that part of medical science concerned with the treatment of disease or injury by physical means. It includes the use of heat, cold, light, water, electricity, massage, exercise, rest, and climate. Many of the treatment techniques are carried out by trained personnel called physical therapists who work under the direction of physicians but are not themselves medically trained. They stand in much the same position in relation to the doctor as do nurses or medical technologists, assisting him and carrying out treatments under his supervision.

Because of the complexity of equipment to be used and the exacting nature of the duties to be performed, it is essential that the physical therapist be adequately trained in the fundamental sciences. A satisfactory foundation of anatomy, physiology, pathology, physics, and psychology must be laid upon which may be built a functional knowledge of the phases of medicine, surgery, and neurology, which are necessary for the intelligent application of physical therapeutic techniques in the treatment of disease and injury.

It is the purpose of the course described in this bulletin to prepare such well-trained physical therapists to take their place in the wide field of medicine and perform their duties intelligently and efficiently to the benefit of the patient.

The University of Minnesota offers a four-year curriculum leading to the degree of bachelor of science in physical therapy. This course is primarily designed for students who have had no previous training or experience in physical therapy.

Recognition of such training is afforded by registration with the American Registry of Physical Therapy Technicians which is administered jointly by the American Medical Association and the American Congress of Physical Medicine. Its headquarters are at 30 North Michigan Avenue, Chicago, Illinois. This Registry qualifies graduates of accredited schools of physical therapy by examination and provides a national bureau to regulate the standards of physical therapists. All graduates of the University of Minnesota Course in Physical Therapy are required to pass the Registry examination and become registered technicians. They are also advised to join the American Physiotherapy Association, an organization interested in advancing the standards and interests of physical therapists.

## ADMISSION REQUIREMENTS

Applicants for admission to the freshman year of the four-year Course in Physical Therapy must meet the entrance requirements of the College of Science, Literature, and the Arts of the University of Minnesota (see *Bulletin of General Information*). Graduates of accredited high schools may enter at the beginning of any quarter, but the curricula outlined are based on entrance in the fall quarter. If a student enters at any other quarter, it may be necessary to attend Summer Sessions to make up the irregularities thereby incurred in the program. The sequence of courses in the last two years cannot be altered and must begin in the fall quarter.

At the end of the sophomore year, students having a total of 90 quarter credits, including the required courses listed on page 6 of this bulletin or their equivalents and at least a high "C" grade average in their science courses, may make application for entrance into the Division of Physical Therapy in the Medical School. Quality credits earned at Minnesota will count toward entrance. Application blanks may be obtained in the Physical Therapy Office and must be filed, complete with transcripts of college work to date, before July 1 of the year in which the student expects to enter as a junior. Selection of students will be based upon scholastic standing in the basic science courses and upon character and personal fitness as disclosed by personal interview. Selections will be made as early as

possible and students notified promptly. Those accepted will then transfer into the Medical School, Division of Physical Therapy. Students attending institutions other than the University of Minnesota during their freshman and sophomore years must meet the same requirements for admission. Students will be required to keep a 1.5 honor point average (1½ honor points for every credit) during the last two years and quality credits will be earned only beyond that point.

The Council on Education of the American Medical Association has not sanctioned the acceptance for credit of courses in physical medicine taken in the armed forces; however, blanket credits earned in the service may count as electives toward graduation.

Graduates of courses from hospitals offering three years of nursing will receive forty-five (45) credits (one year's work) to be applied toward the physical therapy degree. If anatomy and bacteriology were taken in the nursing work, the student will be exempt from those prerequisites.

Each student must pass a physical examination in the Health Service of the University. Any student who is not considered physically able to do the work required of a physical therapist may be rejected.

Further information on the admission requirements for the course may be obtained from the Physical Therapy Office, W300, University Hospitals, University of Minnesota, Minneapolis 14, Minnesota.

## FEES

The quarterly fee for the freshman and sophomore years is \$25 for residents of Minnesota and \$56 for nonresidents, payable at the beginning of each quarter. Tuition for the last two years, in the Medical School, is \$42 for residents and \$64 for nonresidents.

Applicants who are not legal residents of Minnesota must pay a credential examination fee of \$5 at the time of application for admission to the University.

In addition to tuition, each student is charged an incidental fee of \$10.65 each quarter. Laboratory fees may be instituted or modified at any time by action of the Board of Regents.

A matriculation deposit of \$5 is required, payable with the tuition of the first quarter in residence, as a guarantee for the return and protection of university materials and equipment, the balance to be refunded automatically upon the student's withdrawal or graduation.

During the senior year the student is expected to provide white uniforms and white duty shoes for the clinical practice work.

For more detailed information concerning the cost of attending the University of Minnesota, see the *Bulletin of General Information*.

## SCHOLARSHIPS

Scholarships to the University of Minnesota Course in Physical Therapy are obtainable through the National Foundation for Infantile Paralysis, Inc. To be eligible for such a scholarship in the senior year, the student must satisfy the requirements of the Foundation. Further information may be obtained from the office of the National Foundation for Infantile Paralysis, Inc., 120 Broadway, New York 5.

Information on loans from the University of Minnesota may be obtained from the Student Loan Office, 207 Eddy Hall, University of Minnesota.

## CURRICULUM

The work of the first two years of the Course in Physical Therapy is taken in the College of Science, Literature, and the Arts. Fifteen credit hours per quarter is considered the average student load. If the work is taken at the University of Minnesota, the courses listed for the freshman and sophomore years are required. Students who have taken the first two years of work at other institutions must have taken the equivalents of these courses. It is recommended that prospective students take physics in high school, and it is necessary that they take algebra and geometry.

Physical therapy students are required to take a minor consisting of either 18 credits in one field or 9 credits in each of two fields. Half of the minor courses must be Senior College courses (those numbered 50 and above). Suggested minor fields are: psychology, anatomy, physiology, first aid and hygiene, public health, physical education, bacteriology, handcraft or art, education.

It is recommended that the student take a number of courses in the College of Education. Those students wishing to take such courses to prepare for teaching should consult the adviser in physical therapy at the beginning of the junior year. Courses chosen in the College of Education must have the approval of the dean of the College of Education.

### FRESHMAN AND SOPHOMORE YEARS

#### FRESHMAN YEAR

Fall Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
*English 4 or A .....	3- 5	*English 5 or B .....	3- 5	*English 6 or C .....	3- 5
*Zoology 1 .....	3	*Zoology 2 .....	3	*Zoology 3 .....	4
*Physics 1 or 1a .....	3- 4	*Physics 2 or 2a .....	3- 4	*Physics 3 or 3a .....	3- 4
Humanities 1 .....	5	Humanities 2 .....	5	Humanities 3 .....	5
	-----	Public Health 3 .....	2	Public Health 4 .....	2
	14-17		-----		-----
			16-19		17-20

#### SOPHOMORE YEAR

Fall Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
*Chemistry 1 .....	4	*Chemistry 2 .....	4	Child Welfare 40 .....	3
*Anatomy 3† .....	3	*Psychology 2 .....	3	Nursing 2B .....	2
*Psychology 1 .....	3	*Bacteriology 53 .....	5	Neuropsychiatry 40 .....	3
Electives .....	5- 8	Electives .....	3- 6	Electives .....	7- 8
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	15-18		15-18		15-16

\* Starred courses are required for entrance as a junior if the student takes his first two years of work in another college.

† May be a combination of anatomy and physiology if anatomy is not given alone at another college.

## JUNIOR AND SENIOR YEARS

### JUNIOR YEAR

Fall Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Anatomy 59, Systematic		Pathology e .....	3	Physiology 60, Human	
Anatomy .....	6	P.T. 60, Theory and		Physiology .....	6
Physiol. Chem. 50,		Technique of Thermo,		P.T. 61, Theory and	
Physiological Chemistry	4	Photo, Hydro, and		Technique of Physical	
P.T. 50, Physics for		Electro Therapy .....	5	Therapy as Applied to	
Physical Therapy .....	2	P.T. 83, Theory and		Medical Sciences§ .....	5
Electives .....	4- 5	Technique of Muscle		P.T. 63, Junior Clinic in	
	16-17	Function and Measure-		Physical Therapy .....	1
		ments and Tests .....	5	Electives .....	4- 6
		Electives .....	3- 4		16-18
			16-17		

### SENIOR YEAR

Fall Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
P.T. 65, Theory and		Neurology 171, Descrip-		P.T. 90, Conference .....	1
Technique of Muscle		tive Neuropsychiatry ..	2	P.T. 91, Clinical Practice	18
Re-education .....	5	P.T. 57, Ethics and Ad-			19
P.T. 69, Anatomy Ap-		ministration .....	1		
plied to Techniques of		P.T. 58, Asepsis, Bandag-			
Treatment of Infantile		ing, and Contagious			
Paralysis .....	2	Technique .....	1		
P.T. 80, Theory and		P.T. 64, Senior Clinic in			
Technique of Correc-		Physical Therapy .....	1		
tive Exercises .....	4	P.T. 68, Applied Anat-			
P.T. 82, Physiology of		omy .....	3		
Muscles and Circulation	3	P.T. 70, Theory and			
Electives .....	2- 3	Technique of Massage			
	16-18	Electives .....	4- 6		
			15-17		

§ Includes observation and clinical practice.

