

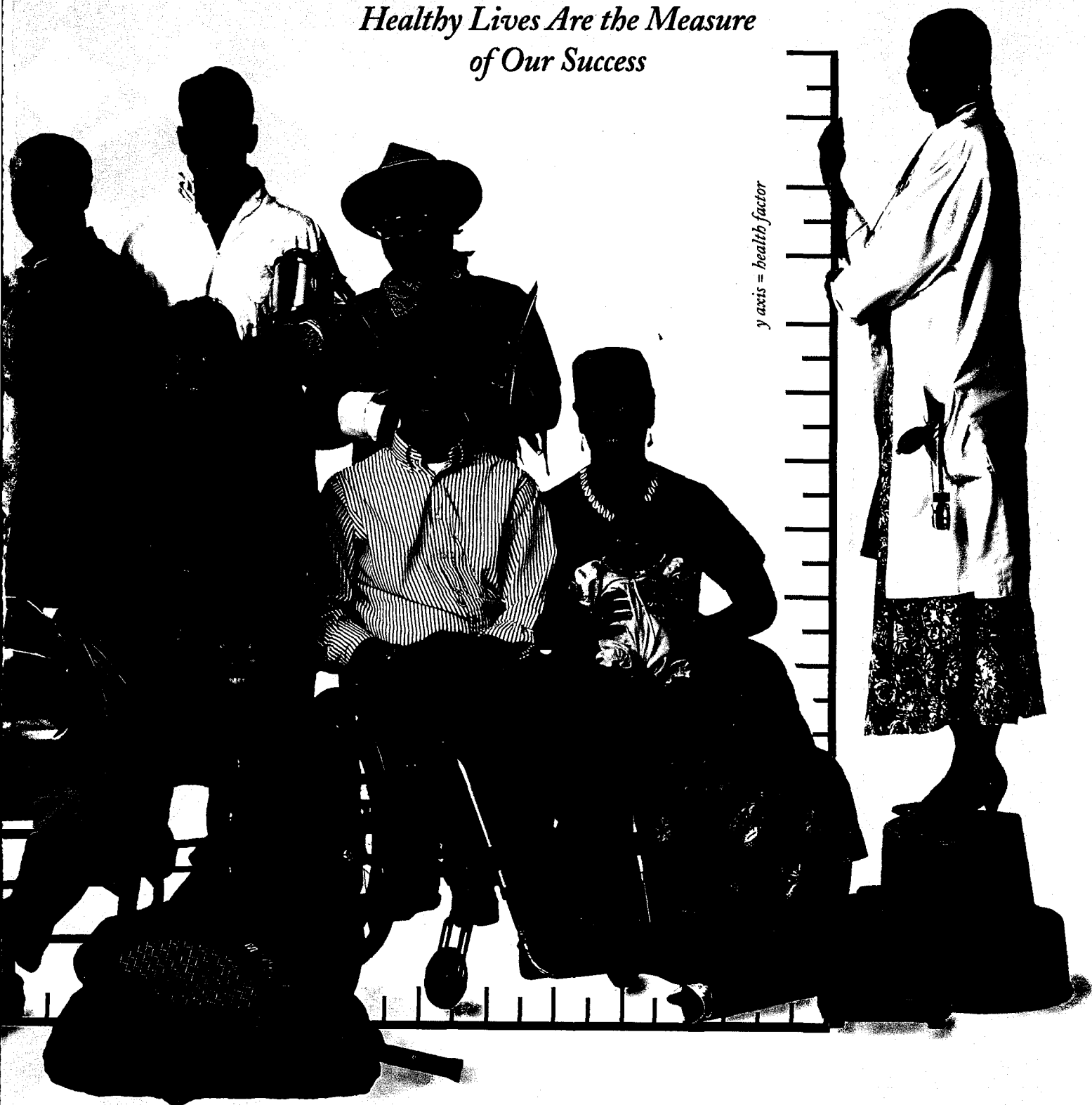
School of Public Health

UNIVERSITY OF MINNESOTA

BULLETIN

1994-1996

*Healthy Lives Are the Measure
of Our Success*



Address Inquiries to

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Our Mission

The mission of the School of Public Health is to preserve and enhance the health of the public through education, research, and service programs designed to discover and transmit new knowledge aimed at the prevention of disease and disability, the improvement of health, and the planning, analysis, management, evaluation, and improvement of systems for the delivery of health services.

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George O. Johnson, Head, Division of Health Management and Policy
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Thomas A. Louis, Head, Division of Biostatistics
Russell V. Luepker, Head, Division of Epidemiology

The School of Public Health reserves the right to change without notice any programs, policies, requirements, or regulations that appear in this bulletin. It should not, therefore, be considered in any way a contract.

The School of Public Health is accredited by the Council on Education for Public Health. All degree programs offered by the School of Public Health or through the Graduate School are fully accredited by the appropriate national accrediting agencies.

From the Dean

This is an exciting decade for public health. Never before has our field been presented with so many new challenges, such as the graying of the population, the reemergence of infectious diseases, national healthcare reform, and the ramifications of poverty and violence. For the first time ever, our legislative bodies, the general public, and the news media have perceived the importance and urgency of public health issues. This places us in a leadership position to address these emerging challenges.

This is also an exciting year for the University of Minnesota School of Public Health. The 1994-95 academic year marks the school's 50th anniversary. Committees of students, faculty, staff, alumni, and friends are organizing a celebration of dedication to our mission of "protecting and promoting the public's health through teaching, research, and community services." The anniversary will be celebrated all year long but will culminate in April 1995 with a national symposium on public health issues.

For 50 years, the School of Public Health has been committed not only to furthering scientific knowledge and addressing societal needs, but also to preparing outstanding practitioners and scholars. Perhaps more than ever before our faculty are on the cutting edge of new knowledge in a field that is changing and growing. We are proud of the recognition our faculty has brought to the school. We also take pride in our dedicated staff, the excellence of our student body, and the achievements of our alumni.

At this time of celebration when we look back at the accomplishments of our last 50 years, we also look ahead to our present and future students. They will learn from and work with all the outstanding members of the school, thereby continuing our well-established traditions of excellence and service.

We welcome your interest and invite you to review this bulletin with care.



Edith D. Leyasmeyer, M.P.H., Ph.D.

Interim Dean



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School of Public Health Degrees Available by Major

Average Program Duration[Ⓢ]

Admission Deadlines[Ⓣ]

Individual Degrees					Dual Degrees				
Academic Major (Deadline)	M.P.H.	M.H.A.	M.S.*	Ph.D.*	M.P.H./M.S.W.	M.P.H./M.S.N.	M.H.A./M.B.A.	M.P.H./M.B.A.	M.P.H./M.D.
Biostatistics (July 1)	24 months	n/a	24 months	24-48 months post-M.S.	n/a	n/a	n/a	n/a	n/a
Community Health Education (February 28)	24 months	n/a	n/a	n/a	24 months plus SW courses	n/a	n/a	n/a	n/a
Environmental Health (April 15)	12 months	n/a	21 months	24-52 months	n/a	21-24 months	n/a	n/a	n/a
Epidemiology (February 28)	12-24 months	n/a	12-24 months	24 months plus dissertation	n/a	n/a	n/a	n/a	12 months plus M.D. program
Health Services Administration (November 15 and March 1)	⊗	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Health Services Research and Policy (March 1)	n/a	n/a	24 months	n/a	n/a	n/a	n/a	n/a	n/a
Health Services Research, Policy and Administration (March 1)	n/a	n/a	n/a	48 months (includes dissertation)	n/a	n/a	n/a	n/a	n/a
Healthcare Administration (March 15)	n/a	21 months	n/a	n/a	n/a	n/a	21-27 months	n/a	n/a
Maternal and Child Health (April 15)	15-18 months	n/a	n/a	n/a	36 months	24 months	n/a	n/a	12 months plus M.D. program
Public Health Administration (April 15)	12 or 21 months	n/a	n/a	n/a	n/a	21-24 months	n/a	24 months	12 months plus M.D. program
Public Health Nutrition (April 15)	16-24 months	n/a	n/a	n/a	16-24 months plus SW courses	n/a	n/a	n/a	n/a

✓ Check each academic major's description for detailed information and financial aid deadlines

Ⓢ Based on full-time attendance; determined by each student's prior experience and education

Ⓣ Deadlines shown in parentheses

* Degrees offered through University of Minnesota Graduate School

⊗ See academic major's description for detailed information

n/a Not offered through these majors

School of Public Health

Organization and Faculty

The University of Minnesota School of Public Health ranks sixth among the nation's 27 public health schools. It is part of the University's Academic Health Center which contains the School of Public Health, School of Nursing, College of Pharmacy, Medical School, Dental School, College of Veterinary Medicine, Duluth's School of Medicine, and the University of Minnesota Hospital and Clinic. They form an integrated community of scholars, students, and faculty who learn about and work toward improving health. Within a network of classrooms, laboratories, clinics, and one of the foremost teaching hospitals in the United States, future healthcare professionals study in a rigorous academic environment, providing care and collaborating in research with world-renowned faculty mentors. This growing interdisciplinary environment offers students the opportunity not only to become involved with important research and the faculty conducting it, but also to cross disciplinary lines to tailor their course of study to their interests and needs.

The School of Public Health contains five administrative units:

- Division of Biostatistics
- Division of Environmental and Occupational Health
- Division of Epidemiology
- Division of Health Management and Policy
- Institute for Health Services Research

Through cooperative teaching programs and research efforts, these units offer twelve academic majors.

Division of Biostatistics

Thomas A. Louis, Ph.D., *head*
(612) 624-4655

This division trains public health practitioners and biostatistical scientists, conducts research to develop new biostatistical methods and improve public health, and serves the University, state, and nation. The graduate teaching program develops methodological and applications-oriented biostatisticians. The division's research program couples collaboration on projects related to public health with development of methods to meet the challenges of these applications. Applied projects include clinical trials and population, laboratory, and policy studies. The division's Biostatistics Consulting Laboratory offers statistical expertise to health science researchers, while its Coordinating Centers for Biometric Research provide state-of-the-art computing and database infrastructures to support large-scale studies. Both offer training and financial support to students. Faculty service activities keep the division in contact with a wide variety of health and professional agencies, such as the Minnesota Department of Health, National Institutes of Health, Centers for Disease Control, the National Science Foundation, and the Institute of Medicine.

Biostatistics faculty and their research interests:

Bradley Carlin, Ph.D.

(Bayes and empirical Bayes methodology, statistical computing, longitudinal studies) (Bio)

John Connett, Ph.D.

(clinical trials in cardiovascular disease, ophthalmology and pulmonary disease, case-control studies) (Bio)

Anne Goldman, Ph.D.

(clinical trials, database management, computer-aided teaching) (Bio)

Patricia Grambsch, Ph.D.

(survival analysis, chaos theory, robust statistical inference) (Bio)

Marcus Kjelsberg, Ph.D.

(data analysis and methodology for multi-center clinical trials) (Bio)

Chap Le, Ph.D.

(survival analysis, ordered alternatives, correlated binary data, ROC curves) (Bio)

Thomas Louis, Ph.D.

(statistical applications in AIDS research, meta-analysis, Bayes and empirical Bayes designs and analyses) (Bio)

James Neaton, Ph.D.

(clinical trials, applying statistical models to analysis of data from intervention studies) (Bio)

William Thomas, Ph.D.

(statistical diagnostics, generalized linear models, survival data, variance estimation) (Bio)

Lance Waller, Ph.D.

(spatial clustering, environmental and epidemiologic models in data analysis) (Bio)

Daniel Zelterman, Ph.D.

(analysis of categorical data, clinical trials, survival analysis) (Bio)

Division of Environmental and Occupational Health

Ian A. Greaves, M.D., *head*
(612) 626-0900

This division offers academic programs at the master's and doctoral levels, conducts research in diverse areas of occupational and environmental health, and undertakes continuing education and outreach efforts. The academic programs prepare students to be leaders and practitioners in environmental and occupational health in industry, academia, agencies delivering preventive health services and healthcare, consulting groups, and government and public sector agencies.

The division aims to instill in its graduates a sense of the regulatory and policy implications of the material presented and research undertaken. It emphasizes the importance and application of basic scientific knowledge to current societal problems and concerns.

The division is organized into specialty areas and hosts the Annual Occupational Health and Safety Institute, an intensive two-week program offering graduate or continuing education credit in an interdisciplinary setting.

Environmental and occupational health faculty and their research interests:

Donald Barber, Ph.D., M.P.H.

(hazards of ionizing radiation, human dosimetry from radioactive materials, radionuclides used for medical imaging and therapy) (EH)

Lisa Brosseau, Sc.D.

(aerosol behavior and the function of respirators) (EH)

Susan Goodwin Gerberich, Ph.D.

(injury epidemiology and prevention) (EH)

Ian Greaves, M.D.

(lung disorders as they relate to occupational and environmental hazards, agricultural health) (EH)

Rebecca Johnson, Ph.D., M.P.H.

(environmental and occupational epidemiology, cancer surveillance) (EH)

Patricia McGovern, Ph.D., M.P.H., R.N.

(occupational health nursing, effects of parental leave policy on maternal and infant health) (EH)

George Maldonado, Ph.D.

(epidemiologic methods relating to occupational and environmental epidemiology) (EH)

Jack Mandel, Ph.D., M.P.H.

(cancer prevention and surveillance: epidemiology and farming communities) (EH)

Debra Olson, M.P.H., R.N.

(occupational health nursing, injury prevention and control, agricultural health) (EH)

Ken Sexton, Sc.D.

(environmental health policy) (EH)

Rexford Singer, M.S.

(ground water quality and treatment, well construction) (EH)

Deborah Swackhamer, Ph.D.

(water chemistry in relation to organochlorine contaminants, pesticides) (EH)

Donald Vesley, Ph.D.

(environmental microbiology, microbial contamination control, aerobiology decontamination) (EH)

James H. Vincent, Ph.D., D.Sc.

(industrial hygiene, occupational health, aerosol sciences, applied fluid mechanics) (EH)

Elizabeth V. Wattenberg, Ph.D.

(risk assessment, environmental policy, toxicology) (EH)

Division of Epidemiology

Russell V. Luepker, M.D., *head*

(612) 624-1818

In this division, specialists from many scientific disciplines work together toward common goals: develop new knowledge from investigations into the causes and prevention of major diseases and synthesize the evidence on which public policy can be based; develop and test methods of modifying disease risk in individuals and whole populations; apply and evaluate programs to prevent disease and promote health in whole populations; educate students in the theory and applied skills of a population-wide approach to disease prevention and

health promotion; and serve the school, the University, and the community in their public health missions. The division houses the academic majors in community health education, epidemiology, and public health nutrition.

The division merges classical epidemiologic observations with laboratory and population-based experiments in disease prevention and health promotion. In an atmosphere of scholarship, research, and scientific criticism, students gain practical experience in research design and implementation and analysis of public health programs. Research in the division is closely tied to graduate training at the master's, doctoral, and postdoctoral levels. The following disciplines are represented in the division faculty: alcohol and drug prevention; cardiology and internal medicine; community health education; epidemiology (aging, cancer, cardiovascular disease, genetic susceptibility, health behavior, infectious disease, and nutrition); health communications; molecular biology; physiology; biochemistry, metabolism, and pathology; psychology; sociology and social work; and veterinary medicine.

Epidemiology faculty and their research interests:

Kristin Anderson, Ph.D., M.P.H.

(laboratory-based cancer epidemiology, pancreatic cancer etiology) (Epi)

Henry Blackburn, M.D.

(cardiovascular disease epidemiology, public policy for prevention) (Epi)

Judith Brown, Ph.D., M.P.H., R.D.

(perinatal nutrition and pregnancy outcomes, nutrition and women's health) (PH Nutr)

Marilyn Buzzard, Ph.D., R.D.

(dietary assessment methods, nutrient calculation, time-related databases, trend analysis of dietary data) (PH Nutr)

Richard Crow, M.D.

(physiology, exercise physiology, electrocardiography) (Epi)

Patricia Elmer, Ph.D., R.D.

(nutritional aspects of cardiovascular disease and cancer) (CHE, Epi, PH Nutr)

John Finnegan, Ph.D.

(mass communications in public health) (CHE, Epi)

Aaron Folsom, M.D., M.P.H.

(cardiovascular epidemiology, preventive medicine) (Epi)

Jean Forster, Ph.D., M.P.H.

(prevention policy, community strategies to reduce chronic disease risk) (CHE)

Myron Gross, Ph.D.

(biochemistry, nutrition, biomarkers) (Epi)

John Himes, Ph.D., M.P.H.

(child growth and nutrition, anthropometric assessment of nutritional status) (PH Nutr, Epi, HA)

David Jacobs, Ph.D.

(biostatistics, cardiovascular epidemiology, low cholesterol and disease) (Epi)

Robert Jeffery, Ph.D.

(behavioral epidemiology with emphasis on obesity and diet) (CHE, Epi, PH Nutr)

- Rhonda Jones-Webb, Dr.P.H.
(behavioral science, alcohol problems in minority populations, alcohol policy) (Epi, CHE)
- U. Beate Krinke, M.P.H., R.D.
(nutrition, aging, food and nutrition policy development) (PH Nutr)
- Lawrence Kushi, Sc.D.
(nutritional epidemiology, dietary assessment, nutritional factors in chronic disease) (CHE, Epi, PH Nutr)
- Harry Lando, Ph.D.
(smoking intervention and policy) (CHE, Epi)
- Alan Lifson, M.D.
(infectious disease, AIDS and HIV, screening high-risk populations) (Epi)
- Philip Lowry, M.D.
(infectious disease, tuberculosis vaccine development) (Epi)
- Russell Luepker, M.D., M.S.
(trends in cardiovascular disease risk, effect of interventional cardiology on disease outcomes, community disease prevention) (CHE, Epi, PH Nutr)
- Leslie Lytle, Ph.D., R.D.
(health behavior, health education, evaluation of eating change programs) (CHE, Epi, PH Nutr)
- Paul McGovern, Ph.D.
(cardiovascular disease epidemiology, research design) (CHE, Epi)
- David Murray, Ph.D.
(evaluation of health promotion programs, design and analysis issues in health promotion research, tobacco and alcohol use in adolescents) (CHE, Epi)
- Cheryl Perry, Ph.D.
(community-based behavioral interventions with children, adolescents, and families) (CHE, Epi)
- Phyllis Pirie, Ph.D.
(behavioral epidemiology, women smokers, survey methods) (CHE, Epi)
- James Rothenberger, M.P.H.
(chemical dependency, AIDS, sexually transmitted diseases) (CHE)
- Thomas Sellers, Ph.D., M.P.H.
(genetic epidemiology, cancer epidemiology) (Epi)
- Eyal Shahar, M.D., M.P.H.
(cardiovascular disease epidemiology) (Epi)
- Patricia Splett, Ph.D., M.P.H., R.D.
(administering/evaluating nutrition programs, cost-effectiveness of interventions) (PH Nutr)
- Mary Story, Ph.D., R.D.
(child/adolescent obesity) (PH Nutr, HA)
- Alexander Wagenaar, Ph.D., M.S.W.
(alcohol and drugs, alcohol policy, impaired driving, injury prevention, community organizing) (CHE, Epi)
- Carolyn Williams, Ph.D.
(epidemiology and prevention of mental disorders, refugee mental health) (CHE, Epi)
- Mark Wolfson, Ph.D.
(alcohol, tobacco, and other drug problems, citizen action, public policy) (CHE, Epi)
- Wei Zheng, M.D., Ph.D., M.P.H.
(cancer epidemiology, diet, genetic factors, occupational epidemiology) (Epi)

Division of Health Management and Policy

George O. Johnson, Ph.D., M.H.A., *head*
(612) 624-1110

This division educates students to become leaders in the many branches of health services administration and to participate actively in formulating public health policy. It provides a strong advising system and an active field and internship placement service.

The division is home to the majors in health services administration, healthcare administration, maternal and child health, and public health administration. In partnership with the Institute for Health Services Research, the division offers a doctoral degree in health services research, policy, and administration.

The Division of Health Management and Policy faculty are committed to education, research, and service in policy and management. Through their teaching and research, this multidisciplinary faculty influences state and national policymaking and improves the access, delivery, and use of healthcare services. They conduct research across a wide range of public health topics, such as factors related to low birth weight, rural health, special care units for Alzheimer's patients, adolescent high-risk behaviors, issues facing families of children with chronic diseases and disabilities, and computerized decision support for patients and planners.