## DESCRIPTION OF COURSES

- P.T. 50. Physics for Physical Therapy. Mechanics, heat, light, and electricity as applied to physical medicine. (2 cred.) Mr. Marvin.
- P.T. 57. Ethics and Administration. Lectures governing appropriate conduct of the physical therapist. Orientation toward institutional contacts and related organizations. (1 cred.) Dr. Knapp, Miss Green, and Hospital staff.
- P.T. 58. Asepsis, Bandaging, and Contagious Technique. Lecture, demonstration, and practice. (1 cred.) School of Nursing staff.
- P.T. 60. Theory and Technique of Thermo, Photo, Hydro, and Electro Therapy. Lectures, demonstrations of the techniques, and practical application. (5 cred.) Dr. Knapp, Miss Green, and staff.
- P.T. 61. Theory and Technique of Physical Therapy as Applied to Medical Sciences. Lectures and observations in fields related to physical medicine; includes surgery, medicine, dermatology, orthopedics, pediatrics, and neurology. (5 cred.) Lectures by medical staff members.
- P.T. 63. Junior Clinic in Physical Therapy. Correlation clinic. Presentation of hospital cases with emphasis on physical therapeutic problems. (1 cred.)
- P.T. 64. Senior Clinic in Physical Therapy. Continuation of Course 63. (1 cred.)
- P.T. 65. Theory and Technique of Muscle Re-education. Instruction and clinical practice with emphasis on the treatment of poliomyelitis. (5 cred.) Dr. Knapp, Miss Green.
- P.T. 68. Applied Anatomy. Diseases and injuries of bones and muscles causing impairment of function and deformity are viewed in relation to physical therapy. (3 cred.) Dr. Knapp.
- P.T. 69. Anatomy Applied to Techniques of Treatment of Infantile Paralysis. Resumé of the various concepts and treatments. (2 cred.) Dr. Knapp.
- P.T. 70. Theory and Technique of Massage. Methods of applying various types of massage, their physiological effects, and therapeutic indications. Laboratory demonstrations and practice on patients. (3 cred.) Arranged.
- P.T. 80. Theory and Technique of Corrective Exercises. The application of directed movement as an aid in the treatment of altered functions; demonstrations, practice, and clinical applications. (3 cred.) Arranged.
- P.T. 82. Physiology of Muscles and Circulation. Physiological basis for physical therapy. (3 cred.) Arranged.
- P.T. 83. Theory and Technique of Muscle Function and Measurements and Tests. Review of the muscular system in regard to anatomy and to physiological function. Analysis of body mechanics. Theory and practice of muscle testing and joint measurement. (5 cred.) Arranged.
- P.T. 90. Conference. Discussion of the problems arising from clinical practice work. (1 cred.) Staff members.
- P.T. 91. Clinical Practice. Clinical application of techniques under supervision in the physical therapy departments of affiliated hospitals. (18 cred.) Field supervision by Miss Green.
- Nursing 2B. Introduction to Patient Care for Physical Therapists. (2 cred.) Nursing staff.
- Anatomy 59. Systematic Anatomy. Lectures and laboratory work. (6 cred.) Dr. Boyder and staff.
- Physiological Chemistry 50. Physiological Chemistry. (4 cred.; prereq. inorganic chemistry.) Dr. Armstrong and staff.
- Physiology 60. Human Physiology. (6 cred.) Dr. Hemingway and others.
- Pathology e. Pathology for Physical Therapists. (3 cred.) Dr. Bell and staff.
- Neuropsychiatry 40. Psychology of the Handicapped. (3 cred.) Dr. Hastings and staff.
- Neurology 171. Descriptive Neuropsychiatry. (2 cred.)

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School of Public Health  
Announcement for the Years 1946-1948

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\* On leave of absence in military service.

† On leave of absence with the American Red Cross.

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 Ramona L. Todd, Ph.D., M.D., Assistant Professor

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 Benjamin T. McClure, B.A., Teaching Assistant  
 Nan Moonen, M.A., Teaching Assistant

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 Austin F. Henschel, Ph.D., Assistant Professor  
 Henry L. Taylor, Ph.D., Assistant Professor

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 St. Paul, Minnesota  
 Mayhew Derryberry, Ph.D., Chief, Field Activities in Health Education, U. S. Public  
 Health Service  
 Mary J. Dunn, R.N., B.S., Nursing Consultant, U. S. Public Health Service  
 Haven Emerson, M.A., M.D., Professor Emeritus of Public Health Practice, Columbia  
 University  
 W. McD. Hammon, M.D., Associate Professor of Epidemiology, University of Califor-  
 nia, San Francisco, California  
 F. Ruth Kahl, R.N., C.P.H.N., Public Health Nursing Consultant, U. S. Public Health  
 Service  
 Bethel McGrath, R.N., Formerly Consultant in Industrial Nursing, National Organiza-  
 tion for Public Health Nursing; Industrial Nurse, Powers Dry Goods Co., Inc.,  
 Minneapolis  
 Pearl McIver, R.N., M.S., Senior Nursing Consultant, U. S. Public Health Service  
 Janice Mickey, R.N., M.S., Public Health Nursing Supervisor, Territory of Hawaii  
 Joseph W. Mountin, M.D., Surgeon, U. S. Public Health Service  
 Marian Murphy, R.N., M.S., Assistant Director of Health, Lansing, Michigan  
 Lucile Petry, R.N., M.S., Chief, Division of Nursing, U. S. Public Health Service  
 Frank Stafford, Ph.D., Chief, Physical Education and Health Consultant, U. S. Public  
 Health Service  
 Harold H. Walker, Ph.D., Professor of Health Education, University of Tennessee,  
 College of Education, Knoxville, Tennessee  
 Louis F. Warrick, Ch.E., State Sanitary Engineer, Wisconsin State Board of Health,  
 Madison, Wisconsin  
 A. H. Wieters, M.S., Director of Division of Public Health Engineering, Iowa State  
 Department of Health, Des Moines, Iowa  
 C.-E. A. Winslow, Dr.P.H., Professor Emeritus of Public Health, Yale University,  
 School of Medicine  
 Antoinette Wajdyke, R.N., B.S., Director of Visiting Nurses Association, Sioux City,  
 Iowa  
 Cristina Wright, Ph.D., Clinical Psychologist, Amherst H. Wilder Child Guidance Clinic,  
 St. Paul, Minnesota

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and Otolaryngology and Director of Division of Otolaryngology  
Eric K. Clarke, M.D., Clinical Professor of Psychiatry  
Erling Hansen, M.D., Professor and Director of the Division of Ophthalmology

## FIELD ASSOCIATES

- Roberta E. Foote, R.N., M.A., Educational Director, St. Louis County Health Department, Clayton, Missouri  
Eva Woerth Hague, R.N., B.S., Associate Director, Division of Public Health Nursing, Des Moines, Iowa  
Adah Hershey, R.N., Director of the Public Health Nursing Association, Des Moines, Iowa  
Leeta Holdrege, R.N., Director, Omaha Visiting Nurse Service, Omaha, Nebraska  
Janet Jennings, R.N., B.S., Director, Division of Public Health Nursing, Wisconsin State Health Department, Madison, Wisconsin  
Mary A. Johnson, R.N., B.S., Field Advisory Nurse, Division of Public Health Nursing, Minnesota Department of Health  
Alice G. Kraft, R.N., B.S., Educational Director, Omaha Visiting Nurse Service, Omaha, Nebraska  
Helma LaFrentz, R.N., B.S., Educational Director, Public Health Nursing Association, Des Moines, Iowa  
Ila Z. Moore, R.N., B.S., Director, Division of Public Health Nursing, City Department of Health, Peoria, Illinois  
Mildred Mouw, R.N., B.S., Supervising Nurse, City Department of Health, Rochester, Minnesota  
Marie Neuschaeffer, R.N., B.S., Director, Division of Public Health Nursing, State Department of Health, Des Moines, Iowa  
Ione M. Rowley, R.N., B.S., Assistant Director, Division of Public Health Nursing, Wisconsin State Health Department, Madison, Wisconsin

## COURSES IN PUBLIC HEALTH AND HYGIENE

**General statement**—The School of Public Health offers a wide selection of general and professional courses in the field of preventive medicine and public health. The general courses are designed for the student who desires some knowledge of personal health and an understanding of the community program that exists for the promotion of the public health. The professional courses are intended to furnish technical training for those who seek a career in public health work or who wish to use technical knowledge and procedures in their future work in allied fields. Because of their close relationship to public health and hygiene, the biostatistical instruction at the University and the Laboratory of Physiological Hygiene are incorporated as part of the School of Public Health.

**Professional training courses in public health**—Instruction in preventive medicine and public health has been conducted at the University of Minnesota for more than half a century. In 1922 a separate Department of Preventive Medicine and Public Health was authorized and established by the Board of Regents in response to the increasing demand for health education and for trained leaders in public health. Graduate courses in public health have been offered since that time. The course in public health nursing, one of the first in the country, was established in 1918. In 1935 the University of Minnesota was selected by the health officers of the states of this area as the institution to which they desired to send personnel for public health training under the provisions of the Social Security Act. Formal, organized curricula for training of health officers and public health engineers were established at that time. In 1944 the Board of Regents authorized the expansion of the Department of Preventive Medicine and Public Health into a School of Public Health.

The School is accredited by the American Public Health Association for work leading to the degree of master of public health and the public health nursing course is accredited by the National Organization for Public Health Nursing.

The School of Public Health provides courses for the training of health officers, public health engineers, public health nurses, and public health educators. Arrangements can also be made for special courses of study for other persons with professional training and public health experience, notably dentists, veterinarians, statisticians, and laboratory personnel.

Courses of study in public health nursing have been designed to prepare nurses for staff positions in public health agencies, and for supervision, consultant service, and teaching in that field. The supervisory sequence may be taken as part of the work for a baccalaureate degree in some instances, but is more often incorporated into the program leading to the master of public health or master of science degree. Suitable professional experience as well as educational preparation is a prerequisite for this advanced training.

In response to a growing demand for qualified health educators, a professional curriculum in the field of health education recently has been established at the University under a co-operative arrangement between the School of Public Health and the College of Education. Programs of study which include suitable courses and three months of practical field work are offered through a plan whereby a student may elect his major work either in public health or in education. Health education offerings also have been expanded for all students in public health and education in order that they may have better preparation for assuming their share of responsibility in community-wide programs.

The course of study in public health nursing leads to either a Bachelor's or a Master's degree; the program for the other professional groups leads to the degree of master of public health or master of science. Certain highly qualified students wishing to prepare for an academic or research position may be admitted to candidacy for the doctor of philosophy degree.

The School of Public Health has developed its teaching program in close collaboration with other departments in the medical sciences group and with other departments of the University dealing with collateral fields of knowledge, in particular with engineering, biology, education, nutrition, and social sciences. The training of personnel for public health service is a part of the special interest of the University in training individuals for public service. Unusually broad facilities are afforded for acquiring factual material, techniques and points of view which are conducive to an intelligent approach to the problems of the various fields of public health service.

Equally important in this type of education is the opportunity to observe the application of these principles by official and voluntary agencies. To this end, a close working relationship has been developed with the Minnesota State Department of Health and the Minneapolis Health Department. The Divisions of Preventable Diseases, Sanitation, Child Hygiene, and Public Health Nursing of the former are housed on the University campus. Teaching has been recognized as one of its legitimate activities. The state and city health officers, their division heads, and technical assistants have therefore assumed a responsible and interested part in the instruction of students enrolled in the University. The directing heads and technical assistants of a large number of official and voluntary health organizations in Minnesota, Iowa, Missouri, Nebraska, and Wisconsin have also assisted in the effort to give supervised experience in field activities in both urban and rural areas. The city-county health unit at Rochester, Minnesota, has been developed with the assistance of the Kellogg Foundation as a field training area for all types of personnel. With the establishment of a School of Public Health at the University of Minnesota it has been further possible to invite health officers and sanitary engineers from neighboring states and officers of the United States Public Health Service to participate in planning the curriculum and, as guest lecturers, to discuss problems peculiar to their fields of interest. The teaching program has been aided by funds made available under the Social Security Act.

The rapid expansion in public health work in recent years has created a demand for trained personnel. The postwar period will undoubtedly see even greater demands for such professional people. The University recognizes that adequate training for this field cannot be acquired in a few weeks. There is a general consensus of opinion that the training period should extend over at least one academic year or three university quarters of postgraduate study. As far as possible, those students entering the University for this type of study should, therefore, attempt to devote a year to this training. The arrangement of courses by academic quarters is designed to present a logical sequence of material. In some fields an additional three months of field experience beyond the three academic quarters is required.

**Short courses**—The University does not offer special short courses in any of the fields of public health but has attempted to group certain fundamental subjects in various quarters so that the student unable to spend the entire year in residence may obtain a suitable program of study. Credits so earned will count toward a degree if the student returns at a later date.

**Summer Session**—The Summer Session at the University of Minnesota consists of two terms each of between 5 and 6 weeks. In each of these terms are concentrated certain courses in preventive medicine and public health that are spread over one or two quarters during the regular year. Altho the offerings for the Summer Session vary somewhat from year to year, they are planned to make available some of the important fundamental courses each year with variation as to the supplemental courses. Visiting lecturers each summer bring new points of view in courses that are not available during the regular year. Special workshops lasting two weeks are offered in certain fields during some of the summer sessions.

**In-service training courses**—Non-credit, in-service training courses are offered at the University at the Center for Continuation Study through the co-operation of the School of Public Health and the director of postgraduate medical education. These courses vary in length from three days to two weeks and are offered to physicians, engineers, nurses, educators or other groups within the public health field. The faculty for these in-training courses is recruited from the regular university staff, supplemented by special lecturers.

### COURSES FOR MEDICAL HEALTH OFFICERS

Major Adviser: Gaylord W. Anderson.

Committee on Curriculum for Physicians: Gaylord W. Anderson, Albert J. Chesley, Harold S. Diehl.

#### Requirements for admission—

1. The degree of doctor of medicine from an acceptable institution (i.e., in Class A of the American Medical Association).
2. One year's experience as an intern in an approved hospital, or an acceptable substitute.

Application blanks for admission will be supplied by the School of Public Health upon request. They should be filed with the University at least two weeks before reporting for registration. A letter from the registrar of the college of graduation, *certifying to the professional degree and including an official transcript of the student's college record*, should accompany the application.

#### PLAN OF INSTRUCTION

The course of study leading to the degree of master of public health covers three academic quarters. These quarters may be taken in a single academic year or divided among two or more years according to the preference of the student. The following program of courses is suggested. (See page 18 for description of courses.)

#### Recommended Courses

No.	Title	Credits
P.H. 102*	Environmental Sanitation I .....	3
P.H. 104*	Epidemiology I .....	3
P.H. 105	Epidemiology II .....	3
P.H. 106*	Public Health Administration .....	3
P.H. 107	Child and Adult Hygiene .....	3
P.H. 118	Environmental Sanitation II .....	2
P.H. 122	Public Health Administration Problems .....	3
P.H. 125*	The Community Health Education Program .....	3
P.H. 140*	Vital Statistics .....	3
P.H. 141	Economic and Social Aspects of Medical Care .....	3
P.H. 170†	Supervision in Public Health Nursing .....	3
P.H. 210	Seminar in Preventive Medicine and Public Health .....	1
Bact. 124	Filterable Viruses .....	4
H.Ec. 170	Nutrition of the Family .....	3
Ped. 158	Contagious Diseases .....	1
Pol.Sci. 120	Municipal Functions .....	3
Pol.Sci. 121	Municipal Administration .....	3

\* Required course.

† P.H. 171 may be substituted for P.H. 170.

*Elective Courses*

No.	Title	Credits
P.H. 108	Care of the Handicapped Child .....	2
P.H. 110	Biometric Principles .....	3
P.H. 111	Biostatistics Laboratory .....	2
P.H. 126	Industrial Health Problems .....	3
Bact. 101, 102	Medical Bacteriology .....	5
Bact. 116	Immunity .....	3
Bact. 120	Diseases of Animals Transmissible to Man .....	3
C.W. 130-131	Child Development .....	6
Ed.C.I. 114	The School Health Education Program .....	3
Ed.C.I. 217	Seminar in the School Health Education Program .....	Ar.
Med. 205	Tuberculosis .....	2
Med. 269	Syphilis Therapy .....	2
Pol.Sci. 122	Municipal Problems .....	3
Soc. 100	Social Psychology .....	3
Zool. 144-145-146	Animal Parasites and Parasitism .....	9

**Requirements for degrees**—See page 15.

## COURSES FOR PUBLIC HEALTH ENGINEERS

Major Advisers: Harold A. Whittaker and George O. Pierce.

Committee on Curriculum for Engineers: Gaylord W. Anderson, George O. Pierce, Harold A. Whittaker.

**Requirements for admission**—Entrance upon work for which credit may be applied toward the degree of master of public health or master of science with a major in public health engineering is limited to those who have (a) an engineering degree, preferably with a major in sanitary, civil, or chemical engineering, or (b) a university degree with adequate training in the basic and applied sciences, including bacteriology. It is desirable, though not required, that applicants shall have had some actual experience and have demonstrated an interest in the field of public health engineering.

Application blanks will be supplied upon request to the School of Public Health. They should be filed with the University at least two weeks before reporting for registration. A letter from the registrar of the college of graduation, *certifying to the professional degree, and a transcript of the applicant's college record*, should accompany the application. Applicants who are deficient in any of the above requirements but who are otherwise acceptable, may register as special students for such courses as may be available in the desired subjects. The School of Public Health will advise applicants and assist them in registering in such courses.

## PLAN OF INSTRUCTION

The course of instruction leading to the Master's degree covers a minimum of three quarters of study. These quarters may be taken in a single academic year or divided among two or more years according to the preference of the student.

The program of study to be followed should include such courses as will supplement the engineer's previous education and experience in order that he may acquire a training in all phases of environmental sanitation and in other important branches of public health work. The program therefore includes courses dealing with water, milk, and food sanitation; sewage, excreta, and waste disposal; air hygiene; occupational hygiene; control of animals and insects involved in the spread of disease; sanitation of building and recreational areas; public health administration; epidemiology; public health nursing; biometry; and health education.

The following program of courses is suggested. (See page 18 for description of courses.)