Health management and policy faculty and their research interests:

- Greg Alexander, Sc.D., M.P.H.
(perinatal epidemiology) (MCH)
- Mila A. Aroskar, Ed.D., R.N.
(ethics in healthcare) (PHA)
- Lester E. Block, D.D.S., M.P.H.
(competition, regulation, rationing of health services, health policy) (PHA)
- Robert Connor, Ph.D., M.H.A.
(finance, insurance, geographic access) (HA)
- Bright M. Dornblaser, M.H.A.
(developing innovative healthcare organizations) (HA)
- Leslie A. Grant, Ph.D.
(aging, long-term care service delivery) (HA)
- George O. Johnson, Ph.D., M.H.A.
(organization and governance of vertically-integrated health systems) (HA)
- Theodor J. Litman, Ph.D.
(physician/patient behavior, group practice, long-term care) (HA)
- Mary Jane Madden, Ph.D.
(organizational behavior) (HSA)
- Marshall McBean, M.D., M.P.H.
(administration, epidemiology) (PHA)
- Joan Patterson, Ph.D.
(families, chronic illness and disability) (MCH)

- Sandra J. Potthoff, Ph.D.
(outcome evaluation, decision sciences) (HA)
- Barbara A. Spradley, M.N., R.N.
(management, leadership) (PHA)
- Michael D. Resnick, Ph.D.
(adolescent health-risk behaviors and resiliency) (HA)
- Robert ten Bensel, M.D., M.P.H.
(child abuse and neglect, maternal and child health history) (MCH)
- Robert Veninga, Ph.D.
(management communications, organizational behavior) (PHA)
- Vernon E. Weckwerth, Ph.D.
(statistics, research methods, quantitative methods) (HA)

Institute for Health Services Research

John E. Kralewski, Ph.D., M.H.A., *director*
(612) 624-6151

The institute focuses on research and teaching related to health services policy. The multidisciplinary faculty offers three research-based teaching programs: a doctoral program in health services research, policy, and administration; a master's of science in health services research and policy; and a postdoctoral program in health services research and policy for clinicians. Institute faculty have 30 to 40 research projects underway at any given time and work closely with state and national policymakers to use that research to shape healthcare policy. Faculty research related to health insurance coverage, managed competition, and rural health services played a key role in the development of the Minnesota state health insurance program (MinnesotaCare) and proposals for national healthcare reform as well as reform of the Medicare program. The teaching programs are closely linked to this research and policy analysis effort. Students are extensively involved in research projects and work with faculty and policymakers to translate the research into policy initiatives.

There are several centers within the institute, including the Health Care Financing Administration Research Center, Rural Health Research Center, and Long-Term Care Resource Center. The institute also holds a chair in Long-Term Care and Aging, a Blue Cross Health Insurance Professorship, and the William Wallace Chair.

The institute provides the focal point for health services policy research and teaching at the University and, consequently, has links with many other academic units, including the departments of economics and sociology and the Hubert H. Humphrey Institute of Public Affairs. The institute also has a close working relationship with the other schools in the Academic Health Center, including a Clinical Outcomes Research Center cosponsored with the Medical School and the University Hospital and Clinic.

Health services research faculty and their research interests:

- Thomas Choi, Ph.D.
(medical sociology, healthcare organization) (HSRP&A, HSRP)
- Jon Christianson, Ph.D.
(health economics, rural health, mental health) (HSRP&A, HSRP)
- Bryan Dowd, Ph.D.
(health policy analysis, health insurance) (HSRP&A, HSRP)
- Michael Finch, Ph.D.
(research methodology, sociology) (HSRP&A, HSRP)
- Judith Garrard, Ph.D.
(psychology, behavioral geriatrics, pharmacoepidemiology) (HSRP&A, HSRP, CHE)
- Angelika Gruessner, Ph.D.
(patient care outcomes, cost-benefit analysis) (HSRP)
- Robert Kane, M.D.
(aging and long-term care, care quality, care outcomes) (HSRP&A, HSRP)
- Rosalie Kane, D.S.W., M.S.W.
(aging and long-term care, ethics) (HSRP&A, HSRP)
- John Kralewski, Ph.D., M.H.A.
(health policy analysis, healthcare organization) (HSRP&A, HSRP)
- Willard Manning, Ph.D.
(health economics, healthcare demand, preventive health behaviors) (HSRP&A, HSRP)
- Ira Moscovice, Ph.D.
(operations research, rural health) (HSRP&A, HSRP)
- John Nyman, Ph.D.
(health economics, long-term care) (HSRP&A, HSRP)

Student Services and Organizations

While the University of Minnesota offers a wide range of student services (listed on page 45 of this bulletin), the School of Public Health offers additional services and organizations specifically for its students.

Student Services Center

Katherine Murphy, M.A., *director*
(612) 626-3500

Mission—The Student Services Center helps prospective and current students achieve their educational goals by providing information and guidance regarding policies, procedures, requirements, and student life.

Career Center

Joan Pasiuk, M.A., *director*
(612) 624-6915
Graduate assistantship hotline: (612) 624-9920

Mission—The Career Center helps students and alumni maximize employment opportunities, enhance career development skills, and develop and maintain professional contacts.

Resource Library—The resource library provides job postings (including graduate assistantships), directories, professional and academic journals, newsletters, and job search materials. Students may access these resources in D305 Mayo Building, Monday through Friday, 8:00 a.m. to 4:30 p.m.

Job Posting Database—The job posting database matches an individual's job interests with positions on file in the Career Center. This service allows the center to assist students and out-of-state graduates who inquire about opportunities applicable to their interests and background.

Programs—Throughout the year the Career Center sponsors a series of job search workshops. The Center also hosts professional panels that address current trends in the job market and skills needed by public health graduates entering a competitive marketplace.

Career Action Day—This networking, recruiting and career information fair is an opportunity to build connections with professional organizations and potential employers from the private, nonprofit, and public sectors.

Individual Advising—School of Public Health students and alumni may schedule appointments for résumé critiques and job search coaching.

Student Senate

The Public Health Student Senate represents the professional and graduate student body of the School of Public Health. The organization promotes the interdisciplinary approach to professional and graduate education and the school's social activities. Membership includes representatives elected from each major. Senate members also participate in the school's major committees.

Council for Health Interdisciplinary Participation (CHIP)

This interdisciplinary organization for health sciences students promotes the team approach to healthcare delivery through student services and community programs. CHIP offers educational and social activities.

Alumni Society

The School of Public Health has an Alumni Society, affiliated with the University of Minnesota Alumni Association. Membership is open to all students who have completed a minimum of 15 credits of coursework while enrolled in the School of Public Health. Members are entitled to all benefits of the school's Alumni Society, as well as those of the University's Alumni Association.

Delta Omega

The national honorary society for graduate studies in public health was founded in 1924 and the local Pi Chapter was organized in 1984. Membership in Delta Omega not only recognizes merit, but also encourages further excel-

lence in and devotion to public health work. Delta Omega membership reflects the dedication of an individual to quality in public health and protection and advancement of the health of all people. Students are nominated and elected yearly based on academic performance.

Minnesota Public Health Association (MPHA)

The association is the only multidisciplinary public health organization in Minnesota. Membership allows students to help influence state and national policymakers, network with public health professionals, and gain knowledge and understanding of the latest research, information, techniques, and activities in various public health areas.

American Public Health Association (APHA)

This organization represents all the disciplines and specialties in the public health spectrum. APHA is devoted to protecting and promoting public health.

Tuition and Fees

The first chart below lists the 1994-95 tuition for the M.P.H. and M.H.A. degrees. The second chart lists tuition for the M.S. and Ph.D. degrees, which are administered by the Graduate School. These fees are subject to change.

The credit plateau is 12-18 credits; there is no charge (except for course fees) for the 15th, 16th, 17th, and 18th credits. Each credit above 18 is assessed on a per-credit basis.

School of Public Health Tuition Rates 1994-95		
<i>Credits</i>	<i>Resident</i>	<i>Nonresident</i>
Per credit	\$107.00	\$230.40
12-18 credit plateau	\$1,252.00	\$2,696.00

Graduate School Tuition Rates 1994-95		
<i>Part-time rates</i>	<i>Resident</i>	<i>Nonresident</i>
1 credit	\$183.60	\$401.00
2 credits	\$362.20	\$802.00
3 credits	\$550.80	\$1,203.00
4 credits	\$734.40	\$1,604.00
5 credits	\$918.00	\$2,005.00
6 credits	\$1,101.60	\$2,406.00
<i>Full-time rates</i>	<i>Resident</i>	<i>Nonresident</i>
7-15 credits	\$1,261.00	\$2,754.00
Per credit for each credit over 15	\$183.60	\$401.00

Degrees

What degrees can be earned through the School of Public Health?

The chart on page 5 of this bulletin provides a brief overview of what degrees are available in each academic major. Following is a general introduction to each degree.

Master of Public Health—The goal of the M.P.H. program is to educate health professionals for progressive levels of responsibility among the many specific disciplinary areas. In some instances the M.P.H. degree may be combined with another academic major for a dual degree. These options are:

- M.P.H./M.S.W. (master of social work)
- M.P.H./M.B.A. (master of business administration)
- M.P.H./M.D. (doctor of medicine)
- M.P.H./M.S.N. (master of science, major in nursing)

Master of Healthcare Administration—The goal of the healthcare administration program is to prepare graduates for chief executive and other top-level administrative positions in health services organizations. The M.H.A. may be combined with a master's in business administration for the M.H.A./M.B.A. dual degree.

What are the basic requirements for these degrees?

Listed below are the *basic* requirements for each degree. Prospective students should check their specific academic area of interest for any additional requirements for that major.

M.P.H. Degree Requirements

To receive the M.P.H. degree from the School of Public Health, students must fulfill the following requirements.

1. **Credits**—Completion of major requirements with a minimum of 45 credits. Credits transferred from courses taken outside the University of Minnesota must be approved by the major faculty and the dean and shall constitute not more than 18 credits.
2. **Coursework**—Appropriate coursework as selected by the student with approval by the adviser and in accordance with the requirements of the specific major and the school's educational objectives.
3. **Core Requirements**—Completion of a pre-approved course in each of the five core areas: administration, behavioral sciences, biostatistics, environmental health, and epidemiology *or* passing an equivalency examination in a particular core area *or* passing an approved advanced course in a particular core area.
4. **Master's Project**—Completion of at least one master's project, demonstrating familiarity with the tools of research or scholarship in the field, the capacity to work independently, and the ability to present the results of the project effectively. The major faculty specifies the nature

and extent of the options available to satisfy this requirement and determines whether the requirement is to be satisfied in conjunction with or independent of the coursework in the student's program.

5. **Comprehensive Examination**—Successful completion of a written or oral examination as provided for by the major.
6. **Study Plan**—Submission of a complete study plan two quarters before anticipated graduation.
7. **Grade Point Average**—Cumulative GPA of 3.00 for all courses taken A-F required for graduation.
8. **Residency**—Completion of a minimum of two quarters in residence for a total of at least 16 credits while registered in the school. (Alternative Studies Program students who are granted admission to a degree program may have this requirement waived.)
9. **Time Frame**—Completion of all degree requirements within seven years from admission to degree candidacy.

M.H.A. Degree Requirements

To receive the M.H.A. degree from the School of Public Health, students must fulfill the following requirements.

1. **Credits**—Completion of major requirements with a minimum of 82 credits. (Alternative Study Program students who are granted admission complete 15 additional quarter credits of full-time study.)
2. **Coursework**—Appropriate coursework as selected by the student with adviser approval and in accordance with the major. Requirements for the M.H.A. include 57 credits of required coursework and 25 credits of electives.
3. **Master's Project**—Completion of at least one master's project—either an individual research thesis or a group management project—demonstrating familiarity with the tools of research and scholarship in the field and the ability to present the results of the project effectively.
4. **Oral Presentation**—Formal presentation of the research thesis or group project to students and faculty.
5. **Study Plan**—Submission of a complete study plan two quarters before anticipated graduation.
6. **Grade Point Average**—Cumulative GPA of 3.00 for all courses taken A-F.
7. **Residency**—Completion of 21 months of study on campus, including a three-month summer administrative residency in a healthcare setting. (Alternative Studies Program students who are admitted must complete a minimum of 9 credits in residence.)
8. **Time Frame**—Completion of all degree requirements within five years of initial enrollment.

Master of Science and Doctor of Philosophy

The M.S. and Ph.D. degrees are available in biostatistics (M.S., Ph.D.), environmental health (M.S., Ph.D.), epidemiology (M.S., Ph.D.), health services research and policy (M.S.), and health services research, policy, and administration (Ph.D.). Requirements for the M.S. and

Ph.D. degrees are determined by the faculty of the respective degree program and areas of specialization, subject to Graduate School credit-hour and residence minimums. M.S. Plan A programs require a minimum of 28 credit hours in addition to a thesis. M.S. Plan B programs require a minimum of 44 credit hours in addition to a project, typically about 120 hours of outside-classroom independent learning. Ph.D. programs are highly individualized, requiring a preliminary written examination, preliminary oral examination, thesis, and oral defense of the thesis in addition to the prescribed coursework.

Adult Special Status

Admission as an adult special student or the earning of adult special credits *does not* imply or guarantee acceptance into a degree program. Admission as a degree candidate must follow normal admission requirements and procedures.

All adult special students, like degree candidates, must plan their program of study in consultation with a faculty adviser. With approval of the major chairperson, a maximum of 22 credits (or two quarters) completed while registered as an adult special student in the School of Public Health may be applied toward the M.P.H. degree, although individual majors may set lower limits. Additional credits can only be transferred by petition approved by the adviser, major chairperson, and dean.

Adult special students who wish to transfer to candidacy for the M.S. or Ph.D. degree may obtain information on current regulations governing transfer of credits by contacting the Graduate School, University of Minnesota, 322 Johnston Hall, 101 Pleasant Street S.E., Minneapolis, MN 55455 (612/625-3014).

Dual Degree Programs

M.P.H./M.B.A.

The public health administration major offers a dual M.P.H./M.B.A. degree program combining the academic resources of the School of Public Health and the Carlson School of Management. Students who complete the program earn a master's of public health and a master's of business administration.

Applicants apply separately for admission to each program. Students begin their study in the School of Public Health during the first year and take M.B.A. coursework in the *evening accelerated program* during the second year. The combined credit load is 101 credits including double-counted courses.

For more information about the M.P.H./M.B.A., call (612) 625-9480. For more information about the accelerated evening M.B.A. program, call (612) 625-5555.

M.P.H./M.S.W.

The School of Public Health, in cooperation with the School of Social Work, offers a dual degree program for students who wish to pursue both the M.P.H. and M.S.W. degrees. The social work and public health professions have much in common as they address complex social-health problems. They each rely on strategies of prevention, public policy, community planning, needs assessment, research, administration, and evaluation of health and human service programs.

Graduates of the program are prepared to function in a variety of healthcare and public health settings as policymakers, planners, administrators, or educators, depending on their program of study. For more information, contact the School of Public Health Student Services Center at (612) 626-3500 or 1-800-SPH-UofM.

M.P.H./M.S.N.

The School of Public Health and School of Nursing offer a dual M.P.H./M.S.N. degree program to qualified nurses interested in public health and public health nursing who want administrative leadership positions in public health agencies and alternative healthcare settings. Students select a focus area in consultation with faculty from both schools, and may complete the degrees on a part- or full-time basis. Curriculum, research, advisement, and clinical placement are integrated in the School of Public Health and School of Nursing programs. All applicants must meet the admission and graduation requirements for both schools. Tuition support and stipends may be available to qualified students. For more information, contact the School of Public Health Student Services Center at (612) 626-3500 or 1-800-SPH-UofM, or the School of Nursing at (612) 624-9494.

M.H.A./M.B.A.

The School of Public Health and Carlson School of Management offer a dual M.H.A./M.B.A. degree program to students already admitted to the healthcare administration major. Students plan a individualized course of study with faculty from both schools and complete the program typically in two to two and one half years depending on the student's previous educational background. Students are accepted into the dual degree program during spring quarter of their first year or fall quarter of their second year in the School of Public Health. Students must first be admitted to the healthcare administration major before applying for the dual degree. Separate applications must be submitted and acceptance into one of the programs does not guarantee acceptance into the other. For more information, call (612) 624-1110.

M.P.H./M.D.

The School of Public Health and the Medical School offer the M.P.H./M.D. dual degree program. The program's primary goal is to improve the health of individuals, communities, and populations by offering future physicians rigorous training in medicine and public health. The program provides a broad range of educational experiences to prepare medical students for careers that incorporate public health into the practice of clinical medicine, medical education, and medical research.

The M.P.H./M.D. can be completed in five years and includes the four-year Medical School curriculum and the curriculum of a School of Public Health major. The program offers flexibility in scheduling the sequence of the Medical School and School of Public Health components.

Enrollment in the M.P.H./M.D. program is contingent upon admission to both schools. Prospective students submit separate applications to the Medical School and the School of Public Health. Applications for admission to the Medical School must be received between June 15 and November 15 of the calendar year before prospective students plan to begin Medical School. Application dates for admission to the School of Public Health vary with each major.

For more information, call the School of Public Health Student Services Center at (612) 626-3500 or 1-800-SPH-UofM (740-8636).

M.D./Ph.D.

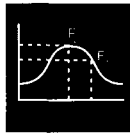
The M.D./Ph.D. program is available to medical students who choose to pursue a Ph.D. in health services research, policy, and administration through the School of Public Health. The program reduces doctorate duplication, integrates medical and graduate training, and maximizes research time. It combines six years of coursework and fundamental health services research with clinical training. The training period involves two years of Medical School coursework, including both pre-clinical basic sciences and courses that lay the foundation for research thesis projects and clinical rotation; three to four years of health services research, policy, and administration doctorate coursework; relevant research leading to a dissertation; and about 62 weeks of clinical rotation.

For more information, contact Dr. Martin Dworkin, (612) 624-7994, or write the M.D./Ph.D. Program, University of Minnesota Medical School, Box 293 UMHC, 420 Delaware St. S.E., Minneapolis, MN 55455.

Academic Majors: Answers to Your Questions

Biostatistics

Thomas A. Louis, Ph.D., *major chairperson*
Chap T. Le, Ph.D., *director of graduate studies*
(612) 624-4655



- pathogenesis and treatment of otitis media (ear infection) in children,
- prevention of colon cancer,
- treatment of mild hypertension, and
- effects of risk factor intervention on death rate from coronary heart disease.

What is biostatistics?

Biostatistics combines statistics, computing, and biomedical science to further human health research. The biostatistics major educates practitioners and biostatistical scientists in the application of statistical methods to public health and biomedical science. Biostatisticians design, direct, and analyze clinical trials; plan and carry out health surveys; develop new statistical methods; and analyze data from observational studies, laboratory experiments, follow-up studies, and surveys.

Who should apply?

Biostatistics is an ideal field for students with an excellent mathematical background and ability. You should consider biostatistics if you earned good grades in calculus and other math classes, enjoy working with computers and numbers, value objectivity and scientific methods, are a good communicator, work well with others, and are interested in health-related research.

What does the job market look like?

Job prospects for biostatistics graduates are excellent. Typical starting salaries for graduates with master's degrees range from \$35,000 to \$45,000, and from \$45,000 to \$60,000 for graduates with doctoral degrees. Career opportunities include conducting research in government or large medical clinics, conducting drug development research in pharmaceutical companies, teaching and conducting research in health sciences at universities, and conducting research at state and federal health agencies.

Why Minnesota?

The biostatistics major has an international reputation for excellence in methodologic and applied research and training. The University's program also has

- excellent, state-of-the-art computing facilities,
- proximity to a large health sciences complex,
- small classes and individual faculty attention,
- good record in job placement,
- teaching and research assistantships, and
- opportunities for work experience in clinical trials.

Another reason to choose the University is its strong research program. Biostatistics faculty actively contribute to applied research in projects such as

- community-based clinical trials in AIDS,
- prevention of coronary heart disease,
- prevention of chronic obstructive pulmonary disease in smokers,

Research Activities

Faculty methodologic research interests cover a broad spectrum, with emphasis on Bayes monitoring of clinical trials, other Bayes and empirical Bayes methods, analysis of spatial data, methods for case-control studies, principal components curve decomposition, random effects models, modeling disease natural history, analysis of longitudinal data, database systems, quality control, errors-in-variables, smoothing, meta-analysis, clinical trials, sparse contingency tables, analysis of highly stratified data, and models for univariate and multivariate event-time data. Most research stems from application issues. The division's applied research unit, the Coordinating Centers for Biometric Research, conducts government-sponsored clinical trials and other research studies. The division's Biostatistics Consulting Laboratory serves as a health sciences resource for designing and analyzing studies. Both facilities provide excellent on-the-job learning experiences through graduate research assistantships.

The Degree Programs

The biostatistics major offers M.P.H., M.S., and Ph.D. degrees.

For the master's degrees, the following courses are required: biostatistical inference, theory of statistics, clinical trials, statistical computing, analysis of categorical data, survival analysis, statistics, biostatistics, and health sciences electives. The M.P.H. involves additional coursework in core areas of public health (administration, behavioral sciences, environmental health, epidemiology). The master's degree usually requires two years of full-time study and includes a project in which students must demonstrate familiarity with research tools, the ability to work independently, and the ability to present effectively the results of their investigation.

The doctoral degree is open to students who have completed requirements for the M.S., shown proficiency in statistics and computing, and have adequate background in mathematics and health sciences. The Ph.D. usually requires one or two years of coursework beyond the M.S. plus the dissertation. Additional course topics for the Ph.D. degree include general linear models, analysis of longitudinal data, sequential analysis, advanced survival analysis, bioassay and screening, Bayes and empirical Bayes methods, current topics in categorical data, spatial biostatistics, and modern nonparametric methods.

Admission

Applications must be received by July 15 for the following fall quarter. Those requesting financial aid must have their application in by April 1. Both full- and part-time study options are available.

The Admissions Committee assesses an applicant's knowledge of the field, quantitative and problem-solving skills, and adequacy of skills required to begin the formal course of study. Students with diverse educational experiences are accepted into the program although some applicants are denied admission because of insufficient math training. Students may be conditionally admitted but must complete deficient prerequisites by the end of the first year of study. Courses taken to fulfill prerequisites will not be counted as part of the graduate program.

Admission preference will be given to those who have demonstrated background and interest in health sciences and public health.

The following prerequisites and requirements are in addition to the minimum admission requirements on page 30.