## SCHOOL OF PUBLIC HEALTH

## Recommended Courses

No.	Title	Credits
P.H. 102*	Environmental Sanitation I .....	3
P.H. 104*	Epidemiology I .....	3
P.H. 105	Epidemiology II .....	3
P.H. 106*	Public Health Administration .....	3
P.H. 110†	Biometric Principles .....	3
P.H. 111†	Biostatistics Laboratory .....	2
P.H. 112	Water Supply Sanitation .....	4
P.H. 113	Sewage, Excreta, and Waste Disposal .....	4
P.H. 115	Food Sanitation .....	3
P.H. 116	Public Health Engineering Administration .....	2
P.H. 125*	The Community Health Education Program .....	3
P.H. 171†	Problems in Public Health Nursing .....	3

## Elective Courses

P.H. 117	Sanitary Biology .....	2
P.H. 120	Correlation Analysis .....	3
P.H. 121	Correlation Analysis Laboratory .....	2
P.H. 130	Statistical Inference .....	3
P.H. 131	Sampling Laboratory .....	2
Anal. Chem. 140	Water Analysis .....	3
Bact. 53‡	General Bacteriology .....	(5)
Bact. 120	Diseases of Animals Transmissible to Man .....	3
Bact. 123	Applied Bacteriology .....	3
C.E. 161	Hydrology .....	4
C.E. 162	Water Supply .....	3
C.E. 163	Sewerage .....	3
C.E. 167	Industrial Hygiene Engineering .....	3
C.E. 172	City Planning .....	3
Ch.E. 131	Inorganic Industrial Chemistry .....	3
Ch.E. 132	Organic Industrial Chemistry .....	3
Ch.E. 140	Sanitary Chemistry .....	3
D.H. 51§	Market Milk .....	(3)
D.H. 102	Dairy Bacteriology .....	3
M.E. 160	Heating, Ventilating, and Air Conditioning .....	3
M.E. 165	Advanced Heating, Ventilating and Air Conditioning .....	3
M.E. 167	Advanced Heating, Ventilating, and Air Conditioning .....	3
M.E. 169	Heating, Ventilating, and Air Conditioning Laboratory .....	2
Pol.Sci. 120	Municipal Functions .....	3
Pol.Sci. 121	Municipal Administration .....	3

Requirements for degrees—See page 15.

## COURSES FOR PUBLIC HEALTH NURSES

Major Adviser: \_\_\_\_\_.

Committee on Curriculum for Public Health Nurses: Gaylord W. Anderson, Katharine Densford, Ann Nyquist, \_\_\_\_\_.

Courses for public health nurses are designed to meet the needs of the following students:

(a) Those who have graduated from a school of nursing which does not grant an academic degree at the completion of the course. These students are admitted with advanced standing as candidates for the bachelor of science degree.

(b) Students who have graduated from a school of nursing and completed the work

\* Required course.

† P.H. 170 may be substituted for this.

‡ No graduate credit allowed for this course.

†† P.H. 140 may be substituted for P.H. 110 and 111.

for a baccalaureate degree, with a major in some field other than public health nursing. Such students are admitted as candidates for a certificate in public health nursing.

(c) Students who have completed the work for a baccalaureate degree, with a major in public health nursing, or its equivalent, and who have had suitable professional experience to qualify them for advanced work in their professional field. These students may enroll for either the master of science or the master of public health degree.

(d) Students who are completing a five-year degree course in nursing, with a major in public health nursing. Such students are admitted through an affiliation agreement with the School of Nursing as candidates for the certificate, or under certain conditions as transfer students and candidates for the bachelor of science degree.

Students may enroll in the School of Public Health or under certain conditions jointly in the School of Public Health and the College of Education; candidates for the master of science degree register in the Graduate School.

#### REQUIREMENTS FOR ADMISSION

##### 1. Candidates for the bachelor of science degree

(a) Ability to meet regular entrance requirements of the University. Occasionally students who are not eligible for matriculation at the University may be accepted as "special students" upon approval of the public health nursing committee. When admission is granted on this basis, the student is *not eligible for a degree or certificate* until her entrance status has been satisfactorily adjusted. If unable to present approved high school credentials, the student must demonstrate ability to carry university work through satisfactory completion of entrance examinations. Students who plan to take entrance examinations should come to the University four days in advance of the date set for registration. (See Bulletin of General Information, which may be obtained from the dean of admissions and records.)

(b) Graduation from an accredited school of nursing offering a satisfactory theoretical and clinical experience.

(c) Approval of the Public Health Nursing Committee.

*Advanced standing* for those transferring from other schools of nursing will be determined upon review of the nursing records of the applicant. Approximately 45 credits may be allowed, but there is some variation depending upon the amount and type of preparation afforded by the school of nursing attended. If essential services have been inadequate in the basic nursing program of the student, she may be required to complete additional hospital service before advanced standing will be granted, tho not necessarily before admission to the course.

*Field observation or experience* is a prerequisite for the course in public health nursing. The student should, where possible, arrange for at least a week of observation in a public health agency in her own community. If this is not possible the University will arrange for this observation prior to registration. Requests for such observation should be sent to the director of the Course in Public Health Nursing, University of Minnesota, at least one month in advance.

##### 2. Candidates for a certificate in public health nursing

(a) Baccalaureate degree.

(b) Courses in bacteriology, psychology, and sociology. Admission without these courses may be approved subject to their completion before awarding of the certificate. They may not, however, be substituted for the required courses.

(c) Basic nursing education as described in 1 (b).

##### 3. Candidates for the master of science degree

Candidates for the master of science degree must meet the regular requirements of the Graduate School as described in the bulletin of that school. They must have:

(a) Baccalaureate degree.

- (b) Major sequence in public health nursing, certificate in public health nursing, or equivalent.
- (c) Suitable professional experience and personal qualifications.

**4. Candidates for the master of public health degree**

- (a) Baccalaureate degree.
- (b) Major sequence in public health nursing, certificate in public health nursing, or equivalent.
- (c) Suitable professional experience and personal qualifications.

PLAN OF INSTRUCTION

**1. Undergraduate program**

Students may attend the University for the entire period necessary to secure a degree or may attend for as short a time as a single quarter. In general, it is advisable to plan for at least two quarters of work, since this lends a greater amount of continuity. Students who plan to remain at the University for a period longer than one year are urged to register for general academic subjects in advance of their professional courses.

Those entering during the fall quarter, even though admitted with advanced standing, are eligible to take advantage of New Students' Week activities. The New Students' Week Handbook may be secured from the dean of admissions and records. Students are particularly urged to attend the lectures on the library, tour of the library, and lectures on "How to Study."

*Field work* is an essential part of the program. Supervised practice in a family health agency, and in rural and school services, is required for either the degree or certificate in public health nursing. Opportunities to participate in closely supervised field experience have been arranged through collaboration with the state departments of health of Iowa, Minnesota, and Wisconsin; the city health departments of Duluth, Minneapolis, Rochester, and St. Paul, Minnesota, and Peoria, Illinois; the Department of Health of St. Louis County, Missouri; the Minneapolis Community Health Service; the Public Health Nursing Association of Des Moines, Iowa; the St. Paul Family Nursing Service; and the Visiting Nurse Association of Omaha, Nebraska.

*Application for field experience* should be made at least three months before the period when it is desired. More valuable rural experience is available for those who can provide their own cars.

Students are required to furnish their own uniforms, transportation to and from the field, and board and lodging during this experience. With the exception of field work in supervision, students are expected to devote full time to field work, and may not carry other university courses concurrently.

*Required Courses*

No.	Title	Credits
English		9-15
(The required course will depend upon the results of the English Placement Test which must be taken before the date of registration.)		
Social Sciences		
Soc. 1	Introduction to Sociology .....	5
Soc. 49	Social Pathology .....	3
Soc. 90, 91, or 129	Principles of Social Case Work .....	3
	Elective in child welfare group .....	3
	Courses from social science group exclusive of sociology (history, political science, economics) .....	9

No.	Title	Credits
<b>Natural Sciences</b>		
Psy. 1-2	General Psychology .....	6
Bact. 53 or 101	General Bacteriology or Medical Bacteriology .....	5
	Courses from science group (bact., chem., zool., etc.) .....	14
		25
<b>Professional Courses</b>		
P.H. 53	Elements of Preventive Medicine and Public Health .....	5
P.H. 62-63	Principles of Public Health Nursing .....	6
P.H. 65	Field Work in School Nursing	
P.H. 66	Field Work in Rural Nursing	
P.H. 67	Field Work in Family Health Agency } .....	15-23*
P.H. 133 or 61	Mental Hygiene Aspects of Public Health Nursing .....	3
Ed. 81	Introduction to Education for Public Health Nurses .....	3
	Electives from School of Public Health .....	5
	Free electives from any department .....	29-43
		70-76
		135
	Advanced standing for three years of hospital training approximately .....	45
		180

The curriculum in the College of Education leading to a bachelor of science degree with a major in public health nursing differs from the above curriculum only in that 26 credits in education are required, and this leaves 0-15 credits for electives.

## 2. Certificate program

The certificate program extends over a period of three to three and one-half quarters. The student who enrolls for the certificate course without having had either field work or suitable experience in public health nursing may need to spend 3½ quarters at the University in order to complete the necessary requirements.

### *Required Courses*

No.	Title	Credits
P.H. 53	Elements of Preventive Medicine .....	5
P.H. 62-63	Principles of Public Health Nursing .....	6
P.H. 65	Field Work in School Nursing	
P.H. 66	Field Work in Rural Nursing	
P.H. 67	Field Work in Family Health Agency } .....	15-23*
P.H. 133 or 61	Mental Hygiene Aspects of Public Health Nursing .....	3
Ed. 81	Introduction to Education for Public Health Nurses .....	3
Soc. 90, 91, or 129	Principles of Social Case Work .....	3-5
	Electives from School of Public Health .....	3
	Electives from related departments to make a total of at least 45 credits.	

## 3. Graduate program

The graduate program ordinarily extends over a minimum of three quarters.

Students enrolled for the M.P.H. or M.S. degree are expected to take certain courses which are designed to familiarize them with the problems of professional groups with whom they will work in the public health field.

\* Exemption for part of this requirement may be given for satisfactory prior experience received in an approved agency offering suitable supervision.

*Required Courses*

No.	Title	Credits
P.H. 102	Environmental Sanitation I .....	3
P.H. 104	Epidemiology I .....	5
P.H. 106	Public Health Administration .....	3
P.H. 125	The Community Health Education Program .....	3
P.H. 140	Vital Statistics .....	3
P.H. 170	Supervision in Public Health Nursing .....	3
P.H. 171	Problems in Public Health Nursing .....	3

Required courses have been reduced to the minimum to facilitate individual planning for each student. Courses offered in other schools and colleges of the University are freely available to qualified students, and offer an almost unlimited range of possibilities for supplementary courses. It is possible to secure a concentration of work in a related field, such as child welfare, social case work, health education, or nutrition where it seems desirable to do so.

## COURSES FOR HEALTH EDUCATORS

Major Adviser: Ruth E. Grout.

Committee on Curriculum for Health Educators: Gaylord W. Anderson, Ruth E. Grout, Helen Starr.

In the rapidly growing field of health education there is urgent need for professionally prepared personnel. An increasing number of health departments are adding health educators to their staffs, and schools and other agencies are demanding competent health education leadership. As a contribution toward meeting these field demands, the University of Minnesota offers a graduate curriculum in health education for qualified candidates.

The program of study now available in the School of Public Health may lead to the degree of master of public health, master of science, or the doctor of philosophy.†

## REQUIREMENTS FOR ADMISSION

1. A Bachelor's degree from an acceptable institution. (Qualified students who have not received the Bachelor's degree and are not candidates for the Master's degree may be admitted as special students.)
2. Evidence of a satisfactory background in (a) the basic health sciences; (b) education and educational psychology; and (c) the social sciences.
3. Personality qualifications essential for satisfactory leadership in health education.
4. For additional requirements for candidates for the master of public health degree see page 16.

## PLAN OF INSTRUCTION

The course of study leading to the Master's degree covers at least three academic quarters. One quarter of field work in an approved training center or equivalent experience will be expected of all students. These quarters may be taken in a single academic year or divided among two or more years according to the preference of the student.

Candidates for the Doctor's degree must spend at least three years of graduate study in approved subjects. The first two years or the last year must be spent in residence at the University of Minnesota.

The program of study to be followed should include such additional courses as will be needed to provide certain basic courses and a well-balanced training in the branch of health education for which the student is preparing.

The following program of courses for the Master's degree is suggested. Courses taken for this degree shall include those listed in Group A unless the student has taken the course as an elective toward the Bachelor's degree. Recommended supplementary courses are listed in Group B.

† The program of study in the College of Education may lead to the degree of master of arts or doctor of philosophy.

*Group A. Required*

No.	Title	Credits
P.H. 102	Environmental Sanitation I .....	3
P.H. 104	Epidemiology .....	3
P.H. 106	Public Health Administration .....	3
P.H. 125	The Community Health Education Program .....	3
P.H. 140	Vital Statistics .....	3
P.H. 171	Problems in Public Health Nursing .....	3
P.H. 190	Field Work in the Community Health Education Program .....	Cr. ar.
P.H. 227	Problems in the Community Health Education Program .....	Cr. ar.
Ed.C.I. 114	The School Health Education Program .....	3
Jour. 150	Public Relations in Community Service .....	2
Phys.Ed. 115	Philosophy and Current Problems of Physical Education .....	2
	Electives in Education .....	6

*Group B. Supplementary*

P.H. 126	Industrial Health Problems .....	3
P.H. 210	Seminar in Public Health .....	1
Bact. 101-102	Bacteriology .....	6-9
C.W. 131	Child Welfare .....	3
C.W. 170	Parent Education .....	3
Ed.Ad. 124	Public School Administration .....	3
Ed.C.I. 105	Visual Aids in Teaching .....	2
Ed.C.I. 217	Seminar in the School Health Education Program .....	Cr. ar.
Ed.C.I. 129	Principles and Problems of Teaching Social Hygiene .....	3
Ed.C.I. 150	Supervision and Improvement of Instruction .....	3
Ed.C.I. 170	Curriculum and Course of Study Construction .....	3
Ed.Psy. 133	Guidance in Secondary Schools .....	2
Ed.Psy. 293	Psychology of Learning .....	3
H.E. 170	Nutrition of the Family .....	3
H.E. 171	Child Nutrition .....	3
Pol.Sci 120	Municipal Functions .....	3
Pol.Sci. 121	Municipal Administration .....	3
Soc. 114	Rural Social Institutions .....	3
Soc. 129	Principles of Social Case Work .....	3
Speech 106	Public Speaking and Discussion .....	3

Requirements for degrees—See below.

All candidates for a Master's degree must complete a program of at least three quarters of approved study totaling 45 credit hours. One quarter of field work in public health education will be required of most candidates for the Master's degree or the doctor of philosophy degree.

## LABORATORY OF PHYSIOLOGICAL HYGIENE

Major Adviser: Ancel Keys

The Laboratory of Physiological Hygiene, established at the University in 1937 as a research and teaching unit, was made an integral component of the School of Public Health effective July 1, 1946. This Laboratory offers unusual opportunities for advanced study in the fields of fatigue, nutrition, physiology of exercise, and the problems of metabolism. See supplemental announcement for listing of courses available through this Laboratory.

## DEGREES AND CERTIFICATES

The emphasis of the instructional program in the School of Public Health is directed primarily toward postgraduate professional study. The professional training courses in public health lead to degrees of bachelor of science, master of science or master of public

health, and doctor of philosophy. The certificate in public health nursing is offered only to nurses who have already received the baccalaureate degree. The certificate in public health nursing and the degree of master of public health are awarded on joint recommendation of the School of Public Health and the Medical School. The master of science and doctor of philosophy degrees are awarded on recommendation of the Graduate School in accordance with provisions established for the University at large.

**Doctor of philosophy**—A program of study and research leading to this degree may be elected with a major either in public health, or in biostatistics, or in physiological hygiene. Entrance upon work for the doctor of philosophy degree with a major in public health will be limited to those who have: (a) the degree of doctor of medicine from an acceptable institution; or (b) the Bachelor's degree in engineering; or (c) the Bachelor's degree with a satisfactory major in biological sciences. A major in biostatistics may be elected by those whose interests lie in statistical theories and their application and do not otherwise include the public health field. Similarly a major in physiological hygiene may be elected by qualified students without regard to other public health courses.

A program of at least three years of study and research, approved by a committee of the Graduate School together with a thesis meeting prescribed standards, is required. A minimum of three quarters must be spent in residence at the University of Minnesota. Limited transfer of credits from other approved institutions will be permitted under specified conditions. The general requirements are set forth fully in the Bulletin of the Graduate School.

**Master of science**—This degree is available under two plans, the one involving a minimum of course work plus preparation of a thesis, and the other embracing more extended course work and the formulation of brief reports in lieu of a thesis. Three quarters of study in residence at the University are required in each case; transfer of not more than nine credits earned at other universities may be permitted but this does not shorten the minimum residence requirements. Major fields and advisers may be selected as in the Ph.D. program. Students may major in public health (concentrating upon one of the component fields) in biostatistics (with or without special reference to other parts of the public health program) or in physiological hygiene. For more detailed information, see the Bulletin of the Graduate School.

**Master of public health**—The student who wishes advanced professional preparation for work in public health is advised to elect the curriculum leading to the degree of master of public health. Registration is in the School of Public Health. The requirements for admittance to candidacy for the degree of master of public health are those set forth by the American Public Health Association as follows:

"Candidates to be admitted for the degree of master of public health may be either

- a. Holders of the degree of M.D., D.D.S., or D.V.M. or equivalent degree from an acceptable institution; or
- b. Holders of a Bachelor's degree with adequate training in mathematics and the natural sciences including chemistry and biology; and also qualified in some professional capacity for postgraduate education in public health; and must in addition have either
  - (1) Professional academic qualifications in engineering, nursing, education or postgraduate work in other fields of public health; or
  - (2) Three years of experience in responsible public health practice.

A period of supervised field experience in a public health agency is highly desirable before entering upon this program of study.

All candidates for the master of public health degree must complete a program of at least three quarters of approved study in courses at the University of Minnesota. This must include a *minimum* of 45 credits in courses of graduate grade, including public health administration, epidemiology, sanitation, public health nursing, health education,

and vital statistics. The program selected must have the approval of the student's adviser, and a grade average of not less than 1.5 (based on: A=3, B=2, and C=1) must be attained.

**Certificate in public health nursing**—A certificate in public health nursing is awarded simultaneously with the bachelor of science degree to those who complete the prescribed curriculum with a major in public health nursing at the University of Minnesota. Others who have received the baccalaureate degree in any field from an approved institution and who have been graduated with satisfactory theoretical and clinical experience from an accredited school of nursing, may become candidates for the certificate in public health nursing. A total of 45 credits must be earned in approved courses and field work conforming to the curriculum set forth in this bulletin. Thirty of the 45 credits for the certificate in public health nursing must be taken at the University of Minnesota. Candidates for the certificate must have an adequate background in bacteriology, psychology, and sociology. Students who cannot meet these latter requirements may be admitted on condition that they take the necessary courses to remedy this deficiency *in addition* to the prescribed curriculum.

**Bachelor of science**—The School of Public Health contributes special training curricula for this degree primarily in the field of public health nursing. The degree may also be earned with a major in biostatistics by those who wish to secure preparation for a career in statistical work, and with a major in public health by those who desire to give emphasis to basic courses in public health as part of their pre-professional training. The requirements for these major fields are as follows:

1. *Major in public health nursing*—Students may register for this degree in either the School of Public Health or in the College of Education. The curriculum in the College of Education differs from that in the School of Public Health only in the fact that 26 credits in prescribed education courses must be taken in addition to required professional courses.