Prerequisites

1. Mathematics through multivariable calculus (four quarters or three semesters) and linear algebra (one quarter or semester).
2. At least one (quarter or semester) course in applied statistics.
3. At least one (quarter or semester) course in computer programming using a standard procedural language such as FORTRAN or C.
4. Overall GPA of 3.10 or above on a 4-point scale (3.40 or above for quantitative courses).
5. GRE with scores of at least 400 for the verbal area and at least 550 for the quantitative and analytical areas. The GMAT will not be accepted as a substitute test.
6. If your native language is not English, you must take the Test of English as a Foreign Language (TOEFL) and score at least 600.
7. *Additional prerequisites for Ph.D. applicants:* three advanced mathematics courses, which may be taken after admission.

Financial Aid

Graduate assistantships, traineeships, and fellowships are available. Research assistants work on NIH-sponsored projects in the Coordinating Centers for Biometric Research and the Biostatistics Consulting Laboratory. Decisions on research/teaching assistantships are made in April, with priority given to continuing students and those with prior training in statistics and/or computing. Students with strong academic records whose applications are complete by January 1 may be awarded a Graduate School fellowship which provides tuition plus a stipend for one academic year.

The biostatistics major is housed in the Division of Biostatistics. Please see page 6 for a list of faculty.

Community Health Education



Jean Forster, Ph.D., M.P.H., *M.P.H. major chairperson*

For more information, contact the student coordinator(s) at (612) 626-8802/8803

What is community health education?

Community health education promotes the adoption of healthy behaviors leading to improved health in individuals, families, groups, communities, and whole populations. Public health practitioners accomplish this through public and institutional policy, media advocacy and mass media, community organizing, individual and family counseling, support groups and classes, and interventions designed for schoolchildren or employees. Master's degree-level community health educators develop, administer, and evaluate community and organizational programs to support changes in high-risk behaviors such as tobacco, alcohol, and drug use and poor eating habits; work with policymakers and community leaders to change health-compromising policies and practices; and coordinate the work of public and private agencies and health care organizations to produce maximum benefit to the community.

Who should apply?

Consider majoring in community health education if you are interested in: developing and evaluating innovative community-based programs to help prevent disease and injury; working with communities, organizations, and policymakers to reduce health risks; helping people change high-risk behaviors, including tobacco, alcohol, and drug use and poor eating habits; influencing public opinion and policy on health issues through media campaigns and legislative initiatives; and using social change strategies to help communities define and work toward healthy living and working environments.

Applicants are admitted to the community health education major with a wide variety of academic backgrounds, including basic sciences, social and behavioral sciences, and the humanities. There is no single appropriate undergraduate major that prepares students for community health education, but prerequisites should be met by the time of admission. Individuals admitted to the program often want to work with disadvantaged populations and are interested in the contribution of social factors to health. Strong preference is given to applicants who have some volunteer or work experience in public health or social service settings.

What does the job market look like?

Community health educators with a master's degree work in a great variety of settings, including all levels and branches of government, health departments, voluntary agencies, medical care organizations, workplaces, and

schools. Their responsibilities might include working with patients or clients in a service or healthcare setting; helping community groups define problems, set priorities, and strategize about how to influence local conditions; designing, administering and evaluating a workplace behavior change program; administering state health department programs located in communities; helping community groups write grant proposals to fund local health improvement efforts; and lobbying members of state legislatures, Congress, and regulatory agencies regarding health issues.

Why Minnesota?

The community health education program's outstanding features include

- a nationally and internationally recognized faculty who have developed and tested innovative strategies in many areas of health education and social and behavioral health. These include public health policy, strategies for promoting community-wide change, workplace health promotion, school-based programs that feature peer leadership and integration of school and community strategies, and individual change strategies for eating, smoking, and exercise behaviors.
- an emphasis on developing strong evaluation skills;
- well-developed connections with the large and diverse public health practice community in the Twin Cities and statewide, which provides students with many opportunities for community-based projects;
- excellent support services for student research and training activities.

Research Activities

Research activities focus on behavioral epidemiology and community health education, with faculty involved in assessing population behavior patterns and psychosocial risk factors; designing community-wide intervention programs for heart disease, cancer, AIDS, alcohol and drug abuse prevention, and mental health; influencing health policies; and evaluating outcomes of behavior change efforts in schools, worksites, and physicians' offices and at the community or population level.

The Degree Program

The community health education major is an M.P.H. degree program to educate health professionals to serve these expanding and diverse roles. This two-year, 69-credit program focuses on behavioral and social theories, community intervention strategies, communication methods, public policy, and evaluation skills. Each student has the opportunity to explore areas of special interest through intervention and elective courses and a master's project carried out in the community which takes the form of either an intervention, needs assessment, or evaluation. Students may also arrange an internship in the community as part of their elective courses.

The M.P.H. in community health education is also an appropriate degree for students planning to proceed to a Ph.D. degree in social and behavioral epidemiology, which is available at the University of Minnesota for students who wish to pursue advanced study and research careers.

For the master's degree, courses in the following areas are required: evaluation methods (13 credits, including biostatistics, program evaluation, research methods), social and behavioral theory and health education practice (10 credits), intervention strategies and risk areas (18 credits), and the core public health areas (9 credits in epidemiology, management, environmental health). Students choose elective courses (15 credits minimum) related to community health education and the student's area of interest. Preparation and oral defense of a master's project is required. This major generally requires the equivalent of two years of full-time study.

Admission

The application deadline is February 28 for fall quarter of the same year (no winter, spring, or summer admissions).

The following prerequisites are in addition to the minimum admission requirements on page 30.

1. A minimum of 20 quarter credits in the social and behavioral sciences, 5 quarter credits in quantitative methods, and 10 quarter credits in health, biology, or biochemistry;
2. The GRE *except* for those with an M.D., D.D.S., D.V.M., or Ph.D. from a U.S. or Canadian university (*all international applicants are required to take the GRE*);
3. A minimum of one year of significant voluntary or salaried work in public health or social service settings;
4. A TOEFL score greater than 600 (*international students only*). The test must have been taken no earlier than two years before the requested admission data.

The community health education major is housed in the Division of Epidemiology. See page 7 for a list of faculty.

Financial Aid

Students are eligible to apply for research and teaching assistantships in the School of Public Health or elsewhere on campus. Benefits for these positions include an hourly salary, medical coverage, and prorated tuition remission.

Environmental Health

Donald Vesley, Ph.D., *M.P.H. major
chairperson*

Jack Mandel, Ph.D., *M.P.H., director of
graduate studies*
(612) 626-0900



What is environmental health?

Environmental health is concerned with the interface between people and their environments; work, home, and the outdoors. Understanding how exposures to external hazards create a toxic dose, how that dose may elicit biological responses, and how those responses may progress to disease are the areas uniquely addressed by environmental health professionals. The various disciplines of environmental and occupational health include

- toxicology—addressing dose-response relationships
- industrial hygiene, environmental chemistry, microbiology, radiation measurements, environmental and industrial engineering—understanding and measuring exposures
- medicine, nursing, epidemiology—biologic response and disease

All disciplines contribute to a collective understanding of environmental and occupational health that can be translated into sound public policies.

Who should apply?

Environmental health is a rapidly growing field with diverse career paths for qualified graduates. There is no specific undergraduate major required. Our applicants' backgrounds typically include courses in the biological sciences, chemistry, math, physics, engineering, nursing, or medicine. The major provides an academic environment in which students can study, understand, and experience environmental and occupational health problems in an open, systematic, and scientific manner. New ideas and concepts are stimulated through applied and basic research that fosters the kind of understanding and inquiry that are prerequisites for responsible leadership. Our goal is to enhance the desire and ability to understand ideas and formulate value judgments rather than simply accept prescriptions.

What does the job market look like?

Because of increased public concern for the environment and the welfare of workers, well-trained environmental and occupational health scientists and professionals are in demand nationally and internationally. Many excellent careers in this field are available in academic institutions, government agencies, industry, labor organizations, consulting firms, and healthcare institutions.

Career opportunities may include conducting basic and applied research to solve problems of environmental and

occupational concern; testing and approval of new chemicals introduced into the environment or the workplace; developing and enforcing policies and regulations that will govern the use of environmental agents; project management; and teaching. Job titles held by recent graduates include industrial hygienist, occupational safety and health specialist, hazardous waste coordinator, environmental chemist, environmental toxicologist, safety policy specialist, quality assurance specialist, environmental epidemiologist, occupational health nurse, occupational health manager, quality assessment specialist, labor relations staff specialist, and risk manager.

Why Minnesota?

The environmental health faculty have diverse research interests. Extensive interactions occur among the basic and applied scientists within the major and with collaborators inside and outside the University. Because collaborative research is necessary in the multidisciplinary fields of environmental and occupational health, the faculty conduct research and training efforts with the School of Public Health, Medical School, Institute of Technology, School of Agriculture, and College of Biological Sciences.

Students are encouraged to participate in research activities. In laboratory-based specialty tracks such as toxicology and environmental chemistry, a research project is required. Students often have the opportunity to work as graduate assistants on faculty research projects. Plan B projects and master's theses are often products of student research efforts in consultation or collaboration with faculty.

Research Activities

Current research programs include industrial hygiene, environmental chemistry, injury epidemiology and control, environmental toxicology, occupational health nursing, occupational medicine, environmental and occupational epidemiology, and biological aspects of environmental health. Major research projects involve the behavior and measurement of airborne particles; toxicity mechanisms of environmental contaminants; health effects of carcinogens; identification and movement of substances, especially by water, through the environment; agricultural health and safety, with reference to injuries and chemical hazards; respiratory problems in the automobile industry and in agricultural settings; and microbial contamination control.

Degree Programs

The environmental health major offers the M.P.H., M.S., and Ph.D. degrees. Applicants may apply to the following specific tracks within this major: general environmental health; industrial hygiene and engineering; environmental chemistry; occupational and environmental epidemiology; toxicology; occupational medicine; occupational

health nursing; occupational injury epidemiology and control; and environmental microbiology.

The two master's programs are complementary. The M.P.H. program educates individuals to be practitioners in environmental or occupational health while the M.S. program emphasizes research and in-depth study of a particular discipline. The M.P.H. program provides a breadth of information and experience in various disciplines that recognizes and prevents human disease, and controls environmental hazards. Although a minimum of 45 credits is required for graduation, most students complete substantially more coursework. M.P.H. students must complete basic required courses in environmental health as well as courses in the additional four core areas. If students lack practical experience in environmental health, a supervised practicum is strongly recommended. One or more final projects or Plan B papers are required for graduation.

The M.S. program prepares students for specialized careers in environmental and occupational health. M.S. students receive a solid technical background in their disciplines. By graduation they are able to demonstrate proficiency in applied or basic research. A minimum of 44 credits is required for graduation, but most students complete considerably more credits. Most specialty tracks require a two-year program. M.S. students have the option of completing a Plan A with a thesis or a Plan B project.

The Ph.D. program focuses on research, supplemented with advanced coursework and developed under the guidance of a faculty adviser and a Ph.D. committee. The program involves substantial, independent effort by the candidate. Preparation and defense of a formal thesis is required. Prospective doctoral students must fulfill the requirements (or their equivalent) of a M.S. program in environmental health before admission to the Ph.D. program, or take additional courses to meet a comparable level of knowledge in the field.

Students usually require a minimum of two to three years beyond the master's degree to complete a doctorate. Doctoral students are expected to develop greater knowledge in their chosen discipline and contribute to the peer-reviewed literature in their field.

Admission

Applications must be received by April 15.

The following requirements are in addition to the minimum admission requirements on page 30.

Master's Degree

1. Previous coursework in the biological, chemical, or physical sciences or engineering. (Prerequisites will depend on requirements of the specialty area chosen.)
2. Compatibility of the applicant's objectives with those of the major, as stated in a letter of intent.
3. Availability of an adviser in the requested specialty area.

4. TOEFL score (*international students only*) greater than 600. (If the score is between 550 and 600, a student may be accepted conditionally upon successful completion of the Minnesota Battery of English Language Proficiency Tests.)
6. For *occupational health nursing applicants* only, a baccalaureate degree in nursing from an accredited school of nursing is required.

Doctoral Degree

In addition to all of the above requirements, Ph.D. applicants must have completed the equivalent of a master's degree in environmental health at an accredited institution and provide a statement of interest outlining expectations regarding academic, research, and career goals. Applicants are strongly advised to contact the director of graduate studies and other faculty to discuss research plans and career goals before submitting an application.

Financial Aid

Research assistantships are available as faculty research proposals are funded. Assistantships vary from 25 percent to 75 percent time and provide benefits such as tuition waivers, resident tuition rates, and eligibility for low-cost health insurance. Available positions are posted in the Career Center and on the major's bulletin board. The environmental health major also awards traineeships for specific programs of study that provide stipends and cover tuition and fees. Awards are determined by program directors and award amounts vary yearly depending on funding received and number of awards made. Other sources of financial assistance include the Bond Scholarship, which provides one year of tuition, and a Graduate School and Block Grant Fellowships.

The environmental health major is housed in the Division of Environmental and Occupation Health. Please see page 7 for a list of faculty.

Epidemiology

Thomas Sellers, Ph.D., *M.P.H. major chairperson*

John R. Finnegan, Jr., Ph.D., *director of graduate studies*

For more information, contact the student coordinator(s) at (612) 626-8802/8803

What is epidemiology?

Epidemiology is the study of the distribution of diseases in populations, including investigations of disease causes and correlates. Epidemiologic investigations range from the specific (e.g., locating the cause of local outbreaks of



infectious disease or disease caused by acute exposures) to the general (e.g., determining causes of worldwide patterns of disease occurrence). At the University, epidemiology also includes the study of disease prevention programs and policies.

To do their work, epidemiologists need skills in understanding and analyzing public health problems; designing, implementing, and analyzing studies; and interpreting study results in policy-relevant ways. Modern epidemiology relies heavily on quantitative methods. Students interested in epidemiology should be comfortable using statistical modeling and testing to address problems in human health and disease.

Who should apply?

People who want to understand modern disease epidemics and help develop ways of preventing them. The typical epidemiology student has an aptitude for quantitative work and previous education in the health, biological, or behavioral sciences.

What does the job market look like?

Epidemiologists often work for state health departments or healthcare organizations on infectious disease control, chronic disease, or health outcomes. They conduct studies on quality of life, morbidity or mortality, health status, and recovery rate after surgery. They work with health plans on education and training programs in disease prevention. Epidemiologists perform quasi-experimental studies on communities with the goal of improving the health of those communities. Recent graduates with master's degrees have found employment in local, state, and federal health agencies; health insurers; university research programs; and HMOs and other healthcare organizations with research programs.

Why Minnesota?

The epidemiology major's exceptional faculty includes national leaders in many areas of research, including epidemiology and prevention of cardiovascular disease, cancer, and infectious diseases; genetic epidemiology; and behavioral interventions for improving public health. The program has a unique emphasis that incorporates the study of disease prevention with classical epidemiological studies of disease etiology, and a strong base of funded research that provides students with many opportunities for research support and material for research projects. There are also excellent support services for student research and training activities.

Research Activities

The faculty is involved in developing and implementing investigative methods for a wide variety of research interests, including laboratory studies in blood lipid chemistry; biologic markers for diet and alcohol consumption;

population-based surveillance of cardiovascular disease and cancer trends; cross-sectional and cohort studies of risk factors and behavior related to cardiovascular disease, cancer, diabetes, AIDS, and other diseases among youth and adults; clinical and community trials in treating and preventing hypertension, coronary heart disease, and cancer; community-based health promotion and program evaluation; and case control studies of cancer etiology.

Degree Programs

The M.P.H. and M.S. degrees in epidemiology are offered in two-year programs; an accelerated one-year program at the master's level is offered for students who have already earned the Ph.D., M.D., D.D.S., or D.V.M. degrees. The program prepares students for careers in epidemiologic research in health agencies, medical institutions, universities, research institutes, regulatory agencies, and industry. The M.P.H. is an appropriate degree for students planning to pursue a doctoral degree in epidemiology. Research and teaching are focused on epidemiologic research methods; genetic epidemiology; epidemiology of cancer, cardiovascular disease, and infectious disease; health behavior (especially obesity, smoking, and alcohol and other drug use); laboratory methods; and nutrition.

Students in the M.P.H. or M.S. programs who have completed prior doctoral work in medicine, dentistry, veterinary medicine, or relevant Ph.D. programs complete a 45-credit curriculum that includes 42-43 credits of required coursework plus 2-3 credits of electives; students with other backgrounds complete a 68-credit curriculum that includes 53-54 credits of required coursework plus 14-15 credits of electives.

There are many epidemiology and other health-related graduate-level courses available as electives. Elective selection offers students the opportunity to develop a specialty emphasis in either a specific disease or problem area or a methodological area. Elective courses are chosen in consultation with an adviser.

All master's students must complete a master's project. These projects may take one of three forms: a written product that demonstrates the student's ability to do quantitative analyses using data collected by the student or obtained from another source; a written literature review of publishable quality that demonstrates the student's ability to critically review literature and synthesize published findings on a medical or public health topic; or an NIH-type grant application. An oral comprehensive examination is required of all master's students.

The Ph.D. program (97-credit core curriculum) has concentrations in both behavioral epidemiology and more traditional biology-focused etiologic epidemiology for students interested in research and teaching careers in the health sciences. Behavioral epidemiology recognizes that diet, exercise, and use of drugs, especially tobacco and

alcohol, are among the most important contributors to disease, death, and disability in developed countries. To understand modern disease epidemics and to develop ways of preventing them, it is important to understand the origins of these behavior patterns and the ways in which they are influenced by environment, personality, family, and culture. The etiologic epidemiology program focuses on disease determinants with an emphasis on the etiology of cardiovascular disease, cancer, and infectious disease. During their Ph.D. studies, students must pass preliminary written and oral examinations, write a Ph.D. dissertation, and prepare a first-authored manuscript for publication.

Admission

The application deadline is February 28 for fall quarter of the same year (no winter, spring, or summer admissions).

The following prerequisites and requirements are in addition to the minimum admission requirements on page 30.

1. Applicants should have prior training in biology, psychology, sociology, or the medical sciences and an orientation toward quantitative methods.
2. GRE scores *except* for those with M.D., D.D.S., D.V.M., or Ph.D. degrees from a U.S. or Canadian university. (*All international applicants must take the GRE.*)
2. A TOEFL score greater than 600 (*for international applicants only*). The test must have been taken no earlier than two years before the requested admission date.
3. Ph.D. applicants must also submit a written description of the proposed research area or topic (500-750 words).

The epidemiology major is housed in the Division of Epidemiology. Please see page 7 for a list of faculty.

Health Services Administration

Vernon Weckwerth, Ph.D., *major chairperson*
(612) 624-1110



What is health services administration?

Health services administration integrates business and healthcare disciplines. This distance-learning major enrolls administrators from health service delivery organizations around the world. The program offers practical training and a rich collegial environment in a nontraditional format (self-study and summer workshops). With its public health underpinnings, the program teaches from a population perspective and global orientation that enlarge the concepts of administration.

Who should apply?

The program attracts the altruistic, the entrepreneurial, and the professionally ambitious. The format of the major allows employed executives to earn while they learn,

continuing their position while acquiring expertise and credentials.

Only administrators who have been admitted to the Alternative Studies Program are eligible to apply. Admission to health services administration during the first year of study in the alternative studies program is based on appropriate credentials. After the second year of study, performance in alternative studies is also considered in the application process. This major is available to those who are working on an Alternative Studies credential. For information on the Alternative Studies Program, call (612) 624-1411.

What does the job market look like?

Many graduates use their health services administration education to enrich their current position, incorporating new competencies, proven applications, and an expansive professional network. Many also choose to move to positions of greater responsibility in hospitals, HMOs, and public agencies. Demands for healthcare reform in this country and expansion of services in many countries will continue to create opportunities for accomplished healthcare administrators.

Why Minnesota?

Minnesota, renowned for innovations in healthcare delivery and management, is a stimulating milieu for the advancement of health services administration. The curriculum draws on the collective wisdom of students, faculty, and the local community to create an ideal learning environment.

Research Activities

Each student has an assigned adviser who is involved in one or more areas related to the organization, management, and delivery of healthcare, including healthcare regulation and competition; alternative practice delivery systems; healthcare financing; developing innovation in healthcare organizations; organizational leadership and performance; managing change in organizations; developing multi-institutional delivery systems; physicians and patient behavior; and the organizing, financing, and delivery of healthcare services to the elderly, children, and adolescents.

Degree Program

This major is available to healthcare administrators who have been accepted into one of the three Alternative Studies Programs: ambulatory care, hospital and healthcare, or patient care administration. These distance-learning programs are an alternative to on-campus attendance. They strengthen and update the knowledge, skills, and attitudes of healthcare professionals.

Admissions

The following prerequisites and requirements are in addition to the minimum admission requirements on page 30.

1. Cumulative Alternative Studies Program GPA of 3.00 or higher in Courses I and II
2. On-campus interview
3. One original Academic Record form combining all coursework from each institution attended.

The health services administration major is housed in the division of Health Management and Policy. Please see page 8 for a list of faculty.

Health Services Research and Policy



Bryan Dowd, Ph.D., *director of graduate studies, health services research and policy*

Willard Manning, Ph.D., *director of graduate studies, health services research, policy and administration*
(612) 624-9432

What is health services research?

Health services research focuses on organizing and delivering cost-effective health services. It deals with policy issues related to costs, access, and quality of health services and equitable distribution of health resources.