A total of 180 credits in approved courses is required; the usual course load is 15 credits per quarter except during hospital training. The student is expected to maintain a satisfactory academic standing while attending the University and may not graduate with less than a C average in all work as well as a C average in the major sequence. For every five honor points in excess of one honor point per credit (A=3, B=2, C=1), the credit hours required for graduation are diminished by one, but the student must complete all the required courses.

At least three quarters in residence are required for the bachelor of science degree; at least two of these quarters must be in the senior year.

2. *Major in biostatistics or public health*—Registration for courses leading to the bachelor of science degree with a major in biostatistics or public health may be made either in the College of Science, Literature, and the Arts or the College of Education. The curricula are, in general, of a broadly elective type and designed for a normal period of study covering four academic years. An adviser in the major field should be selected, preferably on admission to the University, and certainly not later than the beginning of the junior year. Full details concerning registration and courses will be found in the Bulletin of General Information and in the bulletins of the respective colleges.

## DESCRIPTION OF COURSES

### EXPLANATIONS

**Course numbering**—A course is designated by a department name, a number, and a letter. It has the same number in whatever quarter it is offered. The quarter is indicated by letter (f, fall; w, winter; s, spring; su, summer).

Examples:

- 1f-2w, a two-quarter course given in the fall and winter.
- 1w-2s, the same course given in the winter and spring.
- 3f,w,s, a one-quarter course given each quarter.

Room schedules will be posted on the Public Health bulletin board in 121 Millard Hall.

### ABBREVIATIONS AND SYMBOLS

- I, II, III, etc. Main campus, first hour (8:00 to 8:50), second hour (9:00 to 9:50), third hour (10:00 to 10:50), fourth hour (11:00 to 11:50), fifth hour (12:00 to 12:50), sixth hour (1:00 to 1:50), seventh hour (2:00 to 2:50), eighth hour (3:00 to 3:50), ninth hour (4:00 to 4:50), tenth hour (5:00 to 5:50).
- Ar. To be arranged or assigned.
- Cred. Credits.
- Lab. Laboratory.
- Lect. Lecture.
- MTWThFS Monday, Tuesday, etc.
- Prereq. Prerequisite.
- Rec. Recitation.
- Sec. Section.

A parenthetical statement after the title of each course gives the following information: the number of credits the course carries, the classes to whom it is open, and the courses prerequisite to it. *Abbreviated statement:* (5 cred.; jr., sr.; prereq. 6). *Expanded statement:* This course carries five credits, is open to juniors and seniors only, and has for a prerequisite, Course 6 in the same department.

### SUBCOLLEGIATE COURSES IN SCHOOL OF AGRICULTURE

- A1. Hygiene. Methods of promotion of health and prevention of disease; fundamentals of healthful living; individual and community activities against the spread of disease. (1 cred.)
 

(Fall)	III	S	Dr. Bates
(Winter)	III	S	Dr. Bates
- A6. Family Care. Hygiene of infancy, childhood, and womanhood; care of illness in the home. (5 cred.)
 

(Winter) Sec. 1	I-II	TThS	313HE	Ar
2	VII-VIII-IX	MW	01MeH	
			(UF)	
- A4. Rural Sanitation. Disposal of excreta, sewage, and other waste; location, construction, and operation of rural water supplies; sanitary production, handling, processing, and serving of food; control of animals and insects involved in the spread of disease; ventilation and air conditioning; farm and home safety. (3 cred.)
 

(Winter)	IV	TThS	Mr. Pierce, Mr. Olson
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## PUBLIC HEALTH

3f,w,s.\* Personal Health. Elementary principles of normal body function; predisposing and actual causes of disease; ways in which disease may be avoided. (2 cred.; fr., soph.; no prereq. Not open to students who have taken Human Biology (G.C.10C.) in the General College.)

(Fall)	VI	MW	BuAud	Dr. O'Brien
(Winter)	VI	MW	BuAud	Dr. O'Brien
(Spring)	VI	MW	BuAud	Dr. O'Brien

4w,s.\* Health Problems of the Community. Personal health and prevention of disease in the family; relation to community health and disease control, important diseases and their prevention. (2 cred.; prereq. 3 or Human Biology (G.C.10C.) in the General College.) VI TTh. Ar. Dr. Thomson.

50w,s.\* 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 students who have not taken 3, 4, 52, 53, or Human Biology (G.C.10C.) in the General College; no prereq.)

(Winter)	III	MWF	Ar	Dr. Todd
(Spring)	II	MWF	Ar	Dr. Todd

51f,w.\* Community Hygiene. Elementary concepts of development, spread, and prevention of preventable diseases; community programs for their control. (3 cred.; jr., sr.; prereq. 3, 50, or Human Biology (G.C.10C.) in the General College; not open to students who have taken 4, 50, 52, or 53.)

(Spring)	II	MWF	Ar	Dr. Cowan
(Winter)	VII	MWF	Ar	Dr. Cowan

52a,b,f,w,s.\*† Health Care of the Family. Factors affecting the health of the family as a unit; environmental factors, including elementary sanitation; prevention of accidents; communicable diseases, their transmission and prevention; prenatal and infant hygiene and care; principal problems in preschool and school hygiene; care of the sick room; observation and care of the patient; elementary symptomatology. For home economics students. (3 cred.; soph., jr., sr.; prereq. Bact. 53, Human Physiol. 4; not open to students who have taken 50 or 51.)

52a	Lect., f,s—2 cred.	VI	MW	313HE
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52b	Lab., f,w,s—1 cred.			
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Sec. 1	VII-VIII	T	Dr. Todd
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2	VII-VIII	Th	
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53f,s.† 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.; nurses and students in pre-soc. work; prereq. 3 or 50, or equiv. and a course in Bacteriology.)

Lect.	II	MWF	Ar	Dr. Anderson
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Rec.	Sec. 1	III	TTh	Ar	Miss O'Leary
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2	VI	TTh	Miss O'Leary
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54. Principles of Public Health Nursing for Nursing School Personnel. Health teaching in the various services of a public health program with particular emphasis on the public health nurse's part in each phase of the program (morbidly, maternity, infancy, preschool, school, and adult health problems; communicable disease, tuberculosis, venereal disease, orthopedic problems; and accident prevention). Brief consideration of the organization and administration of public health nursing programs. (3 cred.) Not offered except in Extension. Miss Freeman.

\* No credit granted for this course in major sequence in public health nursing.

† Lectures given fall and spring quarters only. Laboratory sections given fall, winter, and spring quarters.

- 55w. Nursing and Social Problems in the Control of Gonorrhoea and Syphilis. History, prevalence, and epidemiology of gonorrhoea and syphilis, public health control measures; individual and family problems resulting from these diseases. Provision will be made for conferences and case discussion. (2 cred.; prereq. 53 and 62) Soc. 90 or 109 may be substituted by pre-social work students; may be taken simultaneously with any of these prerequisites.) VI MW. Miss O'Leary.
- 56s. First Aid and Safety for Nurses. Principles of first aid in home, industry, and community; prevention of accidents; organization of community programs in first aid and safety; professional and legal responsibilities of nurses in administering first aid (3 cred.; nurses only.) VI, VII, VIII, TTh. Dr. Kernan.
- 57w.\* Health of Infant and Preschool Child. Maternal and child health in public health program, problems of infant and maternal mortality, growth and development of infant and young child, care and feeding of normal infant; prevention and correction of physical defects. (2 cred.; jr., sr.; prereq. 4, or 50, or 51, or 52, or 53.) VII TTh. Dr. Boynton.
- 58w. Maternal and Child Hygiene. The maternal welfare program; importance of breast feeding; conduct of infant welfare clinics in cities and rural communities; consideration of child of preschool and school age as to malnutrition, physical defects, cardiac and nervous disorders. (3 cred.; nurses; prereq. 53 and 62.) VII MWF and one hr. ar. Dr. Boynton.
- 59f,w,s. Health of the School Child. Mental and physical growth; prevention and control of diseases common to the school-age child; health appraisal; correction of physical defects; emotional problems; care of the handicapped; the school environment and its effect on child health; accident prevention and emergency care; practical problems of health supervision and administration. (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 52, or 53; will be waived for teachers and school nurses, but cred. granted only after completion of prereq.)
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|----------|------|-----|-------------|
| (Fall)   | I    | MWF | Miss Grout, |
| (Winter) | IV   | MWF | Dr. Thomson |
| (Spring) | VIII | MWF |             |
- 60f,s. Tuberculosis and Its Control. History of tuberculosis movement and campaign in the United States; early diagnosis and sanatorium treatment; tuberculosis in children; psychology of tuberculosis; supervision of returned sanatoria patients; state program for eradication of tuberculosis; legislation. (2 cred.; nurses, others admitted by special permission; prereq. 4, or 50, or 51, or 52, or 53, and 62.) IV TS. Dr. Myers.
- 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). Miss Shalit.
- 62f.† Principles of Public Health Nursing I. Trends, principles and techniques in public health nursing service including family health guidance. (3 cred.; public health nurses, others admitted by permission; prereq. 53 or equiv. but may be taken concurrently.)
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|---------|----|-----|----|----|
| Sec. 1¶ | IV | MWF | Ar | Ar |
| 2¶      | VI | MWF | Ar |    |

\* No credit granted for this course in major sequence in public health nursing curriculum.

† To receive credit for this course the student must also complete Course 63.