Who should apply?

Health services research is an ideal field for persons interested in affecting public policy related to healthcare systems. Students come from a variety of educational backgrounds, including economics, political science, public affairs, and sociology. Strong quantitative skills are essential and a health services background is helpful. Our purpose is to train academics and researchers who can contribute to health services research at state and federal levels.

What does the job market look like?

The demand for individuals with a strong background in health services research is particularly great at this time, especially from academic institutions, government, and nonprofit centers. Additionally, with the restructuring of the nation's healthcare system, the demand for highly qualified researchers has broadened to a wide range of private sector opportunities. No matter what federal legislation prevails over the next few years, it is likely that the need for health services research will continue, if not increase. Recent graduates have taken a variety of key positions in academic settings and public sector agencies, including teaching and research positions at Yale University, Harvard University, the College of St. Catherines, the University of Iowa, the University of Kentucky, and the University of Puerto Rico. In the public sector, graduates are working in policy and research in state health depart-

ments, a rural health research center, the Indian Health Service, and foundations focusing on health issues.

Why Minnesota?

The School of Public Health offers an exceptional menu of opportunities for those interested in health services research and policy. The faculty have extensive research programs and work closely with policymakers at the state and national levels to link their research to practice. Students become involved in these research projects as soon as they enter their educational programs and work with the faculty in the policy arenas. An important part of the Minnesota tradition is that teaching programs are based on a mentoring philosophy. Consequently, students work closely with faculty and form close collegial relationships that enhance learning.

Opportunities to interact with those who have shaped the managed competition policies in Minnesota is a fundamental part of this learning experience and a major attraction of the program. Minnesota is widely known for its innovative health policies and healthcare delivery systems. The concept of hospital systems was initiated in Minnesota, medical group practices have been the main mode of physicians' practice since the early 1960s, HMOs were pioneered in Minnesota, and Integrated Service Networks are now being developed as the second generation of managed care. Students not only study under the direction of an internationally acclaimed faculty but also have the opportunity to interact with those shaping future healthcare systems.

Research Opportunities

Faculty research interests cover areas such as analyzing HMO trends and public policy issues; analyzing data on health insurance purchasing cooperatives; effects of managed competition on the structure of physician practices; outcomes of hospital care; development of second-generation social health maintenance organizations; patterns and quality of care for vulnerable populations; performance and effectiveness of alternative health systems; gender bias and racial discrimination in healthcare; impact of insurance reform on rural providers and consumers; diffusion of technology and its impact on rural providers; and developing integrated health delivery systems; organizational influence on the quality of hospital care; psychoactive drug use by nursing home elderly. Faculty publish in all relevant, health services research, peer-reviewed journals.

Degree Programs

The major offers an M.S. in health services research and policy and a Ph.D. in health services research, policy and administration. Both programs are administered through the Graduate School and are full time only.

Master's Degree

This program prepares health services researchers and health policy analysts to carry out sophisticated empirical studies, formulate policy options, work effectively in the political arena to shape and implement policies, and evaluate policies once implemented. The M.S. can serve as a terminal degree for a wide variety of health services research and policy roles or it can serve as a first step toward the Ph.D. Two options are available. Plan A is available primarily for students with a professional degree in medicine, dentistry, nursing, or pharmacy. Students electing Plan A have fewer formal coursework requirements than Plan B students, but are required to write a thesis. Plan B is for students from a non-health professional background. Students electing Plan B take additional coursework including a summer internship, and also write a thesis. Both options are full-time, two-year programs.

In the first year of the program, students learn basic, theoretical, statistical skills as well as the main social and health service analytic paradigms most frequently used in health services research: economics, sociology, and epidemiology. They also receive a historical introduction to healthcare and health services research and take courses in measurement and surveys and sampling.

In the second year, students use their quantitative and disciplinary skills on applied policy problems in policy analysis coursework and advanced analytic problems in the health services research methods sequence. Courses in evaluation research and cost benefit analysis complete the required curriculum. Students can choose electives from other divisions in the school or other University departments.

Ph.D. Degree

The doctoral studies program is offered jointly by the Institute for Health Services Research and the Division of Health Management and Policy. The program is primarily for students interested in academic careers or senior research positions in government or the private sector. The core curriculum is a multidisciplinary examination of the social, political, and economic forces that affect the organization, financing, and delivery of healthcare services. The emphasis is on theory, modeling, and quantitative methods. Coursework is supported by the student's ongoing involvement with faculty on research projects and is linked to the healthcare field by these projects. In addition, the program provides students with an opportunity for further interchange with faculty through a series of research seminars and doctoral colloquia. The monthly research seminars provide a forum for faculty and students to explore and discuss current ideas, findings, and methods in health services research from some of the field's leading scholars and researchers. In the more informal Ph.D.

colloquia, faculty and students discuss recent developments, problems, and issues in health policy research. Students are expected to complete the program in four years.

Program requirements include courses in health services research methods, healthcare systems and environments, health economics, statistics and health systems management. Students also select an area of concentration in either policy or management. In addition to the required courses, students must take a supporting program or minor of at least 18 credits of coursework, primarily in other University units such as the Carlson School of Management, Hubert H. Humphrey Institute of Public Affairs, or the sociology, economics, statistics, or political science departments. Students also may select a minor from within the School of Public Health. This coursework is usually completed by the end of the student's second year. Preliminary written examinations are taken by the beginning of the third year. Students work as research assistants on a project with a faculty member in the student's area of interest during their course of study. This experience gives the student the opportunity to follow a research project from beginning to end. The student's final dissertation defense occurs by the end of the fourth or the beginning of the fifth year.

Admission

Applications must be received by March 1. Applications for Graduate School fellowships (including all application materials) are due by December 31.

The following prerequisites are in addition to the minimum admission requirements on page 30.

Prerequisites for both the M.S. and Ph.D. programs include:

1. Undergraduate calculus, statistics, and intermediate microeconomics. Students who do not have these prerequisites but are otherwise qualified for admission will be advised to take relevant summer session courses either at the University or another accredited institution before beginning the program.
2. A minimum of 1800 on the GRE.
3. Admission acceptance is valid only for the year of acceptance.

Financial Aid

Graduate School fellowships, training grants, research assistantships, and tuition fellowships are available.

The health services research and policy major and the health services, research policy and administration major are housed in the Institute for Health Services Research. Please see page 9 for a list of faculty.

Healthcare Administration

George O. Johnson, Ph.D., *major*
chairperson
(612) 624-1110



What is healthcare administration?

Healthcare administration is an interdisciplinary field that combines studies in social sciences, management theory, and public health to prepare students for management careers in healthcare organizations. M.H.A. graduates promote the public's health by organizing, managing, and leading organizations that effectively deliver health services. Students, alumni, and faculty believe health services are fundamentally important to individuals and our society and contribute to our nation's productivity and quality of life.

Who should apply?

Students who wish to play a key role in creating an environment in which high-quality health services can be delivered to the community; manage the resources and finances of an organization to ensure that a community's healthcare needs are being addressed; use leadership and managerial skills in a challenging and complex environment; and help redesign healthcare delivery systems on a regional, national, and international level.

What does the job market look like?

The placement rate for students who have earned the M.H.A. remains strong and graduates find employment in all facets of health services management. In the graduating class of 1994, 40 percent of students were placed in hospitals, 29 percent in vertically integrated healthcare systems, 11 percent in managed care organizations, another 11 percent in physician groups, and the remainder in healthcare consulting and social services organizations. Faculty, students, and graduates have maintained close ties with the hospital sector while forging new alliances with managed care providers, integrated service networks, and HMOs. Students benefit from the extensive involvement of alumni as they pursue their initial job search.

Why Minnesota?

Throughout its history, the major in healthcare administration has been ranked among the best in the country. Graduates are noted for their vision, achievements in both public and private sectors, and outstanding record of leadership in managing health services. Our students continue to be in high demand and are prepared to move into the many new administrative roles in health services delivery.

Our outstanding alumni represent more than 1,600 practicing administrators and the Alumni Association/Foundation for the Program in Healthcare Administration is the largest, most active group of its kind in the country.

Graduates help maintain the Minnesota tradition of excellence by serving as mentors and preceptors, speaking with students on current issues in the field, interviewing applicants, and helping students launch their careers. With the help of faculty and staff, students tap into the extensive alumni network to find residency and fellowship sites that will meet their educational and professional needs.

Our healthcare administration students also benefit from the nationally recognized and innovative health services organizations in the Twin Cities. It is here that health maintenance organizations were pioneered and medical technology has made some of its greatest advances. Students are able to study with innovative healthcare leaders and observe the organizations that compose one of the nation's most dynamic healthcare environments.

In 1988, the Accrediting Commission on Education in Health Services Administration awarded full accreditation to the healthcare administration major for a seven-year period, the longest term the commission grants.

Research Activities

Faculty conduct research related to the organization and delivery of healthcare, approaching the issues from a broad range of disciplines, including management, economics, ethics, and finance.

Degree Program

This curriculum combines intense study of management theory with field work experiences to prepare students to effectively meet current and future healthcare management challenges. In response to ongoing changes in the field, we have developed a faculty with expertise in hospital, managed-care, long-term care, and vertically integrated healthcare systems.

Admission to the healthcare administration major, through day school or the Alternative Studies Program, is highly selective. While academic ability is a principal criterion, major consideration is given to a person's experience and aptitude. The program bases admission on an applicant's potential management capabilities as demonstrated through prior academic performance, test scores, and references; and an applicant's interest, leadership potential, and commitment to healthcare management as demonstrated through previous work experience and an interview.

The M.H.A. can be earned two ways. The first option is full-time academic study for 21 months, including a summer administrative residency of 3 months, with successful completion of 82 credits and an acceptable research thesis or management project. An M.H.A./M.B.A. dual degree is available to qualified students (see page 12 for more information).

The second option is for those already employed in management positions in a healthcare organization but

wishing to further their educational and professional goals. Students who have completed Courses I and II of the Alternative Studies Program in ambulatory care administration, hospital and healthcare administration, or patient care administration may apply for admission. If admitted, credits they earn in Courses I, II, and III of the Alternative Studies Program are applied toward the M.H.A.

Students complete a core curriculum and select from a variety of concentrations that include finance, long-term care administration, managed care, health policy, strategic management, information and decision sciences, planning, maternal and child health, international health, operations, and marketing. These concentrations enable students to focus their studies on a particular segment of the industry or deepen their understanding in a specific content area.

Admission

The application deadline is March 15 for fall quarter of the following academic year; the program is full time only. Deadlines for the Alternative Studies master's option are November 15 and March 1 for the following summer sessions. The Admission Committee reviews applications January through April.

The following prerequisites and requirements are in addition to the minimum admission requirements on page 30.

1. GRE or GMAT score.
2. On-campus interview.
3. Completion (before enrollment) of college-level courses in basic principles of accounting, statistics, and microeconomics.
4. One original Academic Record form combining all coursework from each institution attended. Students can then accurately compute an overall GPA. To complete this form students should use official transcripts as a reference.
5. Students applying through the Alternative Studies Program master's option must have completed Courses I and II and submit a Grade Release form.

Financial Aid

Once accepted into the healthcare administration major, students have many financial aid options. Each year the faculty awards the Boardman, Fairview/Gus Donhowe, Douglass Associates, John Dumas, James Stephan, Howard Johnson, James Petersdorf, Carl Platou, and Hamilton/KSA scholarships, as well as the Lutheran Health Services Fellowship and the McNerney/Heintz Managed Care Residency and Scholarship. Scholarship awards are based on academic ability.

First-year students also compete for loans and scholarships administered by the Association of University Programs in Health Administration, American College of Healthcare Executives, Federation of American Hospitals, and Medical Group Management Association. The Health

Sciences Higher Ability Minority Scholarship supports minority students with potential for high achievement.

Every student majoring in healthcare administration who has successfully completed one quarter of study may borrow up to \$4,000 from the Minnesota Alumni Association Educational Trust Fund.

The healthcare administration major is housed in the Division of Health Management and Policy. Please see page 8 for a list of faculty.

Maternal and Child Health

Robert ten Bensel, M.D., M.P.H., *major chairperson*
(612) 625-3660



What is maternal and child health?

The maternal and child health major prepares professional leaders for national, state, and local positions who will promote, preserve, and enhance the health of children, mothers, and families. There is great demand for effective leadership in program planning such as needs assessment and development, management and evaluation, advocacy and policy formation, generation of knowledge through research, and community health education. The maternal and child health major is committed to increasing maternal and child health knowledge and educating maternal and child health leaders.

Who should apply?

Those interested in serious, unmet healthcare needs of mothers, children, and families in the United States today. Applicants with professional training in health sciences are preferred and *mid-career professionals are encouraged to apply*. Individuals with backgrounds other than the health sciences, possessing a minimum of one year's work or volunteer experience in an area of public health directly pertaining to mothers and children, are also considered.

Clear career goals in maternal and child health are necessary for admission to this major. Your goals must show an understanding of public health and how you will meet the needs of mothers, children, and families.

What does the job market look like?

Individuals who can combine in-depth knowledge of the health problems faced by women and children with skills in needs assessment, program development and implementation, management, evaluation, and policy analysis are in great demand. Depending on students' professional status and prior experience, maternal and child health program graduates find positions in local, state, and federal public agencies and state and local health facilities. Positions in child and family advocacy and policy are available in private and public agencies.

Why Minnesota?

The maternal and child health major is a nationally recognized program funded by the U.S. Department of Health and Human Services. Interdisciplinary faculty of this major include representatives from epidemiology, medicine, nursing, social work, nutrition, and social sciences. In collaboration with the School of Public Health and the University, the maternal and child health faculty has established clear programmatic goals for on-going and future research, the training of maternal and child health leaders, professional consultation and technical assistance, dissemination of knowledge, and advocacy on behalf of mothers and children.

Degree Program

The maternal and child health major offers the M.P.H. The program for full-time students extends 15 to 18 months and involves coursework, a supervised field experience, and a master's project. As of 1994, a minimum of 60 credits are required for completion of the M.P.H. These requirements are subject to revision in the upcoming years. Credits transferred for courses taken outside the School of Public Health must be preapproved by the maternal and child health faculty and the dean and cannot constitute more than 40 percent of the total credits required for graduation. Students are strongly encouraged to attend the program full time to facilitate the integration of School of Public Health required courses with maternal and child health required courses. The maternal and child health major encourages a strong student-adviser relationship between students and faculty.

Coursework is divided among School of Public Health core requirements, maternal and child health core requirements, and electives. A foundation in public health is established through the school's core course requirements. Expertise in maternal and child health is developed through an additional core of 27 credits that include principles of maternal and child health; perinatal health and family planning; health of infants and young children; adolescent health: issues, programs, and policies; chronic illness and childhood disability; computers in research; needs analysis to policy enactment.

A supervised *field experience* in public health practice is required. The field experience's broad goals are to help maternal and child health graduates strengthen their philosophy and understanding of public health and identify as a public health professional.

The *master's project* enables students to develop investigative, organizational, and analytical skills in their areas of interest. The project emphasizes well-developed communication skills.

An M.P.H./M.S.W. dual degree is available through the maternal and child health major for students accepted for graduate study in both the School of Public Health and the School of Social Work. An M.P.H./M.D. dual degree is also available with an emphasis in maternal and child health through the School of Public Health and the Medical School. See page 13 for detailed descriptions of these dual degrees.

Admission

Applications must be received by April 15 for the following fall quarter.

The following prerequisites are in addition to the minimum admission requirements listed on page 30.

1. A minimum of one year's experience in an area related to maternal and child health is required of all applicants.
2. A letter of intent specifically describing your professional and leadership experiences; career goals, including the specific professional role you see yourself performing and the type of public health-related organization in which you see yourself working in 5 and 10 years; and perception of how the maternal and child health training program meets the applicant's educational and career needs.

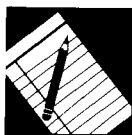
Financial Aid

Traineeships and research/teaching assistantships may be available to qualified students. Contact the maternal and child health major for specific information. Resident tuition rates are available to minority students from other states.

The maternal and child health major is housed in the Division of Health Management and Policy. Please see page 8 for a list of faculty.

Public Health Administration

Robert Veninga, Ph.D., *interim major
chairperson*
(612) 625-9480



What is public health administration?

The public health administration major prepares public health leaders who will influence policy and be advocates for the public interest. These individuals will provide leadership in a variety of organizational settings using public health concepts, principles, ethics, and knowledge. They will design, implement, and evaluate programs and policy to improve the health of populations.

Who should apply?

Individuals who want to manage organizations in the public health sector and shape and create health policy.

What does the job market look like?

With healthcare reform in the forefront on national and state agendas, there is a great need for knowledgeable individuals to create and shape health policy. The public health administration major offers coursework and related experiences that enable its graduates to assume leadership positions in public health and policy-making organizations at local, state, federal, and international levels, planning agencies, voluntary health organizations, mental health agencies, and alternative healthcare delivery settings.

Public health administration graduates work as directors, health planners, and policy analysts in federal, state, and county health departments, state human services departments, managed care and health systems organizations, and community clinics and agencies dealing with the multifaceted issues of Native American health, immunization, cancer research, disease prevention and control, coordinated care, product development, international health, smoking and health, and home health/hospice.

Why Minnesota?

The public health administration major is one of the few health administration programs in the country with a strong public sector emphasis. It also has a comprehensive curriculum that allows you to take courses in the University's Hubert H. Humphrey Institute of Public Affairs and Carlson School of Management, and offers you the opportunity to observe and work with Minnesota Department of Health administrators located three blocks from the School of Public Health. We have a faculty with extensive experience and expertise in public health administration-related service and a student-centered program that values close relationships among students, faculty, and alumni.

Research Activities

The faculty is involved in research and service in organizing and managing community health service organizations, nursing services, dental services, and services for the elderly. Individual interests include management of conflict; stress and change; communication in health service organizations; gerontology; women and leadership; ethics in administration; and the role, effects, and public health implications of competition, regulation, and rationing in health services delivery.

Degree Programs

The public health administration major admits students into one of the following tracks:

- A 12-month program of 55 credits for individuals with advanced degrees and/or who have extensive and progressively more responsible work experience in public health practice.
- An 18-month program of 70 credits for individuals who do not have a graduate degree and/or extensive experience in public health practice.
- A 24-month dual M.P.H./M.B.A. degree program with the Carlson School of Management. Students complete 101 credits (includes double-counted credits).
- A dual M.P.H./M.S. degree program with the School of Nursing. Students complete 81 credits (includes double-counted credits).
- A dual M.P.H./M.D. degree program with the Medical School. Students complete a 12-month program of 55 credits listed above.

The curriculum emphasizes four areas of knowledge.

The first includes courses in public health administration and policy, such as the foundations of public health administration practice, public policy, public health law, public health ethics and politics, leadership, grant writing, policy issues, and health economics.

The second emphasis is in management. Courses include health services management, financial management, management communications, and human resource management.

The third area includes courses in the foundations of public health, epidemiology, biostatistics, environmental health, public health research, sociopolitical issues, and trends affecting health services organizations.

Students may choose electives or a concentration in such areas as adolescent health, communication, evaluation, finance, gerontology, information and decision sciences, maternal and child health, health law, strategic planning, women's health, and international health.

Students complete a master's project to develop research and analytical skills in an area of their interest. In addition, they design a field experience that allows them to develop skills and competencies in public health administration practice and provides an opportunity to accumulate public health administration work experience that will enhance job placement following completion of the program.

Admission

The application deadline is April 15. Late applications will be considered on a space-available basis.

The following requirements and prerequisites are in addition to the minimum admission requirements listed on page 30.

1. GRE or GMAT score. (GMAT required for dual degree applicants.)
2. A basic foundation course in each of the following: statistics, microeconomics, and accounting.
3. One year of public health-related work experience preferred.
4. Your letter of intent should include a description of your college major, honors received, special papers or research projects completed; your leadership experience in college, volunteer activities or on-the-job responsibilities; career interests and professional goals.

Financial Aid

The public health administration major annually awards the Stauffer Scholarship to a student who has demonstrated leadership and academic excellence. Also, several research/teaching assistantships become available throughout the year as a result of research grant awards.

The public health administration major is housed in the Division of Health Management and Policy. Please see page 8 for a list of faculty.

Public Health Nutrition

Mary Story, Ph.D., M.P.H., *major chairperson*

For more information contact the student coordinator(s) at (612) 626-8802/8803



What is public health nutrition?

Public health nutrition advances knowledge about the role of nutrition in disease prevention and health promotion and applies this knowledge in planning, managing, delivering, and evaluating effective nutrition services and programs. This discipline includes four key areas of study: discovery of knowledge related to applied human nutrition and the relationship of diet to health and disease; developing, implementing, and evaluating programs to achieve and maintain healthful eating patterns; assuring delivery of nutrition services as a basic component of healthcare; and providing access to a safe and adequate food supply.

Who should apply?

The public health nutrition major welcomes applicants with career goals in public health and applied nutrition who have a bachelor's degree from an accredited college or university. Our 16-month program is for registered dietitians or for those who have a degree in nutrition or

dietetics. The 24-month program is for applicants without a nutrition degree who have completed the following science prerequisites: 4 to 5 credits of biology, 8 to 12 credits of general chemistry, 8 to 12 credits of organic chemistry with lab, and 4 credits of biochemistry.

What does the job market look like?

A University of Minnesota alumni survey shows that 95 percent of the University's public health nutrition major graduates are employed. Public health nutritionists work in a wide variety of settings, including health departments, government, voluntary agencies, healthcare organizations, and industry.

Why Minnesota?

The public health nutrition major provides a high-quality graduate program that develops skills and knowledge necessary for leadership, including program planning, health behavior change and intervention strategies, research and evaluation methods, and policy development. Students are provided practical experience in different agencies and positions in public health nutrition and networking opportunities among public health nutrition professionals. Faculty are nationally recognized for their expertise.

Research Activities

Public health nutrition faculty research areas include prenatal nutrition and pregnancy outcomes, nutrition and women's health, child growth and nutrition, child and adolescent nutrition and eating behavior, obesity prevention, dietary assessment methods, the relation of dietary factors to heart disease and cancer, and dietary prevention of chronic diseases across the life cycle, especially in underserved populations.

Degree Program

The public health nutrition major provides students with knowledge and skills needed for public health practice, understanding relationships between nutrition and health, and developing and implementing effective programs and services to improve and maintain the nutritional health of populations.

The major offers a 16- to 24-month course of study leading to the M.P.H. It requires completion of coursework, field experiences, and a research project. A 16-month program (62 to 63 credits) is offered for students who have a bachelor's degree in dietetics or nutrition. A new 24-month program (85 to 90 credits) is offered for students without a nutrition degree, and requires additional nutrition science courses. In addition, a 6-month (AP4) dietetic internship program is available. For more information, contact Louise Mullan, AP4 program director, at (612) 624-3255.

Students develop a foundation in basic public health through core courses in epidemiology, statistics, manage-

ment, behavioral sciences, and environmental health. Nutrition courses include maternal and infant health, child and adolescent nutrition, adult and elderly nutrition, nutrition assessment, community nutrition intervention, nutrition health/disease relationships, critical review of nutrition research, and nutrition program administration. Electives provide students with access to other specialty areas throughout the University.

Hands-on field experiences in the community allow students to explore a variety of nutrition service delivery strategies and develop competency in providing public health nutrition services. Field experiences throughout the academic year provide opportunities to participate in the day-to-day challenges of community nutrition. In addition to concurrent field experiences, a six-week summer agency placement provides a more in-depth view of nutrition services and the roles and responsibilities of the public health practitioner.

Designing and carrying out an applied master's project enables students to develop research skills and use organizational and analytical skills in an area of interest. Opportunities are available for students to work closely with faculty on research projects.

Applicants are evaluated on their volunteer or salaried work, educational interests, and career goals.

Admission

Applications must be received by April 15. Applicants are encouraged to submit their completed application early, especially to be considered for financial aid.

The following requirements and prerequisites are in addition to the minimum admission requirements on page 30.

1. A minimum of one year of significant volunteer or salaried work in a health or community setting.
2. A completed A.D.A. R.D.-criteria form for the 16-month program or completed science prerequisite form for the 24-month program.
3. If applying for financial aid, a traineeship/assistantship application.

Financial Aid

Students interested in working as graduate research or teaching assistants may apply for a limited number of assistantships that may be available in the Division of Epidemiology, the School of Public Health, or elsewhere in the University.

Traineeships in maternal and child nutrition are available for public health nutrition students who are U.S. citizens and wish to specialize in maternal, child, or adolescent health. Eligibility includes being a registered dietitian, at least one year's work experience, and career goals in public health nutrition and maternal and child health.

The public health nutrition major is housed in the Division of Epidemiology. See page 7 for a list of faculty.

Frequently Asked Questions

Note: The following questions have been generalized and may not pertain to all majors.

When is the deadline?

Application deadlines differ for each of our majors and are listed with each specific major in this bulletin.

What is a letter of intent?

Unless specifically directed in the academic major's description, the letter of intent should describe present or previous professional experience, future career goals, and educational needs. Include the professional role you see yourself performing, and, if possible, the type of agency, organization, or setting (e.g., academic, public or private sector) in which you plan to work.

What should a letter of recommendation cover?

A letter of recommendation should be requested from persons qualified to assess your academic work or clinical or public health experiences, or leadership potential in public health.

Should financial aid applications be sent to the major department?

General financial aid applications and inquiries should be addressed to the Office of Student Financial Aid (see page 45). Inquiries about fellowships, traineeships, and assistantships must be directed to the specific major department.

Must I be a full-time student?

Most of our academic majors give you the option of completing your degree as a full- or part-time student. However, please note that the majority of courses for degree programs are taught during the day.

Can I defer my admission?

In most cases, once admitted you can defer your admission for one year. You must request a deferment, in writing, from the major. If granted, your name will be added to the next year's incoming class list.

Where can I take the GRE?

Locations and test dates can be obtained by calling (609) 921-9000 or writing to Graduate Record Examinations, Educational Testing Service, P.O. Box 6000, Princeton, NY 08541-6000. Computerized testing is available more frequently than the written test. For more information, contact the Educational Testing Service.

Where can I take the GMAT?

Information about locations and test dates can be obtained by calling (609) 771-7330 or writing to Graduate Management Admission Test Service 15J, 1440 Lower Ferry Road, Trenton, NJ 08618 USA.

What is the School of Public Health's institution and department code for the GRE and GMAT?

The institution code is 6874 and the department code is 0616.

How long will it take for the School of Public Health to receive my GRE scores?

Test scores arrive six to eight weeks after the test date; computerized test scores arrive in three to four weeks. This should be considered in meeting your application deadline.

Do you require an interview as part of your admissions process?

Some majors require interviews. For details contact the specific major.

What if I don't meet the minimum requirements or prerequisites?

Questions regarding prerequisites and requirements for admission should be directed to the specific major.

What if I just want to take some courses to see if I'm interested in applying to the School of Public Health?

Some courses can be taken in the evening through Continuing Education and Extension, which does not require enrollment in a degree program. However, the number of courses that are transferable into your degree program once you are admitted depends on the major and the academic dean.

Can I be admitted any time other than fall quarter?

Fall quarter admission is generally a requirement for School of Public Health majors. For exceptions, please contact the specific major.

How many students are in the School of Public Health?

The school has about 400 students working on their degrees at any given time.

Does it always snow in Minnesota?

Contrary to popular belief, Minnesota isn't trapped in a perpetual tundra. We enjoy the full spectrum of seasons, which includes summer temperatures well into the upper 80s.

Who qualifies for residency?

Those who have resided in Minnesota for at least one calendar year before the first day of class attendance. During that time the primary reason for living in Minnesota must be something other than school attendance.

Students holding temporary international visas do not qualify for resident tuition.

Do I have to take a test for admission?

An educational test is required for admission into every School of Public Health major unless you already have a U.S. doctoral degree. Most majors require the GRE; however, a few majors accept substitutions.

Do I have to pay the credential examination fee?

All applicants who have never been admitted to the University of Minnesota are required to pay this fee—no waivers will be granted.

Is there a student orientation?

Every fall a few days before classes begin, there is a day-long orientation to the School of Public Health, its facilities, and your specific major.

What will my advising consist of?

You are assigned a faculty adviser who will guide you through your academic program. The Student Services Center or the major coordinators are always available to answer your questions as well.

Do you have an evening or weekend program?

At present you may complete your degree through day school only.

Are courses taught during the summer?

A limited number of public health courses are available during the summer months.

School of Public Health and Graduate School Admission Requirements

The following lists the minimum admission requirements for the M.P.H., M.H.A., M.S., and Ph.D. degree programs. Additional requirements and higher criteria may be required by each major. See each major's description for further requirements.

1. Baccalaureate or higher degree from an accredited college or university.
2. One of the following:
 - Cumulative undergraduate GPA of not less than 3.00 based on a minimum of 90 quarter credits, or a cumulative postbaccalaureate GPA of not less than 3.00 based on not less than 9 quarter credits as specified by the major and the dean.
 - Minimum GRE score of not less than 1500 based on the three sections and taken within the last five years (or GMAT score of 500), or a minimum MAT score of not less than 40 taken within the last five years.

These requirements define the minimally acceptable criteria, but students meeting these criteria are not guaranteed admission. Final admission decisions are based on the student's total profile, including work experiences and other background factors, the relative strength of each applicant compared to the current pool of applicants, and the number of students who can be accommodated by the major.

School of Public Health (M.P.H. and M.H.A. Degrees) Domestic Applicants Only

Application Procedure—The following application materials are required by all School of Public Health majors. These materials are in addition to items that may be specifically required by individual majors as stipulated in each major's description (see pages 14-28).

1. Completed School of Public Health *application*.
2. *Application fee* of \$25.00 in the form of a check payable to the University of Minnesota. Formerly admitted University of Minnesota degree-seeking students must complete a Change of College form but are not required to pay the fee.
3. *Letter of intent* describing your present or previous professional experience future career goals and educational needs, including your desired professional role and, if possible, the type of agency, organization, or setting in which you plan to work.
4. *Two official transcripts* of your complete academic record from each college or university attended.
5. *Three letters of recommendation* from persons capable of assessing your ability to do graduate work and your past and potential success in the field for which you are applying. Letters should be addressed to the major chairperson.

6. *Résumé*.

7. *GRE* or other requested test scores forwarded to Student Services Center. Scores should arrive before the application deadline.

Send all application materials to Student Services Center, School of Public Health, Box 819, 420 Delaware Street S.E., Minneapolis, MN 55455. For questions call (612) 626-3500 or 1-800-SPH-UofM (774-8636).

Graduate School (M.S. and Ph.D. Degrees) Domestic Applicants Only

Application Procedure—The following *three* items must be sent directly to the Graduate School, 306 Johnston Hall, 101 Pleasant St., Minneapolis, MN 55455.

1. Completed Graduate School *application*. Applicants currently admitted to the Graduate School are not required to submit a new application but should complete a Change of Status form available by calling (612) 625-8060 or in 306 Johnston Hall.
2. *Application fee* of \$40.00 in the form of a check payable to the University of Minnesota.
3. *One official transcript* of your complete academic record from each college or university attended.

In addition, the remaining *four* items must be sent to Student Services Center, School of Public Health, Box 819, 420 Delaware Street S.E., Minneapolis, MN 55455.

1. *Letter of intent* describing your present or previous professional experience; future career goals and educational interests, including your desired professional role and, if possible, the type of institution, whether it be academic or in the public or private sector, in which you plan to work.
2. *Three letters of recommendation* from persons able to assess your ability to do graduate work as well as your past and potential success in the field for which you are applying. Letters should be addressed to the director of graduate studies for the major.
3. *Résumé*.
4. *GRE* or other requested test scores. Scores should arrive before the application deadline.

International Applicants

All prospective students from countries other than the United States must follow the procedures below. Foreign nationals already studying or working in the United States, unless they have been admitted to establish residency or have acquired such status under appropriate immigration regulations, must follow the same procedures as those still residing in their home country.

International students should start their application procedures early. Students are advised to contact their Ministry of Health or similar government agency well in advance of the admission deadline for the major to which they are applying. Students are encouraged to apply

through their Ministry of Health, the World Health Organization, or similar official agencies because these agencies are usually able to expedite necessary clearances. Direct application to the School of Public Health, while possible, is not encouraged.

School of Public Health (M.P.H. and M.H.A. Degrees) International Applicants Only

Admission requirements—The following lists the minimum admission requirements for the M.P.H. and M.H.A. degree programs. Additional requirements and higher criteria may be required by each major. See each major's description for further requirements.

1. Baccalaureate or higher degree from an accredited college or university.
2. One of the following:
 - Cumulative undergraduate GPA of not less than 3.00 based on a minimum of 90 quarter credits, or a cumulative postbaccalaureate GPA of not less than 3.00 based on not less than 9 quarter credits as specified by the major and the dean.
 - Minimum GRE (or GMAT equivalent) score of not less than 1500 based on the three sections and taken within the last five years, or a minimum MAT score of not less than 40 taken within the last five years.
3. TOEFL score of 575. The school requires that every international applicant whose native language is not English provide evidence of proficiency in English at the time of application. Final action on an application cannot be taken until official evidence of proficiency in English is received.

4. Statement of financial assurance.

These requirements define the minimally acceptable criteria, but students meeting these criteria are not guaranteed admission. Final admission decisions are based on the student's total profile, including work experiences and other background factors, the relative strength of each applicant compared to the current pool of applicants, and the number of students who can be accommodated by the major.

Application Procedure—The following application materials are required by all School of Public Health majors. These materials are in addition to items that may be specifically required by individual majors as stipulated in each major's description (see pages 14-28).

1. Completed School of Public Health *application*.
2. *Application fee* of \$50.00.
3. *Letter of intent* describing your present or previous professional experience; future career goals and educational interests, including your desired professional role and, if possible, the type of institution, whether it be academic or in the public or private sector, in which you plan to work.
4. *Two official transcripts* of your complete academic record from each college or university attended.

5. *Three letters of recommendation* from persons able to assess your ability to do graduate work as well as your past and potential success in the field for which you are applying. Letters should be addressed to the major chairperson.
6. *Résumé*.
7. *GRE* (or GMAT or MAT) scores as required by the major.
8. *TOEFL* scores.

Send all application materials to Student Services Center, School of Public Health, Box 819, 420 Delaware Street S.E., Minneapolis, MN 55455.

Graduate School (Ph.D. and M.S. Degrees) International Applicants Only

Application Procedure—The following *four* items must be sent directly to the Graduate School, 306 Johnston Hall, 101 Pleasant Street, Minneapolis, MN 55455.

1. Completed Graduate School *application*. Applicants currently admitted to the Graduate School are not required to submit a new application but should complete a Change of Status form available by calling (612) 625-8060 or in 306 Johnston Hall.
2. *Application fee* of \$50.00.
3. *One official transcript* of your complete academic record from each college or university attended. Applicants from the People's Republic of China (P.R.C.) must submit official transcripts in *both* Chinese and English.
4. *GRE* or other requested test scores. Scores should arrive before the application deadline.
5. *TOEFL* scores.
6. *Financial Assurance form*.

In addition, the remaining *three* items must be sent to Student Services Center, School of Public Health, Box 819, 420 Delaware Street S.E., Minneapolis, MN 55455.

1. *Letter of intent* stating the major(s) you are applying to and describing your present or previous professional experience; future career goals and educational interests, including your desired professional role and, if possible, the type of institution, whether it be academic or in the public or private sector, in which you plan to work.
2. *Three letters of recommendation* from persons able to assess your ability to do graduate work as well as your past and potential success in the field for which you are applying. Letters should be addressed to the director of graduate studies for the major.
3. *Résumé*.

To receive an M.P.H. or M.H.A. students shall demonstrate knowledge and understanding of the philosophy and general principles of public health as well as those in their area of specialization.

Educational objectives for doctoral study leading to the Ph.D. are developed between the individual student and relevant graduate faculty.

The school does not offer a Dr.P.H.

Course Descriptions

Symbols—The following symbols are used throughout the descriptions:

, The comma, used in prerequisite listings, means “and.”

† All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence.

§ Credit will not be granted if credit has been received for the course listed after this symbol.

¶ Concurrent registration is required (or allowed) in the course listed after this symbol.

Registration Override Permit, completed and signed by the instructor, is required for registration.

Δ Registration Override Permit, completed and signed by the department offering the course, is required for registration.

A prerequisite course listed by number only (e.g., prereq 5246) is in the same department as the course being described.

Note: Certain courses listed below must be approved by your adviser and the dean before they may be counted toward your School of Public Health program. Examples include courses offered through the Occupational Health and Safety Institute, Continuing Education and Extension, the Alternative Studies Program, and one-day seminars.

3001. PERSONAL AND COMMUNITY HEALTH. (3 cr, §3004, §5022, §5023, §GC 3114) Rothenberger
Principles of health conservation and disease prevention.

3003. FUNDAMENTALS OF ALCOHOL AND DRUG ABUSE. (2 cr, §3004, §5003, §5023) Rothenberger
Lecture, discussion, and special readings on scientific, sociocultural, and attitudinal aspects of alcohol and other drug abuse problems. Emphasis on incidence, high risk populations, prevention, intervention.

3004. BASIC CONCEPTS IN PERSONAL AND COMMUNITY HEALTH. (5 cr, §3001, §3003, §5003, §5022, §5023, §GC 3114) Rothenberger
Scientific, sociocultural, and attitudinal aspects of communicable and degenerative diseases, environmental and occupational health hazards, and alcohol and drug problems. Role of education in health conservation, disease control, and drug abuse.

3301. PERSPECTIVES: INTERRELATIONSHIPS OF PEOPLE AND ANIMALS IN SOCIETY TODAY. (2-3 cr, §5301, §CVM 3100, §100) Robinson, staff
Social and economic consequences of pets and people sharing urban environments; animal rights; differences in cultures and their influence on animal/human relationships.

5003. FUNDAMENTALS OF ALCOHOL AND DRUG ABUSE. (2 cr, §3003, §3004, §5023; prereq ed major or #) Rothenberger
Lecture, discussion, and special readings on scientific, sociocultural, and attitudinal aspects of alcohol and other drug abuse problems. Emphasis on incidence, high risk populations, prevention, intervention.

5004. FIELD INSTRUCTION IN PUBLIC HEALTH. (Cr ar; prereq #) Staff
Generalized, function- or discipline-oriented community experience under academic and professional supervision. Applying knowledge and skills to relevant health issues and problems.

5005. TOPICS IN PUBLIC HEALTH. (Cr ar; prereq, #) Staff
Directed instruction; selected readings in public health with discussion based on readings.

5010. PUBLIC HEALTH APPROACHES TO AIDS. (3 cr; prereq upper div or grad-level student) Rothenberger
Survey of HIV infection from a public health perspective with emphasis on intervention.

5015. TOPICS IN INTERDISCIPLINARY STUDIES. (Cr ar; prereq #) Staff
Individualized, directed instruction. Selected readings in interdisciplinary studies with discussion based on readings.

5017. CULTURE AND HEALTH BEHAVIOR. (3 cr; grad-level student or #) Williams
Heightens cultural sensitivity about public health practice and individual health behaviors. Cultural diversity and its impact on health behaviors; etic (universal) and emic (culture-specific) approaches.

5020. PUBLIC HEALTH SOCIAL WORK INTEGRATIVE SEMINAR. (3 cr, §SW 5020; prereq MPH/MSW or other pub hlth or social work student or #) Staff
Integrated, synthesized public health-social work philosophy, roles, functions, knowledge, skills for practical application to major contemporary social health problems. Expansionistic, social epidemiologic, conceptual problem analysis and community intervention.

5022. PERSONAL AND COMMUNITY HEALTH. (3 cr, §3001, §3004, §5023; prereq ed major or #) Rothenberger
Principles of health conservation and disease prevention.

5023. BASIC CONCEPTS IN PERSONAL AND COMMUNITY HEALTH. (5 cr, §3001, §3003, §3004, §5003, §5022; prereq ed major or #) Rothenberger
Scientific, sociocultural, and attitudinal aspects of communicable and degenerative diseases, environmental and occupational health hazards, and alcohol and drug problems. Role of education in health conservation, disease control, and drug abuse.

5025. SEMINAR IN COMMUNITY HEALTH EDUCATION RESEARCH. (1 cr; prereq CHE student) Forster
Research issues, approaches in the field.

5026. PSYCHOSOCIAL APPROACHES TO HEALTH BEHAVIOR CHANGE. (3 cr; prereq pub hlth student or Bio or EH or EPI or HSRP or HSRP&A grad or #) Lytle, Finnegan
Foundations of community health education with emphasis on individual behavior change.

5027. COMMUNITY AND ENVIRONMENTAL APPROACHES TO HEALTH BEHAVIOR CHANGE. (3 cr; prereq 5026, CHE student) Wagenaar
Socioenvironmental factors influencing health-related behavior. Role of groups, institutions, and social structures in encouraging healthy or unhealthy behavior. Interventions to improve health behavior through changes in social environment; economic, social, and political structures and practices creating barriers to effective interventions.

5028. ORGANIZATIONAL AND INSTITUTIONAL SETTINGS OF COMMUNITY EDUCATION. (3 cr; prereq 5026, 5027, CHE student or #) Wolfson
Organizational and institutional factors (including opportunities and constraints) that influence how community health interventions are conducted.

5040. DYING AND DEATH IN CONTEMPORARY SOCIETY. (3 cr, §HSU 5040, §Mort 5040; prereq pub hlth student or ed or hlth sci or mort sci sr or #, CEE only) Rothenberger
Concepts, attitudes, ethics, and lifestyle management related to dying, death, grief, and bereavement. Emphasis on preparing community health and helping professionals and educators for educational activities in this area.

5044. TOPICS IN ALCOHOL AND DRUG PROBLEMS. (1-4 cr; prereq #) Staff
Individualized, directed instruction. Selected readings in alcohol and drug problems with discussion based on these readings. (Not an appropriate substitute for 3003, 3004, 5003, or 5023.)

5049. LEGISLATIVE ADVOCACY SKILLS FOR PUBLIC**HEALTH.** (4 cr; prereq 5398, #) Forster

State legislature as arena for public health practice; developing skills necessary to operate in that arena. Analyzes emergence, development, and resolution of legislative issues of public health importance.

5061. PREVENTION AND CONTROL OF ALCOHOL AND DRUG PROBLEMS. (3 cr; prereq pub hlth student or #) Staff

Theory and practice. Approaches include education, citizen action, and public policy.

5084. INTERNSHIP IN HEALTH EDUCATION PRACTICE I.

(Cr ar; prereq health ed or CHE student or #) Staff

Supervised health education internship in a health or public health setting under academic and professional supervision. Applying health education knowledge and skills to relevant health issues and problems.