¶ Section 1 is for students who have not had practical experience in public health nursing; section 2 is for students who have had such experience.

63w,s.\* Principles of Public Health Nursing II. Organization of public health nursing services; program planning; evaluation; professional problems in public health nursing. (3 cred.; public health nurses; others admitted by permission; prereq. 53 or equiv. but may be taken concurrently.)

(Winter)	Sec. 1§	IV	MWF	Ar	Ar
	2§	VI	MWF	Ar	
(Spring)		IV	MWF	Ar	

65f,w,s.‡ Field Work in School Nursing.† Credits allowed according to experience in this field. Working with the school nurse the student observes and participates in the activities included in the school nursing program; special attention to organization, relationships, techniques, methods of informal health teaching, provision for handicapped children, and home visiting. (Cred. ar.; public health nurses only; jr., sr.; prereq. 53, 62, and 67.) Miss O'Leary.

66f,w,s.‡ Field Work in Rural Nursing.† Credits allowed according to experience in this field. The student accompanies the rural nurse on her rounds and observes and participates in the activities in a rural nursing program. Special attention to organization for rural health work, methods of health teaching, development of community leadership, planning and conducting classes of various types for differing age groups, home visiting, etc. (Cred. ar.; public health nurses only; jr., sr.; prereq. 53, 62, and 67.) Miss O'Leary.

67f,w,s,su.‡ Field Work 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 Palmer, Miss Shalit, and associates.

70w,s.‡ Practice Teaching in Home Nursing for Public Health Nurses. (Same as Ed.T.50.) Includes practice in planning instruction and in teaching adults. (Cred. ar.; jr., sr.; prereq. P.H.67, Ed.81, or permission of instructor.) (Enrolment limited.) Ar. Miss Grout.

76f. Nutrition in Public Health Nursing. (Same as H.E.76.) Principles of nutrition applied to family teaching, consideration of diet for normal living, at special periods in life, and for certain diseases. Discussion of diet problems of low income groups. (3 cred.; prereq. 62 or may be taken concurrently.) II TThS. Ar.

80w.‡‡ 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.) VII, VIII TTh. Mr. Treloar.

90. Measurement in Medicine. Classification and measurement as descriptive methods in medicine; frequency proportions and probability; errors of random sampling and judgment of significance by statistical methods. (2 cred.; freshman medical and special; permission of instructor.) Ar. Mr. Treloar.

100. Preventive Medicine. Environmental and biologic factors concerned in the maintenance and transmission of disease, and the possibilities of control or prevention through the efforts of the private physician alone or in collaboration with community, state, or federal agencies. (4 cred.; sophomore medical students only.) Dr. Anderson.

\* To receive credit for this course the student must complete both Courses 62 and 63.

† Students must maintain a C average in theory completed before they are admitted to any field work.

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

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

§ Section 1 is for students who have not had practical experience in public health nursing; section 2 is for students who have had such experience.

- 101f,w,s,su. 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.; senior medical students only.) Dr. Anderson.
- 102f. Environmental Sanitation I. Methods for promoting man's health and comfort by controlling his environment; water supply sanitation, food sanitation, pollution abatement; sewage, excreta, and waste disposal; bathing place sanitation, air hygiene, illumination, housing, control of insect and animal vectors of disease, industrial hygiene and sanitation. (3 cred.; sr., grad.; prereq. 50 or 51 or 53 or 100 or by permission or may be taken concurrently with any of these.) I TThS. Mr. Whittaker, Mr. Pierce, Mr. Olson.
- 103f,w,s. Public Health Bacteriology. Bacteriologic and serologic diagnosis, public health laboratory administration and methods. (Cred. ar.; grad.; prereq. Bact. 101-102, 116 and permission of instructor.) II, III MWF. SBH. Dr. Kabler.
- 104f. Epidemiology I. Factors underlying the spread of infectious diseases, with detailed discussion of selected diseases; simple statistical and epidemiologic methods in the study of diseases. Lectures and laboratory. (5 cred.; jr., sr., grad.; prereq. 53 or 100 and consent of instructor; physicians, others by permission.) IV MWF. Dr. Anderson.
- 105w. Epidemiology II. Epidemiology of intestinal and insect-borne infections; further statistical methods. (3 cred.; prereq. 104.) III TThS. Dr. Anderson, Mr. Treloar.
- 106w. 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, or equiv. or to be taken simultaneously with any of these prereq.) I TThS. Dr. Anderson.
- 107f. Child and Adult Hygiene. Promotion of hygiene through public health and community effort, maternal, infant, preschool, school, college, industrial, and adult. Lectures and field trips. (3 cred.; physicians and graduate students in public health nursing or medical social work; prereq. 53 or 100.) VI, VII, VIII TTh. Dr. Boynton and associates.
- 108w. Care of the Handicapped Child. Extent of problem; history and development of program for care; types of physical defects; means of prevention and correction; medical social aspects; mental and emotional aspects; vocational training and placement. (2 cred.; prereq. 53, 57, 58, or 100.) VI TTh. Ar.
- 110f,s. Biometric Principles. Introduction to statistical analysis with emphasis on basic principles of statistical reasoning. The description of univariate distributions, normal correlations, simple tests of significance, and goodness of fit. (3 cred.; jr., sr., grad.; prereq. 18 cred. in biol. sci. or math. through anal. geom.; to be taken with 111.)
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|----------|--|-----|------|----|-------------|
| (Fall)   |  | III | TThS | Ar | Mr. Treloar |
| (Spring) |  | I   | TThS | Ar | Mr. Treloar |
- 111f,s,‡ Biometry Laboratory. Practical training in machine calculation and statistical techniques discussed in 110, with which it is to be taken concurrently. (2 cred.)
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|----------|--------|---------------|------|-------|-------------|
| (Fall)   | Sec. 1 | I, II         | TThS | 118MH | Miss Martin |
|          | 2      | VI, VII, VIII | TTh  | 118MH | Miss Martin |
|          | 3      | I, II         | MWF  | 118MH | Miss Martin |
|          | 4      | III, IV       | MWF  | 118MH | Miss Martin |
| (Spring) | Sec. 1 | II, III       | TThS | 118MH | Miss Martin |
|          | 2      | I, II         | MWF  | 118MH | Miss Martin |
|          | 3      | III, IV       | MWF  | 118MH | Miss Martin |
- 112w.\* Water Supply Sanitation. Sanitary problems associated with the location, construction, and operation of water supplies, purification works, and distribution sys-

\* Students who have Courses 112, 113, or 116 will not be given credit for Course 118.

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

- tems. Public health supervision of water supplies. Lectures, field and laboratory demonstrations. (4 cred.; prereq. 102 and 104.) I MWF, VI-IX Th. Mr. Pierce, Mr. Olson.
- 113w.\* Sewage, Excreta, and Waste Disposal. Public health supervision of, and methods for, the treatment and disposal of sewage, excreta, garbage and other wastes; methods for the study and control of stream, lake, and ground water pollution. Lectures, field and laboratory demonstrations. (4 cred.; prereq. 102 and 104.) III MWF, VI-IX T. Mr. Pierce, Mr. Olson.
- 115s. Food Sanitation. Sanitary problems associated with the production, processing and distribution of milk, meat, shellfish, and other foods, methods of public health supervision. Lectures, field and laboratory demonstrations. (3 cred.; prereq. 102, 104, 106.) III WF, VI-IX Th. Mr. Olson, Mr. Adams.
- 116s.\* Public Health Engineering Administration. Sanitary problems of urban and rural communities, administrative methods and procedures for their solution; organization of activities in the field of environmental sanitation. Lectures, seminars, field and laboratory demonstrations. (2 cred.; prereq. 102, 104, 106 and at least two of the following: 112, 113, 115.) II, V-VIII M. Mr. Whittaker, Mr. Pierce, and special lecturers.
- 117f. Sanitary Biology. Plant and animal forms of importance in water supply, sewage disposal and bathing places; biology of shellfish, rodents, mosquitoes, flies, and other organisms as it pertains to public health. Lectures and laboratory work. (Cred. ar. consent of instructor.) Mr. Olson.
- 118w.\* Environmental Sanitation II. Public health supervision of activities in the field of urban and rural sanitation. Demonstration of methods of sanitary control of environmental factors. Lectures, field and laboratory demonstrations. (2 cred.; physicians, nurses, veterinarians, and others by arrangement; prereq. 102) VI-IX W. Mr. Whittaker, Mr. Pierce, Mr. Olson.
- 119f,w,s,su.‡‡ Field Practice in Environmental Sanitation. Credits allowed according to experience in this field. (Cred. ar.; by permission.) Mr. Whittaker, Mr. Pierce, Mr. Kingston, Mr. Handy.
- 120s. Correlation Analysis. Total, partial, and multiple normal correlation and regression; correlation ratio; contingency; biserial methods; tetrachoric correlation; rank-order correlation; the symmetrical table and intra-class correlation. Course 121 to be taken concurrently. (3 cred.; prereq. 110.) III TThS. Mr. Treloar.
- 121w.‡ Correlation Laboratory. Practical training in the techniques of 121, with which it is to be taken concurrently. (2 cred.) Ar. Miss Martin.
- |        |               |     |       |             |
|--------|---------------|-----|-------|-------------|
| Sec. 1 | I, II         | MWF | 118MH | Miss Martin |
| 2      | VI, VII, VIII | MW  | 118MH | Miss Martin |
- 122s. Public Health Administration Problems. Conference discussion of selected problems; budgeting and program planning; appraisal of public health procedures and activities. (3 cred.; prereq. 106.) III MWF. Ar.
- 123f,w,s. Topics in Public Health. Selected readings in public health with discussion based on these readings. (Cred. ar.; prereq. permission of instructor.) Dr. Anderson, Dr. Boynton, and associates.
- 125w. 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.) VIII-IX WF. Miss Grout.