5090. RESEARCH TOPICS IN HEALTH EDUCATION. (2-8 cr;

prereq health ed or CHE student or #) Staff

Review of health education research and experience in a selected area for an M.P.H. project.

5096. TOPICS: RESEARCH. (Cr ar; prereq health ed or CHE student or #) Staff

Original research in or secondary analysis of data sets related to health education.

5097. TOPICS: SELECTED READINGS. (Cr ar; prereq hlth sci grad) Staff

Health education topic not covered in available courses.

5150. TOPICS IN ENVIRONMENTAL AND OCCUPATIONAL**HEALTH.** (Cr ar; prereq #) Greaves, staff

Selected readings and discussions of problems in environmental and occupational health.

5151. ENVIRONMENTAL HEALTH. (3 cr; prereq #; CEE only)

Singer, staff

Methods for promoting human health and comfort by controlling environment.

5152. ENVIRONMENTAL HEALTH. (2 cr) Vesley

Principles of environmental health relating to macro- and microenvironments and products consumed or used by people.

5154. PRACTICUM IN ENVIRONMENTAL AND OCCUPA-**TIONAL HEALTH.** (1-6 cr, §Nurs 5882; prereq EH student) Staff

Working with organizations on environmental health concerns under joint supervision of a faculty adviser and organization staff.

5155. ISSUES IN ENVIRONMENTAL AND OCCUPATIONAL**HEALTH.** (2 cr; prereq pub hlth or grad student or #; offered SSI)

Olson

The field, current issues, and principles and methods of environmental and occupational health protection. Independent field visits to observe, review, and analyze environmental/occupational health programs.

5156. ENVIRONMENTAL HEALTH SURVEY. (3 cr; prereq EH

student) Vesley

Environmental health programs (macroenvironment, microenvironment, products used and consumed by people) and controversial issues associated with these programs.

5158. HEALTH RISK EVALUATION. (3 cr; prereq EH student or #)

Barber

Principles of health risk assessment and management: environmental pollutants, public domain and workplace, legislation and regulations.

5159. SEMINAR: ENVIRONMENTAL HEALTH. (2 cr; prereq EH

student) Staff

5165. THE POLITICAL PROCESS IN PUBLIC HEALTH. (3 cr;

prereq grad or pub hlth student or #) McGovern

Preparation for assuming leadership in health policy arena. Policy development; political, legislative, and regulatory processes; and public health political strategies.

5166. EMPLOYEE HEALTH SERVICES AND COST CONTAIN-**MENT.** (3 cr, §Nurs 5884; prereq OHN student) McGovern

Examine trends in corporate health cost containment for implications regarding planning and financing of healthcare for employees and families. Analyze associated role development of occupational health nurse specialists.

5167. THEORY AND PRACTICE OF OCCUPATIONAL**HEALTH.** (3 cr, §Nurs 5680; prereq RN with baccalaureate degree or

hlth sci student; Summer—Graduate Occupational Health and Safety Institute; CEE only) Olson

Major concepts and issues in occupational health and safety. Students identify a conceptual framework for working with aggregate populations of workers.

5168. THEORY AND PRACTICE OF OCCUPATIONAL**HEALTH: FIELD EXPERIENCE.** (1 cr, §Nurs 5885; prereq 5167 or

Nurs 5680) Olson

Arranged field experience, seminar course. Applying occupational health and safety concepts. Builds on theories explored in 5167.

5171. ENVIRONMENTAL MICROBIOLOGY. (4 cr; prereq MicB

3103 or #) Vesley

Survival, dissemination, transportation, and significance of microorganisms in the environment; applying principles to environmental health problems.

5181. AIR POLLUTION. (4 cr; prereq 2 yrs calculus, chemistry, general

physics or #) Swackhamer

Air pollution problems, sources of pollutants, gas phase and aerosol phase chemistry, fate of pollutants, human health and materials effects.

5184. MEASUREMENT OF AIRBORNE CONTAMINANTS IN**WORKPLACES.** (4 cr; prereq 5210, 5216 or #) Brosseau, Vincent

Lectures; lab and field exercises to calibrate field equipment for analyzing of air contaminants, gas, and vapor; respirable aerosol mass sampling; and dust counting and sizing. Direct reading instruments; sampling strategy.

5186. ENVIRONMENTAL CHEMISTRY. (3 cr; prereq 2 yrs general

and organic chem or #) Swackhamer

Air, water, and soil chemistry with emphasis on pollution; pollutant transport and behavior; current topics.

5191. INTRODUCTION TO OCCUPATIONAL SAFETY. (1 cr;

Summer—Graduate Occupational Health and Safety Institute; CEE only) Olmstead

Provides background on occupational safety as well as an understanding of OSHA and Workers' Compensation. Identifying safety problems, recommending solutions, and managing OSHA and Workers' Compensation issues.

5194. INJURY PREVENTION IN THE WORKPLACE, COMMU-**NITY, AND HOME.** (3 cr) Gerberich

Analyzing injury problems in the workplace, community, and home; epidemiologic strategies for prevention and control.

5195. SEMINAR: SAFETY IN THE WORKPLACE. (1 cr) Gerberich

Hazard analysis, prevention and control of worker injuries.

5197. TOPICS: INJURY PREVENTION IN THE WORKPLACE,**COMMUNITY, AND HOME.** (1-3 cr; prereq #) Gerberich

Projects relevant to injury problems.

5198. SAFETY ENGINEERING FUNDAMENTALS. (3 cr; CEE

only) Shutske

Safety engineering design and control principles applied to injury and property loss prevention. Standards; guarding; systems analysis; fire protection; legal/ethical considerations; engineering controls for noise, vibration, radiation, electrical and mechanical hazards.

5201. RADIATION PROTECTION AND MEASUREMENT. (2 cr)

Barber

Ionizing radiation sources, detection and measurement, protection principles, health implications.

- 5202. RADIATION LABORATORY.** (1 cr; prereq 5201 or ¶5201) Barber
Radiation lab for 5201.
- 5210. INTRODUCTION TO INDUSTRIAL HYGIENE.** (3 cr) Brosseau
Theory and practice of industrial hygiene. Historical development of occupational health, role of legislation and regulations, general principles of recognition, evaluation, hazard control. Specific information on a variety of hazards and industrial processes.
- 5211. SURVEY OF INDUSTRIAL HYGIENE.** (3 cr; Summer—Graduate Occupational Health and Safety Institute; CEE only) Mulhausen
Recognizing, evaluating, and controlling health hazards in the workplace. For safety and health professionals and others interested in basic understanding of industrial hygiene without detail required for practicing industrial hygienists.
- 5212. VENTILATION CONTROL OF ENVIRONMENTAL HAZARDS.** (3 cr; prereq 5211 or #) Brosseau, Vincent
Theory and application of exhaust ventilation in controlling airborne environmental hazards: principles of air movement and mixing, design of appropriate ventilation controls, techniques for measuring and evaluating controls. For environmental health, engineering, and other students interested in industrial hygiene.
- 5213. ERGONOMICS IN OCCUPATIONAL HEALTH.** (2 cr) Staff
Risks associated with failing to apply ergonomic principles; how to evaluate workspaces; principles to use when designing workspaces; tools, equipment, and procedures to reduce the likelihood of specific injury types.
- 5215. APPLIED OCCUPATIONAL TOXICOLOGY.** (3 cr; prereq 5261 or #; offered alt yrs; CEE only) Willard
Understanding and mitigating toxic or harmful effects of chemicals on humans in the workplace. Determining and communicating information about chemical toxicity. Ethical, legal, and regulatory responsibilities involved in manufacture and distribution of chemicals and products.
- 5216. PROPERTIES OF WORKPLACE AIRBORNE CONTAMINANTS.** (3 cr; prereq EH student or grad student with background in physical sci or engineering or environmental sci) Vincent
Properties of aerosol and gaseous contaminants like those found in workplace atmospheres and their bearing on exposure and health effects; monitoring and ventilation for hazard control.
- 5218. FIELD PROBLEMS IN OCCUPATIONAL HEALTH.** (3 cr, §Nurs 5886, prereq 5210 or 5211 or nurs grad or #) Olson
Guided evaluation of potential occupational health problems; recommendations and design criteria for correction if indicated.
- 5219. SEMINAR: OCCUPATIONAL HEALTH.** (1 cr; Summer—Graduate Occupational Health and Safety Institute; CEE only) Greaves, staff
Interdisciplinary forum for discussing current policy issues, problems, and trends related to the practice of occupational and environmental health and safety.
- 5220. VENTILATION CONTROL OF OCCUPATIONAL HAZARDS.** (3 cr; Summer—Graduate Occupational Health and Safety Institute; CEE only) McJilton
Designing, modifying, testing and troubleshooting local exhaust systems. Uses and limitations of local exhaust systems for controlling occupational hazards. Characteristics and physics of air, properties of airborne contaminants, principles of air movement, ventilation, recirculation, thermal effects.
- 5233. BIOLOGICAL SAFETY.** (2 cr; prereq #) Vesley
Assessing risk; primary barriers; lab design criteria; safety devices and equipment; personnel practices; sterilization and decontamination; lab animals; shipping and disposal of biohazardous agents.
- 5239. SEMINAR: MICROBIOLOGY OF THE HUMAN ENVIRONMENT.** (1 cr; prereq #) Vesley
Selected topics of current research interest on infectious disease and injury prevention through environmental intervention.
- 5242. ENVIRONMENTAL HEALTH ASPECTS OF GROUND-WATER SYSTEMS.** (2 cr) Singer
Groundwater geology, quality, and treatment; well design, construction, and maintenance; public and environmental health problems.
- 5243. WATER AND HEALTH.** (3 cr) Singer
Occurrences and health effects of treatment for physical, chemical, and biological agents in the transmission of waterborne diseases.
- 5250. ENVIRONMENTAL AND OCCUPATIONAL HEALTH MASTER'S PROJECT.** (1-4 cr; prereq EH student or #) Staff
Directed study toward completion of a master's project or Plan B paper in environmental or occupational health.
- 5253. INTRODUCTION TO HAZARDOUS WASTE MANAGEMENT.** (3 cr) Thompson
Roles of public and private sectors as generators, disposers, and regulators of hazardous wastes. Definitions, sources, transportation, handling, treatment, recovery, disposal, and public health implications.
- 5254. HAZARDOUS WASTE MANAGEMENT.** (1 cr; Summer—Graduate Occupational Health and Safety Institute; CEE only) Thompson
Problems of and possible solutions for managing hazardous waste. Technical, political, social, economic, and regulatory factors.
- 5255. HAZARDOUS MATERIALS MANAGEMENT.** (3 cr) Brosseau
Proper management and use of hazardous materials. Regulations concerning process safety, transport, air-water releases, hazard communication and emergency response. Chemical properties and toxicity of hazardous materials, personnel protection, air sampling techniques.
- 5261. GENERAL ENVIRONMENTAL TOXICOLOGY.** (3 cr) Wattenberg
Applying biochemical and physiological principles, assessing potential health hazards, solving toxicological problems.
- 5262. METABOLISM AND DISTRIBUTION OF XENOBIOTICS.** (3 cr; prereq 5261 or #) Wattenberg
Mechanisms and regulation of xenobiotic metabolism; kinetic models for distribution of toxicants and metabolites; receptor-mediated toxicity.
- 5266. INTRODUCTION TO HEALTH RISK ASSESSMENT.** (1 cr; Summer—Graduate Occupational Health and Safety Institute; CEE only) Staff
Mechanics of risk assessment. Estimating chemical exposure levels using case studies from occupational health and general population scenarios. Social, political, and regulatory aspects of risk assessment.
- 5267. ENVIRONMENTAL AND OCCUPATIONAL TOXICOLOGY.** (3 cr; not open to students with subspecialty in toxicology; Summer—Graduate Occupational Health and Safety Institute; CEE only) Wattenberg
Toxicology principles including dose-response relation, metabolism and distribution, target specificity. Examples drawn from exposures in the workplace and industrial toxicology.
- 5268. SEMINAR: TOXICOLOGY AND HUMAN POPULATIONS.** (1 cr; CEE only) Mandel
Students present data from literature on scientific evaluation of epidemiological studies dealing with human exposure to toxic agents.
- 5271. OCCUPATIONAL EPIDEMIOLOGY.** (3 cr; prereq basic course in Epi and biostats) Maldonado, Mandel
Principles and concepts in identifying health effects in the workplace; strategies for identifying excess risk, evaluating strengths and weaknesses of research techniques, assessing bias and confounding.

5274. PRINCIPLES IN OCCUPATIONAL EPIDEMIOLOGY.

(2 cr; Summer—Graduate Occupational Health and Safety Institute; CEE only) Maldonado, Marbury
Epidemiologic principles and methods with emphasis on their application in occupational health.

5276. PRINCIPLES OF OCCUPATIONAL EPIDEMIOLOGY II.

(2 cr; prereq 5274 or other intro Epi course; Summer—Graduate Occupational Health and Safety Institute; CEE only) Marbury
Applying epidemiologic methods and principles to evaluation of health effects of occupational exposures.

5281. TOPICS IN OCCUPATIONAL MEDICINE.

(2 cr; Summer—Graduate Occupational Health and Safety Institute; CEE only) Lohman
Major clinical, administrative, and preventive issues in occupational medicine. Disease mechanisms, descriptive epidemiology, public health aspects of common occupational health problems.

5301. PERSPECTIVES: INTERRELATIONSHIPS OF PEOPLE AND ANIMALS IN SOCIETY TODAY.

(2-3 cr, §3301, §CVM 3100, 5100) Staff
Social and economic consequences of pets and people sharing urban environments; animal rights; differences in cultures and their influence on animal/human relationships.

5310. EPIDEMIOLOGY OF ZOOSES DISEASES COMMON TO HUMANS AND ANIMALS.

(4 cr; prereq course in microbiol or Epi or #; offered alt yrs) Robinson
Selected diseases transmitted between or common to animals and people. Emphasis on diagnostic problems, epidemiologic characteristics, recreational and occupational implications, food and water transmission, prevention, and evaluation of control programs.

5330. EPIDEMIOLOGY I.

(4 cr; prereq pub hlth or pharm or med school or nurs or dent or grad student or #) Staff
Epidemiologic principles applicable to infectious and noninfectious disease; host-agent-environment complex; factors underlying spread of infectious disease; lab applications of statistical and epidemiologic methods.

5333. PRINCIPLES OF HUMAN BEHAVIOR I.

(3 cr; prereq CHE or Epi grad student or #) Jeffery
Theoretical perspectives on etiology and modification of health behavior in individuals and communities.

5335. EPIDEMIOLOGY AND CONTROL OF INFECTIOUS DISEASES.

(3 cr; prereq hlth sci grad or #) Lifson
Principles and methods. Strategies for disease control and prevention, including immunization. Relevance of modes of transmission of specific agents for disease spread and prevention. Public health consequences of infectious diseases at local, national, and international levels.

5340. EPIDEMIOLOGY II: STRATEGIES AND METHODS.

(4 cr; prereq 5330, one biostats course or #) Folsom, Shahar
Measures of disease occurrence and strategies and design principles for etiologic and evaluative studies. Measurement problems, interactions, sensitivity and precision, validity and the need for data specification and control of variables.

5341. EPIDEMIOLOGY III: INTERPRETATION OF DATA FROM EPIDEMIOLOGIC RESEARCH.

(4 cr; prereq 5340, 5420, 5454, Epi student or #) Staff
Analyzing and interpreting data from epidemiologic studies, including use of standard computer packages.

5348. WRITING RESEARCH GRANTS.

(2 cr; Epi grad or postdoc student or #) Luepker
Mechanics of grant development and writing, principles of informed consent, budget development, grant-review process, identifying funding sources. Focuses on NIH-type grants.

5361. HOSPITAL INFECTION CONTROL.

(2 cr; prereq current hospital employment or #) Rhame
Pathophysiology, epidemiology, and control of nosocomial infection, including evaluation of hospital epidemics, prevention of device-related infections, surveillance of endemic infection, sterilization and disinfection, administrative issues, employee health, interaction with clinical lab, and isolation techniques. Emphasis on applied aspects. Course enhanced by hospital experience but basic clinical background required.

5363. COMPUTER APPLICATIONS IN EPIDEMIOLOGY.

(2 cr; prereq Epi student or #) McGovern
Epidemiologic data collection and analysis with emphasis on microcomputer applications using SAS Epi Info, Egret, and Excel. Creating, maintaining, and analyzing a dataset and statistical power calculations.

5370. EPIDEMIOLOGY OF ALCOHOL AND OTHER DRUGS.

(3 cr; prereq Bio or dent or EH or Epi or med school or nurs or pharm or pub hlth grad student or #) Wagenaar
Population patterns regarding who uses which drugs, why they use them, and health consequences of alcohol and other drug use. Does not focus on treatment, care, rehabilitation, exploration of personal attitudes, or practices regarding alcohol or other drug use.

5381. GENETIC EPIDEMIOLOGY.

(4 cr; prereq 5330, 5414 or equiv, college coursework in genetics) Sellers
Etiology, distribution, and control of diseases in groups of relatives, inherited causes of disease in populations. Associations (case-control family studies), concordance (twin studies), disease transmission (segregation analysis), gene localization (gene mapping).

5382. CLINICAL TRIALS II.

(3 cr; prereq Bio or Epi student or #; offered alt yrs) Grimm
Complement to 5462. History of trials, forming major and subgroup hypothesis, participant selection, clinical center issues, ethical issues. Emphasis on critiquing clinical trials and trial proposals and designing outline for clinical trial that addresses specific hypothesis.

5383. PATHOBIOLOGY OF HUMAN DISEASES.

(4 cr; prereq Bio or dent or EH or Epi or med school or nurs or pharm or pub hlth grad student or #) Crow
Basic cell biology and pathology of human diseases. Topics include immunology, infectious diseases, AIDS, cancer, hematology, diabetes, cholesterol, atherosclerosis, cardiovascular diseases, hypertension, nutritional diseases, pulmonary disorders, gastrointestinal disorders, liver diseases, and osteoporosis.

5384. HUMAN PHYSIOLOGY.

(4 cr; prereq Epi or Epi grad student or #) Crow
Basic human physiologic functions and mechanisms related to coronary heart disease, stroke, diabetes, exercise tolerance, and aging. Progressing from cellular function to organ function to coordinated body function. Consistency of the internal environment—the need for homeostasis; adaptation to change, including chronic disease; energy use; integrated control systems; and age and physiologic function.

5386. THE PUBLIC HEALTH ASPECTS OF CARDIOVASCULAR DISEASES.

(3 cr; prereq 5330, 5450 or equiv) Elmer
Evaluating population studies and trials on cardiovascular diseases; modifiable risk factors for coronary heart disease; preventing other types of heart disease.

5387. CANCER EPIDEMIOLOGY.

(3 cr; prereq hlth sci grad or #) Robison
Epidemiologic aspects of cancer, including theories of carcinogenesis, incidence, site-specific risk factors, and issues of cancer control and prevention.

5389. NUTRITIONAL EPIDEMIOLOGY.

(3 cr; prereq 5330 or #; offered alt yrs) Elmer
Methodologic issues of exposure to nutrient intakes, biological basis for nutrition and disease relationships, studies of specific chronic diseases and nutritional intake, analytic issues related to designing and interpreting studies using nutritional measures.

5390. SMOKING INTERVENTION. (3 cr; prereq CHE or Epi student; offered alt yrs) Lando
Impact of smoking on U.S. public health; review of research on onset and prevention, factors maintaining dependence, cessation and intervention strategies, public health campaigns, public policies and second-hand smoking controversies, and international issues related to smoking.

5391. INTRODUCTION TO BEHAVIORAL EPIDEMIOLOGY. (3 cr; prereq Bio or dent or EH or Epi or med school or nurs or pharm or pub hlth grad student or #) Staff
Theoretical, measurement, and research issues in behavioral epidemiology. Life span patterns in developing, changing, and maintaining behaviors related to major chronic diseases. Examines risk-related behaviors from an epidemiologic perspective using concepts of prevalence, incidence, risk, and trends.

5393. DESIGN AND ANALYSIS OF COMMUNITY TRIALS IN EPIDEMIOLOGY. (4 cr; prereq 5330, 5340, coursework in regression and analysis of variance or #; offered alt yrs) Murray
Design and analysis issues for epidemiologic studies evaluating the effects of public health interventions applied at the community level. Includes a variety of experimental and quasi-experimental designs and addresses threat to their validity.

5394. MASS COMMUNICATION AND PUBLIC HEALTH. (3 cr, §Jour 5541; prereq social or behavioral sci cr, pub hlth or jour grad student) Finnegan

Role, functions, and effects of mass media on public health; planned and unplanned effects; review of literature to understand how theories, models, and assumptions of mass communication research relate to public health.

5395. EPIDEMIOLOGY OF OBESITY. (3 cr; prereq pub hlth or grad student or #; offered alt yrs) Jeffery
Biological, psychological, and sociological determinants of obesity, role of obesity in acute and chronic disease; implications of epidemiologic research for reducing obesity as a public health problem.

5398. PUBLIC HEALTH POLICY AS A PREVENTION STRATEGY. (3 cr; prereq CHE or Epi or Pub Hlth Nutr student or #) Forster

Philosophical, ethical, economic, political, and efficacy rationale for a policy approach to prevention; historical and current application of prevention policy to public health problems.

5399. SEMINAR: TOPICS IN EPIDEMIOLOGY. (2-3 cr; prereq basic Epi and biostats course or #) Staff
One or more topics of current epidemiologic interest.

5404. INTRODUCTION TO BIOSTATISTICS AND STATISTICAL DECISION. (4 cr; prereq MHA students or #) Weckwerth
Variation; frequency distribution; probability; significance tests; estimation; trends; data handling; simple operations research applications. Statistical approach to rational administrative decision making. Lectures and lab exercises.

5409. BIOSTATISTICS IN CLINICAL STUDIES. (3 cr; prereq DDS or DVM or MD or PharmD or clinical nurs student) Keenan
Statistical treatment of data from dental, medical, and veterinary research. Tabular, graphical, and numerical descriptive methods; random sampling; principles of statistical inference; confidence intervals; statistical tests of hypothesis using t and chi-square distributions. Interpreting of statistical analyses in clinical literature.

5414. BIOSTATISTICAL METHODS I. (3 cr, §5450; prereq MPH or pub hlth grad student or #) Le
Tabular, graphical, and numerical descriptive methods; random sampling; principles of statistical inference; confidence intervals; statistical tests of hypotheses using t and chi-square distributions; interpreting correlation and regression.

5415. BIOSTATISTICAL METHODS II. (3 cr, §5452; prereq grade of B or better in 5409 or 5414 or ¶5414 or 5450, MPH or hlth sci grad student or #) Zelterman
Correlation, regression, analyzing variance and non-parametric tests. Using computer packages for analyzing data.

5420. STATISTICAL COMPUTING I—USING STATISTICAL PACKAGES. (2 cr; prereq 5414 or 5450 or ¶5450, hlth sci student; # for undergrads) Jeffries
Using SAS for analyzing biomedical data. Data manipulation, description, and statistical analyses (t-tests, chi squares, simple regression).

5421. STATISTICAL COMPUTING II—ADVANCED COMPUTATIONAL AND GRAPHICAL METHODS. (3 cr; prereq 5464, knowledge of C or FORTRAN, high-level programming language or #) Carlin

UNIX-workstation-based computing and graphical methods for biostatistical analysis. Linear systems, numerical integration and differentiation, optimization, Monte Carlo methods, designing and analyzing simulation studies.

5422. STATISTICAL COMPUTING III—DATA COLLECTION AND MANAGEMENT. (3 cr; prereq 5420 or 5462, 5464) Connett, Neaton

Methods of data collection, forms design, and data entry for clinical trials and epidemiologic studies. Data editing methods, database design, and statistical report generation using NOMAD and SAS.

5450. BIOSTATISTICS I. (4 cr, §5414; prereq Math 1111 or Math 1201, hlth sci student; # for undergrads) Jeffries, Kjelsberg, Thomas
Descriptive statistics; Gaussian probability models, point and interval estimation for means and proportions; hypothesis testing, including t-tests and chi-square tests; regression and correlation techniques; one-way analysis of variance; applications in the health sciences using output from statistical packages.

5452. BIOSTATISTICS II. (4 cr, §5415; prereq grade of B or better in 5450, 5420 or #) Jefferies

Analysis of variance and multiple regression for biological and health sciences data; estimation, testing, prediction; underlying assumptions; model selection; applications.

5454. BIOSTATISTICS III. (4 cr; prereq 5420 or 5452 or equiv or #) Le

Analyzing of categorical data; emphasizes log-linear models and inferences from observational data. Methods and applications of logistic regression and survival analysis, including Cox's proportional hazards model.

5456. BIOSTATISTICAL CONSULTING SEMINAR. (3 cr; prereq 5462, 5464, biostats student or #) Goldman, Kjelsberg
Roles and responsibilities of biostatistician as consultant and collaborator in health sciences research. Interpersonal communication. Consulting models and settings. Formulating analysis problem.

5462. CLINICAL TRIALS I. (3 cr; prereq 5452 or ¶5452 or 5465 or ¶5465, Bio or Epi student or #) Neaton
Methodology of randomized clinical trials; design issues, case examples; operational aspects; elementary statistical methods and application to follow-up studies in medicine and public health.

5464. BIOSTATISTICAL INFERENCE I. (4 cr, §5450; prereq Stat 5131 or ¶5131, Bio student or #) Thomas
Exploratory data analysis using SAS and S-Plus, ANOVA and classical nonparametrics, multiple comparisons, power and sample size determinations.

5465. BIOSTATISTICAL INFERENCE II. (4 cr, §5452; prereq Stat 5132 or ¶5132, Bio student or #) Connett
Contingency tables, logistic regression, categorical outcome from cohort and case control studies, Poisson regression.

5466. BIostatistical Inference III. (4 cr, §5454; prereq Stat 5133 or ¶Stat 5133, Bio student or #) Connett
Contingency tables, logistic regression, categorical outcome from cohort and case-control studies, Poisson regression.

5470. TOPICS IN BIostatistics. (Cr ar; prereq #) Staff
Selected readings with discussion based on these readings.

5605. PERINATAL HEALTH AND FAMILY PLANNING. (3 cr; prereq pub hlth grad student or #) Staff
Perinatal and family planning issues, programs, services, and policies. Emphasis on social, cultural, psychological, physical, environmental, economic, ethical, and political factors affecting family planning, pregnancy, and infant outcomes.

5606. HEALTH OF INFANTS AND YOUNG CHILDREN. (3 cr; prereq pub hlth grad student or #) Staff
Major causes of mortality and morbidity, public health interventions, public policies that prevent disease/injury and enhance health in infants and young children. Emphasis on U.S. populations at risk. For students already well grounded in a health-related discipline.

5607. ADOLESCENT HEALTH: ISSUES AND CHALLENGES. (3 cr; prereq pub hlth grad student or #) Story
Major public health issues and problems of U.S. adolescents; relationship among societal, political, economic, environmental, psychosocial, and cultural determinants that impact adolescent health status and services.

5609. TOWARD AN UNDERSTANDING OF CHILD SEXUAL ABUSE. (4 cr; TV course) ten Bensel
Historical understanding of child sexual abuse, including definitions, dynamics, effects upon the victim, how society intervenes, and prevention methods. For professionals in public health, health sciences, social work, education, and law.

5610. PRINCIPLES OF MATERNAL AND CHILD HEALTH. (3 cr; prereq pub hlth or grad student or #) ten Bensel, MCH staff
Current issues related to health needs of families, mothers, and children with emphasis on principles of primary care, health maintenance, preventive care, organization, and evaluation.

5613. CHRONIC ILLNESS AND CHILDHOOD DISABILITY. (3 cr; prereq pub hlth or grad student or #) Patterson
Epidemiology, identification, management, follow-up, and prevention of childhood chronic and handicapping conditions. Community programs related to emotional, physical, and intellectual handicaps.

5614. FIELD EXPERIENCE IN MATERNAL AND CHILD HEALTH. (3 cr; prereq MCH student) MCH staff
Field experiences selected by students to meet their career goals.

5616. THE RIGHTS OF CHILDREN AND YOUTH: ABUSE AND NEGLECT. (4 cr) ten Bensel
Needs and rights of children and parents and neglect and abuse of children. Historical and legal aspects, identification and reporting procedures, family assessment and treatment modalities, follow-up processes, research, prevention, implications for societal action.

5622. WOMEN'S HEALTH: ISSUES AND CONTROVERSIES. (4 cr; CEE only) Weiner
Issues and controversies affecting women's healthcare from historical and public health perspectives. Contrasts methods of healthcare delivery, professional and consumer education, and addresses current literature. Specific health needs of under-served women in the population.

5623. PRINCIPLES OF MATERNAL AND CHILD HEALTH RESEARCH. (3 cr; prereq MCH student or #) Alexander
Students develop master's project proposal through examination of methodological and theoretical issues.

5625. USE OF COMPUTERS IN PUBLIC HEALTH RESEARCH. (3 cr; MCH student, 5806 or equiv or #) Staff
Training in using computers to analyze data for quantitative research projects in public health. Developing a coding manual and data definition file; data entry, cleaning, and analysis; interpreting and reporting results.

5626. PERINATAL TOPICS: SECONDARY DATA ANALYSIS. (3 cr; prereq pub hlth student, 5330, 5414 or 5450, 5621 or equiv, 5625, 5806, #) Alexander
Analyzing secondary data and an opportunity to investigate a research hypothesis using National Center for Health Statistics data files from perinatal health.

5627. ADOLESCENT HEALTH TOPICS: SECONDARY DATA ANALYSIS. (3 cr; prereq 5414 or 5450 or equiv, 5623, 5625 or equiv, 5806 or equiv, #) Staff
Analysis of secondary data and an opportunity to investigate a research hypothesis using National Center for Health Statistics data files on adolescent health.

5634. LICIT AND ILLICIT DRUGS AND PREGNANCY. (1 cr; CEE only) ten Bensel
Current understanding of licit and illicit drugs and public health interventions. Drug screening during pregnancy and various views of the legal system toward intervention. Alcohol, cocaine, amphetamines, marijuana, nicotine, caffeine.

5635. PREVENTION OF CHILD MALTREATMENT. (1 cr; 5616 or 5640 or #; CEE only) ten Bensel
Major theories of child maltreatment causation, definitions of prevention, health promotion, various paradigms used in prevention interventions. Small groups design a prevention program. Critical thinking regarding program evaluation emphasized.

5637. SEMINAR: CROSS-CULTURAL HEALTH ISSUES IN MINNESOTA. (3 cr; prereq hlth and community professional; CEE only) Eschwey
Lecture, discussion, readings, and group project in proposal writing. Health issues and "health culture" of four ethnic communities in Minnesota: Hmong, Hispanic, African American, and Native American. Cultural factors that influence health and health services.

5639. PREVENTION: THEORY, PRACTICE, AND APPLICATION IN PUBLIC HEALTH SERVICE. (4 cr; CEE only) Shanedling
Current issues and controversies concerning prevention and how it relates to health services. History, ideal of prevention, terminology, lifestyle intervention, programs and legislative issues, education, roles, implications for societal action.

5640. CHILD ABUSE AND NEGLECT SEMINAR. (1 cr; CEE only) ten Bensel
Apprises professionals and the community of causes, symptoms, and prevention of child abuse and neglect. Historical overview, terminology, dynamics, and role of the community and school.

5641. VIOLENCE ACROSS THE LIFE CYCLE. (1 cr; CEE only) ten Bensel
Latest theories and practice relative to violence across the life cycle. Follows ecological model. Fetal, child, adolescent, spouse, and elder maltreatment; violence on television; animal abuse. Emphasis on prevention programs.

5642. CHILD ABUSE AND NEGLECT. (3 cr; independent study TV course) ten Bensel
Survey of basic concepts and knowledge of child abuse and neglect. Historical overview, issues of balance of rights between children and their parents. Examples of child abuse and neglect, reasons it occurs, its consequences, and ways society can intervene and prevent it.

5645. FAMILIES AND HEALTH. (3 cr; prereq pub hlth or hlth sci student or hlth-related professional or social or behavioral sci grad or #) Patterson
Relationship between family and health. Family theory and research on family's impact on health. Implications for primary and secondary prevention in public health educational programs, clinical practice, and public policy.

5647. INDEPENDENT STUDY IN MATERNAL AND CHILD HEALTH. (Cr ar; prereq MCH student or #) MCH staff
Independent study guided by a maternal and child health faculty member.

5648. TOPICS IN MATERNAL AND CHILD HEALTH. (Cr ar; prereq #) MCH staff
May include new course offering, selected readings, or individualized directed instruction.

5649. MATERNAL AND CHILD HEALTH MASTER'S PROJECT. (3-4 cr; prereq MCH student, #) MCH staff
Selected readings in maternal and child health with paper or other scholarly product completed.

5650. TEENAGE PREGNANCY AND PARENTING: MODELS FOR INTERVENTION. (1 cr; CEE only) Resnick
Understanding adolescent pregnancy, parenting, and sexual decision making from a developmental perspective. Recommendations for counseling and teaching; prevention and intervention for schools, community, and youth-serving organizations; state and national policy.

5651. CRITICAL READINGS IN ADOLESCENT HEALTH SEMINAR. (2 cr; prereq #) Resnick
Provides graduate public health students with basic analytic tools to critically read and analyze peer-reviewed publications from a variety of professional perspectives. Emphasis on articles related to adolescent health concerns.

5654. ADOLESCENT SEXUAL IDENTITY; TEEN RISK AND PROFESSIONAL RESPONSIBILITY. (1 cr; prereq BA or employment in ed or hlth or social services) Yoakum
Adolescent sexuality and sexual orientation from perspective of individual identity; impact of the community; response of youth-serving professionals toward gay/lesbian/bisexual youth and their families.

5655. SEXUAL ORIENTATION ISSUES FOR ADOLESCENTS. (3 cr; prereq BA or employment in ed or hlth or social services) Yoakum
Adolescent sexuality and sexual orientation from perspective of individual identity; impact of the community; response of youth-serving professionals toward gay/lesbian/bisexual youth and their families.

5660. GLOBAL ISSUES IN PUBLIC HEALTH: THE 21ST CENTURY. (3 cr; prereq pub hlth or grad student or #) Yoakum
The United States, women's health, violence, new infections, environmental disease.

5700. FOUNDATIONS OF PUBLIC HEALTH ADMINISTRATION PRACTICE. (3 cr; prereq PHA student or #) Block
Planning, organizing, and administering public health agencies at the state level and how these agencies function in relation to public health at federal and local levels. Opportunity to interact with practicing public health administrators and specialists.

5701. PUBLIC HEALTH ADMINISTRATION II. (3 cr; prereq PHA student, 5700 or #) Spradley
Issues, administrative problems, activities, structure, organization, supervision, and direction of state, local, federal, and nonprofit public health agencies.

5702. POLICY ISSUES IN PUBLIC HEALTH ADMINISTRATION. (3 cr; prereq PHA student or #) Block
Issues, problems, structure, administration, and activities of community and public agencies administering public health programs or impacting the public's health, and of related organizations providing support services to these agencies.

5704. FIELD EXPERIENCE: PUBLIC HEALTH ADMINISTRATION. (Cr ar; prereq PHA student or #) Staff
Supervised field experience at a management level in selected community or public health agencies and institutions.

5707. INDEPENDENT STUDY: PUBLIC HEALTH ADMINISTRATION. (1-12 cr; prereq PHA student or #) Staff
Independent study, under tutorial guidance, of selected problems and current issues in public health administration.

5711. PUBLIC HEALTH LAW. (4 cr; prereq pub hlth student or #) Feinwachs
Basic concepts of the law, legislative process, legal bases for the existence and administration of public health programs, legal aspects of current public health issues and controversies, regulatory role of government in the health services system.

5713. HMOs AND ALTERNATIVE DELIVERY SYSTEM MANAGEMENT II. (3 cr; prereq HA or PHA student or #) Christianson
Managing HMOs, PPOs, and other new delivery systems. Quality assurance, legal and ethical concerns, financial aspects, marketing, provider relations.

5720. MANAGEMENT COMMUNICATIONS. (3 cr; prereq HA or PHA student) Veninga
Role of communication in health services administration. Emphasis on developing skills in presentational speaking, interviewing, and writing. Case-study analysis of communication problems in hospitals and public health organizations.

5727. HEALTH LEADERSHIP AND EFFECTING CHANGE. (3 cr, §HSU 5007; prereq pub hlth or grad student or #) Spradley
Applying a broad theoretical base in planned change to solve managerial and organizational problems in students' future roles as leaders in the health professions.

5731. PUBLIC HEALTH PROGRAM PLANNING AND GRANT WRITING. (3 cr, §Nurs 5966; prereq PHA or nurs grad student or #) Staff
Knowledge and skills for planning disease prevention and health promotion programs; determining prioritized health risks and problems from using and analyzing available data; planning process for setting up prevention/promotion programs; management skills for implementing, conducting, and evaluating these programs.

5732. COMPETITION, REGULATION, RATIONING, AND THE DELIVERY OF HEALTH SERVICES. (3 cr; prereq pub hlth or grad student or hlth-related professional or #) Block
Impact of competition, regulation, and rationing on the delivery of health services from the perspective of patient, community, provider, and purchaser. Quality, alternative delivery systems, provider behavior, role of government and the courts, ethics, use.

5734. ETHICAL DIMENSIONS OF PUBLIC HEALTH. (1 cr, §5516; prereq pub hlth or grad student or #) Aroskar
Ethical issues and dilemmas that confront public health professionals and agencies. How ethical/value aspects affect political, legal, economic, and cultural considerations.

5735. PUBLIC ETHICS/POLITICS AND PUBLIC HEALTH. (2-3 cr, §5523; prereq pub hlth or grad student or #) Aroskar
Systematic examination of ethical/value aspects related to decision making in public health interventions. Responsibilities of the state in relation to health, politics as public ethics, distributive justice in a pluralistic society.

5736. THE ELDERLY: A HIGH-RISK POPULATION. (3 cr, §5517) Staff
Focus on characteristics of people over 65 that place them at high risk for disability institutionalization and death. Health maintenance, rehabilitation, alternatives to institutionalization.

5737. TOPICS: MULTIDISCIPLINARY PERSPECTIVES ON AGING. (4 cr, §5520, §AdEd 5440, §CPsy 5305, §HSU 5009, §Nurs 5780, §PA 5414, §Phar 5009, §Soc 5960, §SW 5024) Ostwald
Sociological, biological, and psychological aspects of aging; theories of aging; death and bereavement; issues and problems of older adults in the United States; human services and their delivery systems (health, nutrition, long-term care, education); public policy and legislation; environment and housing; retirement.

5738. TOPICS: ADULT HEALTH. (1-3 cr, §5513; prereq #) Ostwald
Individualized, directed instruction on selected problems and current issues in adult health.

5739. TOPICS: PUBLIC HEALTH ADMINISTRATION. (Cr ar; prereq PHA student or #) Staff

Selected readings in public health administration with discussion based on these readings.

5740. ORGANIZATIONAL BEHAVIOR. (3 cr; prereq HA student or #) Veninga

Human behavior in organizations; motivation, leadership, influence of organizational structure, informal group behavior, interpersonal relations, supervision. Emphasis on preventing and solving problems among individuals and groups in organizations.

5742. MANAGEMENT OF HEALTHCARE ORGANIZATIONS. (3 cr; prereq HA student or #) Reiling

Role of the hospital in health services delivery and relationships with other elements of the healthcare system. Problems of achieving results with emphasis on governance, medical staff, and role of administrator.

5743. ETHICS IN HEALTHCARE ADMINISTRATION. (2 cr; prereq HA or PHA student or #) Aroskar

Ethical perspectives on managing healthcare organizations; components of a decision-making framework with framework applied to selected ethical issues; institutional mechanisms for dealing with ethical problems.

5744. PRINCIPLES OF PROBLEM SOLVING IN HEALTH SERVICES ORGANIZATIONS. (3 cr; prereq HA student or #) Dornblaser, staff

Lectures, seminars, and demonstrations on problem-solving theory and technique. Management problem solving of cases. Solving a management problem within a health services organization and presenting a report.

5745. ADVANCED PROBLEM SOLVING IN HEALTH SERVICES ORGANIZATIONS. (5 cr; prereq 5744) Dornblaser, staff

Defining, analyzing, and solving significant senior management-level operational or health public policy problems by student groups in Twin Cities health services organizations.

5746. CLERKSHIP. (3 cr; prereq 5744, HA student) Miller, staff
Survey and solution of management problems within a local health services organization, preparation of formal management report.

5747. HUMAN RESOURCES MANAGEMENT. (3 cr; prereq HA or PHA student or #) Langan

Concepts in human resources management as applied to health services organizations. Relationship between human resources management and general management, nature of work and human resources, compensation and benefits, personnel planning, recruitment and selection, training and development, employee appraisal and discipline, union-management relations.

5749. LONG-TERM CARE ADMINISTRATION. (3 cr; prereq HA or PHA student or #) Grant

Administrative issues in long-term care; public policy, client needs, institutional and noninstitutional settings.

5750. LONG-TERM CARE INDUSTRY. (3 cr; prereq HA or PHA student or #) Grant

Organization, financing, and delivery of long-term care services to the aged. Demographic trends, financing structures, public policies, solicited responses to long-term care issues.

5751. PRINCIPLES OF MANAGEMENT IN HEALTH SERVICES ORGANIZATIONS. (3 cr; prereq grad) Veninga

Lectures and case studies about the role of healthcare services administrators, principles of management, and the administrative process.

5753. STRATEGIC MANAGEMENT IN THE HEALTHCARE INDUSTRY. (3 cr; prereq HA student or #) Staff

Evaluating application of organizational theory, analysis, and behavior and competitive analysis to healthcare providers, suppliers, and insurers.

5754. MARKETING HEALTH SERVICES. (3 cr; prereq HA or PHA student or #) Hillestad

Managing the marketing function; marketing planning, strategy, and management concepts. Identifying marketing problems and opportunities; constructing evaluating and managing a marketing plan.

5756. FINANCIAL ACCOUNTING IN HEALTH ORGANIZATIONS. (4 cr; prereq HA or PHA student or #) Staff

Accounting principles and practices applicable to healthcare organizations, with emphasis on hospitals and ambulatory care services; total financial requirements; cost-finding methodologies; third-party payor negotiation; internal control; internal and external financial reporting.

5757. MANAGERIAL ACCOUNTING IN HEALTH ORGANIZATIONS. (4 cr; prereq 5756, HA or PHA student or #) Staff

Budgeting for operational, capital, and cash flow requirements of hospitals and other healthcare organizations.