\* Students who have taken Courses 112, 113, or 116 will not be given credit for Course 118.

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

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

- 126f. Industrial Health Problems. Organization of industrial health services, state programs in industrial hygiene. Industrial hazards and their control. Procedures in industrial health services. (3 cred.; prereq. 53, Chemistry 1-2 or equivalent, or permission of department.) Ar. Dr. Foker, Miss Henriksen.
- 127f. Industrial Health Problems—Nursing Aspects. Organization and administration of nursing service in industrial health programs. Duties of nurses in industry. Program planning; records, relationships; interdepartmental, professional and community evaluation. (1 cred.; to be taken in conjunction with 126.) Ar. Miss Henriksen.
- 128w. Industrial Health Problems II. Special health hazards, use of toxic materials, specific diagnostic procedures, safety devices, (3 cred.; prereq. 126) Ar. Dr. Foker.
- 129f,w,s,‡‡ Field Work in Industrial Nursing. Planned observation visits to selected industrial health services to demonstrate range of industrial health problems. Supervised experience in industrial medical unit. Weekly conferences. Emphasis on practical functioning of the nurse in industrial and commercial organizations. (Cred. ar.; prereq. 67) Ar. Miss Henriksen.
- 130w. Random Sampling Distributions. A discussion of the sampling distributions of the more familiar statistics, the principles of statistical inference, and analysis of the problems of interpretation of differences, with special reference to small samples. Course 131 should be taken concurrently. (3 cred.; prereq. 110.) III TThS. Mr. Treloar.
- 131w.‡ Sampling Laboratory. Study of the distributions of statistics derived from small samples by practical test. To be taken concurrently with 130. (2 cred.) Ar.
- |        |               |      |       |             |
|--------|---------------|------|-------|-------------|
| Sec. 1 | I, II         | TThS | 118MH | Miss Martin |
| 2      | VI, VII, VIII | MW   | 118MH | Miss Martin |
- 133w. 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.) Dr. Clarke.
- 135s. Conservation of Hearing. Detection, prevention, and amelioration of hearing impairments as related to public health education, school, industrial, and public health nursing, and medical social service. (1 cred.; prereq. 53 and 62 or to be taken concurrently.) I M. Dr. Boies and associates.
- 136s. Sight Conservation. Conditions that impair human vision; community programs of vision testing and correction of defects; sight conservation programs. (1 cred.; prereq. 53 and 62 or to be taken concurrently.) I W. Dr. Hansen and associates.
- 137s. Dental Health. Conditions resulting in tooth decay and loss; preventive and corrective measures; mouth hygiene; community programs for dental health. (1 cred.; prereq. 53 and 62 or to be taken concurrently.) I F. Dr. Irwin, Dr. Jordan.
- 138f,w,s,‡‡ Field Work in Child Hygiene. Field practice, conferences and seminars in prenatal, infant, and child care. Offered in conjunction with Rochester City Health Department and Rochester Child Health Projects. (Cred. ar.; hours ar.; senior and graduate students, prereq. permission of instructor) Dr. Aldrich, Miss Mouw, and associates.
- 140f.‡ Vital Statistics. Study of official sources of vital statistics, including population changes, calculation of rates, and graphical exposition of trends. (3 cred.; to be taken in conjunction with 104, permission of instructor.) VI, VII, WF. Mr. Treloar.

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

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

- 141s. Social and Economic Aspects of Medical Care. A survey of social and economic forces affecting administration and financing of medical care; the need for sickness insurance, group hospitalization; the concern of government in the provision of pre-paid medical care. (3 cred.; permission of instructor.) IV TThS. Dr. Weaver.
- 150w.‡ Life Tables. Mortality rates and the construction of the life table. Laboratory course with discussions, offered when sufficient demand exists. (3 cred.; permission of instructor.) Ar. Mr. Treloar.
- 170s. 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.) III TThS. Ar.
- 171f,w,s. 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.) Ar.
- 173f,w,s.‡‡‡ Field Work in Supervision. (Cred. ar.; public health nurses only; prereq. 170 or permission of instructor.) Ar. Miss Freeman and associates.
- 174f,w,s. 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.) Ar.
- 190f,w,s.‡‡‡ Field Work in the Community Health Education Program. Three months of practical field experience in community health education under the supervision of qualified health educators. Details will be worked out in accordance with individual needs of the students. (One academic year of approved study toward a Master's or Doctor's degree either in education or public health. Cred. ar.; prereq. 125, 227.) Miss Grout and associates.
- 200f,w,s. Research. Opportunities will be offered by the school and by the various coordinated organizations for qualified students to pursue research work. (Cred. ar.) Dr. Anderson, Dr. Diehl, and others.
- 201f,w,s. Topics in Biometry. Studies in special topics for advanced students. (Cred. ar.; prereq. 120, 130, or consent of instructor.) Ar. Mr. Treloar, Miss Martin.
- 210f,w,s. Seminar in Public Health. Ar. Staff.
- 211f,w,s. Seminar in Biometry. (1 cred.) Mr. Treloar.
- 227f,w,s. 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.

## COLLEGE OF EDUCATION

- Ed.81. Introduction to Education for Public Health Nurses. Principles, methods, and materials in education as applied to public health nursing situations. Group work will be emphasized. Not open to candidates for a degree in the College of Education.
- Ed.C.I.70.‡‡‡ Methods and Materials in Safety Education.
- E.C.I.114.‡‡‡ 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 within the school; construction of the curriculum in school health; evaluation of the school health education program; preparation and requirements for teaching school health education; health supervision and guidance.

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

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

- Ed.C.I.129.‡ Principles and Problems of Teaching Social Hygiene. Emphasis will be placed on methods of teaching social hygiene in the public schools and materials for instructional use in the elementary and secondary schools.
- Ed.C.I.215.‡ Problems in the School Health Education Program. For advanced students who wish to pursue independent study and experimentation in school health education.
- Ed.C.I.216.‡ Field Work in the School Health Education Program. Practical field experience in school health education under the supervision of qualified health educators. Details will be worked out in accordance with individual needs of the students.
- Ed.C.I.217.‡ Seminar in the School Health Education Program. Discussion and reports on current problems in school health education.
- Ed.T.83.‡ Methods and Materials of School Health Education. Study of principles, materials, and problems of health education in preparation for health teaching. Observation in techniques of school health instruction. Allocation and gradation of health subject matter, study of health needs of school children. Evaluation of school health instruction.

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

# GENERAL INFORMATION FOR ALL STUDENTS

## EXPENSES

1. Tuition fee per quarter\*

Resident (full schedule) .....	\$25.00
Nonresident (full schedule) .....	56.00
Resident, per credit hour .....	2.25
Nonresident, per credit hour .....	4.75
2. Matriculation deposit\*

For Graduate School .....	3.00
For others .....	5.00
3. Incidental fee per quarter\* .....
4. Special course fees are charged in addition to the regular tuition. .....

## UNIVERSITY FEES

The university year, extending from October to June, is divided into three terms called quarters. On the specified dates (see Calendar, General Information Bulletin) prior to the opening of each quarter, the following fees are due from each student: (a) tuition, (b) incidental, and (c) such special fees and deposits as may be required. Payment of fees cannot be deferred. See Privilege Fees, Bulletin of General Information, for further instruction on late registration and late payment of fees.

Checks and drafts received in payment of any fee whatsoever are accepted subject to final payment in cash or solvent credits; and all banks in the banking routine of collection of such items are accepted by the student as his own agents, and not those of the University, whether such items be sent directly or indirectly to the payer bank.

## RESIDENCE DORMITORIES

**For women**—Comstock Hall on the Mississippi River Road houses 378 girls and Sanford Hall at 1100 University Avenue Southeast accommodates 275. The charge for board and single room is \$140 to \$160 per quarter; for occupants of double rooms \$150 per quarter. All applications for residence must be made for the entire school year. Communications requesting residence or regarding prices or any other details should be addressed to Mrs. Leora Cassidy the director of the residence halls for women.

Co-operative houses, each in charge of a chaperon, offer comfortable homes for about 145 women. By assisting with the work of the houses, the students are able to keep expenses to \$30 a month. Applications may be made to the director of Cooperative Village, 212 Twelfth Avenue Southeast.

## ROOMING HOUSES

Room and board may be secured in approved rooming houses accommodating either men or women. Room rent varies from \$15 to \$20 per month for a single room, and from \$12 to \$18 per month for a double room. Board at present prices may be secured for \$8 to \$9 per week for two meals per day. However, the majority of rooming houses are without board. For lists of approved rooming houses consult the Housing Bureau, 202 Eddy Hall.

## FURTHER INFORMATION

For further details regarding admission, expenses, health service, scholarships, etc. consult the Bulletin of General Information which may be obtained upon request. Address Dean of Admissions and Records, University of Minnesota, Minneapolis 14, Minn.

\* If a student receives a stipend under the terms of the Social Security Act the university dean of admissions and records should receive official authorization from the State Department of Health as to the payment of university fees before time of registration. The tuition amounts indicated are for registration in the College of Science, Literature, and the Arts, the College of Education, the Graduate School, and for the Course in Public Health Nursing and for candidates for the degree of master of public health in the Medical School. For tuition rates for other colleges, the Bulletin of General Information should be consulted.