5758. STRATEGIC FINANCIAL PLANNING HEALTHCARE ORGANIZATIONS. (4 cr; prereq 5757, HA or PHA student or #) Riley

Case studies and readings in the review and analysis of actual hospital financial statements, third-party payor cost reports, and other financial documents. Applying financial ratios to financial statement analysis.

5759. HEALTHCARE FINANCIAL MANAGEMENT (PRIVATE SECTOR EMPHASIS). (4 cr; prereq 5756, 5757, HA or PHA student or #; knowledge of spreadsheet software recommended) Connor

Principles of corporate finance and selected insurance concepts applied to healthcare with private sector emphasis. NPV; CAPM; capital and operating budgets; Medicare PPS and RBRVS; risk-adjusted capitation; healthcare reform.

5760. OPERATIONS RESEARCH AND CONTROL SYSTEMS FOR HOSPITALS. (3 cr, \$HInf 5435; prereq 5404 or #) Potthoff

Decision-making framework for both operating and control systems in the hospital environment. Basic modeling techniques and examples of actual hospital applications.

5761. QUANTITATIVE METHODS APPLIED TO HEALTH ADMINISTRATION PROBLEMS. (3 cr; prereq basic statistics course) Weckwerth

Applying quantitative methods to secondary data including analysis of cyclicities, data handling systems, linear regression, discriminant analysis and inventory control used in the solution of health problems at various administrative levels.

5762. INFORMATION TECHNOLOGY IN HEALTHCARE. (3 cr; prereq HA or MCH or PHA student or #) Potthoff

How to analyze organizational information needs, incorporate these needs into information technology (IT) policy and planning, and implement IT policies.

5766. APPLIED FIELD RESEARCH I. (2 cr; prereq HA student or #) Weckwerth

Under faculty supervision, students select a topic of importance in healthcare administration and formulate a research problem and approach for field study.

5767. APPLIED FIELD RESEARCH II. (2 cr; prereq HA student or #) Weckwerth

Under faculty supervision, students investigate alternative methodological approaches to the study of the topic selected in 5766 and carry out a field research project.

5768. APPLIED FIELD RESEARCH III. (2 cr; prereq 5767) Weckwerth

With the counsel of a faculty adviser, each student carries out research analysis of a selected topic and prepares a report on the findings.

5770. TOPICS: HOSPITAL AND HEALTHCARE ADMINISTRATION. (Cr ar; prereq HA student or #) Staff

Selected readings in hospital and healthcare administration with discussion based on these readings.

5771. HEALTHCARE FINANCIAL MANAGEMENT (PUBLIC SECTOR EMPHASIS). (4 cr; prereq college-level accounting course [3 cr] or #; knowledge of spreadsheet software recommended) Connor Basic principles of finance and selected insurance concepts integrated and applied to healthcare with public sector emphasis. NPV; public financing; capital and operating budgets; Medicare PPS and RBRVS; risk-adjusted capitation; healthcare reform.

5772. HEALTHCARE ISNs. (3 cr; prereq HA student or #) Johnson Growth and development of integrated healthcare systems based on open-systems perspective of health organizations. Process of development and strategies of a variety of organizational arrangements. Implications for roles of managers, trustees, and physicians.

5773. MANAGEMENT AND ORGANIZATION WITHIN THE AMBULATORY CARE FACILITY. (15 cr; prereq Alternative Studies Program student or #; Alternative Studies Program) Weckwerth, staff Twelve-month program of on-campus residential (two weeks) and off-campus study that includes periodic seminars and monthly sessions with clinical preceptors. Management, organizational behavior, problem solving, executive role, personnel management, financial management, governance, clinicians, productivity, efficiency.

5774. ADMINISTRATIVE AND PROFESSIONAL RELATIONSHIPS WITHIN THE AMBULATORY CARE FACILITY. (15 cr; prereq 5773, Alternative Studies Program student or #; Alternative Studies Program) Weckwerth, staff Twelve-month program of on-campus residential (two weeks) and off-campus study that includes periodic seminars and monthly sessions with clinical preceptors. Change theory, ethics, epidemiology, prepaid systems, legal aspects, planning.

5775. MANAGEMENT AND ORGANIZATION IN HOSPITAL AND HEALTHCARE FACILITIES. (15 cr; prereq Alternative Studies Program student or #; Alternative Studies Program) Weckwerth, staff Twelve-month program of on-campus residential (two weeks) and off-campus study that includes a seminar and monthly classes under program preceptors. Principles of management, executive role, hospital development and organization, functions of personnel, financial control, business office, patient care services.

5776. ADMINISTRATIVE AND PROFESSIONAL RELATIONSHIPS WITHIN THE HEALTHCARE FACILITY. (15 cr; prereq 5775, Alternative Studies Program student or #; Alternative Studies Program) Weckwerth, staff Twelve-month program of on-campus residential (two weeks) and off-campus study that includes seminars and monthly classes under program preceptors. Board of trustees, medical staff, nursing, hospital law, medical records, planning, community health systems, continuing health education, change theory.

5777. EXTERNAL FORCES AFFECTING HEALTHCARE DELIVERY. (25 cr; prereq 5774, 5776, 5779, 5786, 5788, Alternative Studies Program student or #; Alternative Studies Program) Weckwerth, staff Ten-month program of on-campus residential (two weeks) and off-campus study that includes three seminars covering financing, human resources, organizing, social policy, and project planning and design. Requires a project that can be either a management study or a research thesis. Each student must present and defend the project at a week-long symposium at end of course.

5778. PATIENT CARE MANAGEMENT AND ORGANIZATION WITHIN THE HOSPITAL AND HEALTHCARE ORGANIZATION. (15 cr; prereq Alternative Studies Program student or #; Alternative Studies Program) Madden Twelve-month program that includes a two-week on-campus session, monthly applied units of study, periodic seminars, and monthly sessions with clinical preceptors. Management, organizational behavior, executive role, problem solving, human resources management, financial management, governance, labor relations, patient care services.

5779. MANAGING MULTIPLE FORCES: INTERNAL AND EXTERNAL ASPECTS OF PATIENT CARE ADMINISTRATION. (15 cr; prereq Alternative Studies Program student, 5778 or #; Alternative Studies Program) Madden Twelve-month program that includes a two-week on-campus session, six two-month applied units of study, periodic seminars, and monthly sessions with clinical preceptors. Strategic and long-range planning, financial management, legal issues, moral and ethical dilemmas, managing change.

5780. ADMINISTRATION AND LAW IN LONG-TERM CARE. (2-6 cr; prereq precicensure LTC admin) Staff Twelve-week course combining five days of on-campus seminars with independent study. General principles and legal aspects of management, human resources management.

5781. GERONTOLOGY AND SERVICES FOR LONG-TERM CARE RESIDENTS. (2-6 cr; prereq precicensure LTC admin) Staff Twelve-week course combining five days of on-campus seminars with independent study. Psychosocial gerontology as base for planning and identifying services and programs in long-term care organizations.

5782. PRACTICUM IN LONG-TERM CARE ADMINISTRATION. (6 cr; prereq 5780, 5781, precicensure LTC admin or #) Staff Four-hundred-hour practicum in a nursing home setting under the guidance of a preceptor. Includes a three-day seminar on campus.

5783. MANAGERIAL ACCOUNTING IN LONG-TERM CARE ADMINISTRATION. (6 cr; prereq precicensure LTC admin) Staff Basic tools of financial management for the long-term care facility. Opportunity for practical application of these tools in class and at the work site for students working in long-term care facilities.

5784. ISSUES IN LONG-TERM HEALTHCARE. (2 cr; prereq precicensure LTC admin) Aroskar, staff Readings in topics affecting long-term healthcare; changing delivery of acute care services, right-to-die issues, patient rights and responsibilities, public financing dilemmas. Three written assignments and a final exam.

5785. MANAGEMENT AND ORGANIZATION WITHIN MENTAL HEALTH-RELATED ORGANIZATIONS. (15 cr; prereq Alternative Studies Program student or #; Alternative Studies Program) Weckwerth, staff Twelve-month program of on-campus residential (two weeks) and off-campus study that includes periodic seminars and monthly classes under program preceptors. Principles of management, organizational behavior, personnel, problem solving and decision making, financial management, mental health professionals and paraprofessionals, mental health programs and services.

5786. ADMINISTRATIVE AND PROFESSIONAL RELATIONSHIPS WITHIN MENTAL HEALTH-RELATED ORGANIZATIONS. (15 cr; prereq 5785, Alternative Studies Program student or #; Alternative Studies Program) Weckwerth, staff Twelve-month program of on-campus residential (two weeks) and off-campus study that includes periodic seminars and monthly classes under program preceptors. Governance, legal aspects, public education and information, evaluation of mental health programs, prevention and primary treatment in mental health, current trends and concepts, public relations, the legislative process.

5787. POLICY, REGULATION, AND COMPLIANCE IN LONG-TERM CARE. (2 cr; prereq precicensure LTC admin) Staff Funding mechanisms, major regulatory codes, and regulatory compliance mechanisms currently in force for the long-term care industry.

5788. MANAGEMENT INFORMATION SYSTEMS IN LONG-TERM CARE. (2 cr; prereq precicensure LTC admin) Staff Basic concepts and technology of management information systems and computer-supported applications for students preparing for licensure as long-term care administrators.

5790. SOCIOLOGY OF MEDICINE AND HEALTHCARE: AN INTRODUCTION TO MEDICAL SOCIOLOGY. (4 cr, §Soc 5855)
Litman

Social and psychological components of health and medical care. Organization and delivery of healthcare services, their problems and perspectives; focus on the patient, care provider, and environment where healthcare services are dispensed.

5791. PUBLIC HEALTH AND MEDICAL CARE ORGANIZATIONS. (3 cr; prereq pub hlth or grad student) Resnick

Sociopolitical, economic, and moral/ethical issues confronting the U.S. public health and medical care system. Trends in service provision, human resources, financing and health services organization, and implications for the public's health.

5792. HEALTH SERVICES ORGANIZATIONS IN THE COMMUNITY. (1 cr; prereq HA student or #) Reiling

Lectures about and on-site visits to health services organizations; emphasis on role of organization and administrator.

5793. ECONOMIC ASPECTS OF HEALTHCARE. (3 cr; prereq HA or HSRP or HSRP&A or PHA student or #) Nyman

Economic analysis of U.S. healthcare sector emphasizing its problems of pricing, production, and distribution. Evaluating healthcare services as one factor contributing to the nation's health.

5794. PUBLIC POLICY IN HEALTHCARE. (3 cr; prereq HA or PHA student or #) Kralewski

Development and present status of selected public policy issues in social, economic, and political contexts. Alternative courses of possible public action review.

5796. LEGAL CONSIDERATIONS IN HEALTH SERVICES ORGANIZATIONS. (3 cr; prereq HA student or #) Feinwachs

Laws affecting administration of hospitals and other healthcare organizations; administrative law, corporate and business law, labor law, civil liability, tax-related issues. Legal issues relevant to administration, decision-making, and planning process.

5806. PRINCIPLES OF PUBLIC HEALTH RESEARCH. (3 cr; prereq pub hlth student or grad status) Garrard

Critical evaluation of public health research literature, planning of independent research projects, formulation of the research question, research design, sampling techniques, use of research concepts, and data analysis. Questionnaires, interviews, data analysis techniques.

5852. PROGRAM EVALUATION IN HEALTH AND MENTAL HEALTH SETTINGS. (4 cr, §HSU 5026; prereq pub hlth or grad student, 5806 or equiv research methods course, equiv basic statistics course) Garrard, Pirie

For advanced undergraduate and graduate students in fields related to health or mental health. Evaluation models, evaluative study objectives, subject sampling, data collection methods, methodological designs, data interpretation, final report preparation, ethical and political considerations in conducting an evaluative study.

5861. HEALTH INSURANCE. (3 cr; prereq intro microeconomic theory course or #) Feldman, Nyman

Current topics in financing personal healthcare: theory of insurance, health insurance market, cost sharing, HMOs, PPOs, public and catastrophic health insurance, AIDS and insurance for the uninsured poor; emphasis on public policy.

5862. COST-BENEFIT, COST-EFFECTIVENESS, AND DECISION ANALYSIS IN HEALTHCARE. (3 cr; prereq 3 cr intermediate econ course) Christianson

Applications of cost-benefit, cost-effectiveness, and decision analysis techniques in evaluating healthcare programs; government regulations; new technologies, diagnosis, and treatment protocols. Strengths, limitations, and appropriateness of different approaches.

5863. QUALITY ASSURANCE. (2 cr) R L Kane, Lurie
History of assessing and assuring quality of care. Emphasizes recent activities concerning small area variation, outcomes, appropriateness, and effectiveness. Theory and specifics of alternative approaches and their interpretation.

5868. PRINCIPLES OF HEALTH SERVICES RESEARCH. (2 cr)
R L Kane

Disciplinary contributions to health services, traces how health services research can influence policy using a variety of best case examples to examine the breadth of health services research.

5870. SURVEY RESEARCH AND SAMPLE DESIGN IN HEALTH SERVICES RESEARCH. (3 cr) Moscovice

General, technical, and theoretical context of survey research in health services research. Survey and sample design issues discussed with extensive use of examples from health services research.

5900. PUBLIC HEALTH NUTRITION: PRINCIPLES AND PROGRAMS. (3 cr; prereq PH Nutr student or #) Krinke

Principles of public health nutrition, roles and functions of public health nutritionists, programs and delivery mechanisms for promoting nutritional status of populations. Students explore their beliefs and competencies in relation to principles and philosophy of public health nutrition.

5901. SEMINAR: PUBLIC HEALTH NUTRITION. (2 cr; prereq PH Nutr student or #) Krinke

Research and practice issues of current relevance to public health field and role of public health nutritionists.

5902. MATERNAL AND INFANT NUTRITION. (3 cr; prereq 3xxx nutr course or equiv or #) Brown

Nutritional needs of childbearing women and infants and how to meet these through programs and services.

5905. HUMAN NUTRITION AND HEALTH. (3 cr; prereq jr or sr or grad-level student) Brown

Broad range of nutrition topics of contemporary interest. Concepts and facts about the science of human nutrition discussed in relation to personal and community nutrition problems and concerns. Applied, introductory graduate-level course with labs.

5906. FIELD EXPERIENCE: PUBLIC HEALTH NUTRITION. (1-8 cr; prereq PH Nutr student) Krinke

Placement in an approved agency with opportunity for experience in nutrition-related activities of public health programs.

5907. DIETARY ASSESSMENT. (2 cr; prereq PH Nutr student or #) Buzzard

Methods for assessing dietary intake of populations and individuals; appropriate uses of dietary assessment methods in various public health, clinical, and research settings; evaluating and interpreting dietary data.

5908. ANTHROPOMETRIC ASSESSMENT OF NUTRITIONAL STATUS. (2 cr; prereq grad-level student, 5414 or 5450 or equiv) Himes

Understanding of anthropometry as used to assess nutritional status and training and experience in taking basic measurements; practical experience in anthropometry as well as conceptual rationales and interpretation of anthropometric data.

5909. TOPICS: PUBLIC HEALTH NUTRITION. (1-12 cr; prereq PH Nutr student or #) Staff

Independent study with faculty guidance in research topic related to public health nutrition.

5914. NUTRITION INTERVENTION. (3 cr; prereq nutr course or #) Staff

Various nutrition intervention strategies used in health programs. Process of selecting appropriate strategies, applying them to specific target audiences, and evaluating their usefulness in relation to program objectives.

- 5932. NUTRITION: ADULTS AND THE ELDERLY.** (3 cr; prereq 3xxx nutr course or equiv or #) Krinke
Current literature and research on nutrient needs and factors affecting nutritional status of adults and the elderly.
- 5933. NUTRITION: HEALTH/DISEASE RELATIONSHIPS.** (3 cr; prereq 5330 or equiv, FScN 5622 or MdBc 5201 or equiv or #) Kushi
Critical analysis of nutrition and public health issues through investigation of biological and epidemiological bases for public health dietary recommendations. Relation of nutrition to heart disease, cancer, hypertension, obesity, and other conditions.
- 5934. ADMINISTRATIVE SKILL BUILDING.** (3 cr) Splett
Processes leading to administrative effectiveness, emphasizing practical application in public health and human service programs. Community needs assessment, planning, budgeting, staffing, cost-effectiveness and cost-benefit analysis, decision making, grant writing.
- 5935. CHILD AND ADOLESCENT NUTRITION.** (3 cr; prereq grad-level student or #) Story
For students and professionals in nutrition and related disciplines who want to explore current issues and literature in childhood and adolescent nutrition. Emphasis on major nutrition issues of youth; biological, cultural, psycho-social factors influencing food behaviors; and strategies for improving nutritional health of children and teenagers.
- 8150. RESEARCH: ENVIRONMENTAL AND OCCUPATIONAL HEALTH.** (1-8 cr; prereq #) Staff
Opportunities for qualified students to pursue research in environmental stresses on human health.
- 8185. ANALYSIS OF TOXICANTS.** (3 cr; prereq #; offered alt yrs) Swackhamer
Applying principles of analytical chemistry to analysis of toxic chemicals in environmental samples, including air, soil, water, and tissue; survey of instrumental methods (gas and liquid chromatography, mass spectrometry, atomic and molecular spectroscopy); interpretation of results; analytical quality control. Lecture and lab.
- 8191. RESEARCH: INJURY PREVENTION IN THE WORK-PLACE, COMMUNITY, AND HOME.** (1-8 cr; prereq #) Gerberich
Students develop independent and comprehensive research efforts relevant to injury prevention.
- 8192, 8193, 8194. OCCUPATIONAL INJURY PREVENTION AND SAFETY PROGRAM RESEARCH SEMINAR.** (1 cr f/w/s; prereq EH student or #) Gerberich, Maldonado
Facilitates student research in occupational injury prevention and safety through interdisciplinary involvement of engineering and public health students.
- 8261. MOLECULAR TOXICOLOGY.** (3 cr; prereq 5262, Biol 5001, #)
Toxic actions and mechanisms of environmental chemicals at molecular level; emphasis on current research in selective toxicity.
- 8264. HUMAN DISEASES CAUSED BY ENVIRONMENTAL AGENTS.** (3 cr; prereq 5261, 5262, #) Greaves
Clinical presentation of disease; investigation of exposed populations and affected individuals.
- 8269. TOXICOLOGY SEMINAR.** (1 cr; prereq 5262, 8261, #)
Evaluating toxicological studies. Students present data from the literature or their own research.
- 8330. RESEARCH IN EPIDEMIOLOGY.** (1-8 cr; prereq Epi student) Staff
Opportunities for qualified students to pursue research through the school and various cooperating organizations.
- 8331. FIELD PRACTICE IN EPIDEMIOLOGIC INVESTIGATIONS.** (1-8 cr; prereq Epi student) Staff
Supervised participation in epidemiologic investigations under the auspices of health agencies or school faculty.
- 8332. READINGS IN EPIDEMIOLOGY.** (1-4 cr; prereq Epi student, #) Staff
Readings in current research in epidemiology.
- 8379. SEMINAR IN EPIDEMIOLOGY.** (2 cr; prereq Epi or physiological hygiene student) Staff
Discussion of selected current epidemiologic problems.
- 8420. SURVIVAL ANALYSIS.** (3 cr; prereq 5466 or equiv, Stat 5133) Le
Theory and applications of statistical methodologies in survival analysis, including estimating survival curves and proportional hazards models. Applying parametric and nonparametric techniques introduced in clinical trials and other health studies.
- 8421. ANALYSIS OF CATEGORICAL DATA .** (3 cr; prereq 5466 including SAS, Stat 5133) Waller
Analyzing categorical data with applications to clinical treatment evaluation, epidemiology, and other public health areas. Log-linear, logit, and linear logistic models; power and robustness studied by exact and approximate methods.
- 8422. MODERN NONPARAMETRICS.** (3 cr; prereq pub hlth or grad student, 5466, Stat 5133 or #) Louis
Classical nonparametric inference; exact tests and confidence intervals for discrete data; robust estimates; jackknife, bootstrap; and cross-validation. Substantial computing, study of a wide variety of models and applications, formal development sufficient for understanding statistical structures and properties.
- 8430. SEQUENTIAL ANALYSIS.** (3 cr; prereq 8420, Stat 5133, knowledge of FORTRAN, Bio student or #) Goldman, Grambsch, Louis
Design and analysis of clinical trials using sequential methods. Use of Monte Carlo methods for studying operating characteristics of sequential tests; illustrations include various types of data. Wald and likelihood ratio theory; specific problems with testing binomial proportions and normal means.
- 8431. BAYES AND EMPIRICAL BAYES METHODS.** (3 cr; prereq Stat 5131-5132-5133 or #) Carlin
Bayesian approaches to statistical inference and empirical Bayes methods for point and interval estimation. Computation and data analysis, including asymptotic methods, Monte Carlo methods, the Gibbs sampler, and biostatistical applications.
- 8432. BIOASSAY AND SCREENING.** (3 cr; prereq theoretical statistics or #; offered alt yrs) Louis
Properties of progressive disease models, including lead time produced by screening and length-biased sampling. Relates population screening and rodent bioassay models. Estimation approaches and study designs, including sequential methods. Examples include screening for breast and cervical cancer.
- 8433. ANALYSIS OF LONGITUDINAL DATA.** (3 cr; prereq Stat 5131-5132-5133 or equiv, Stat 8311-8312 or equiv or #; offered alt yrs) Grambsch, Thomas
Multivariate analysis of variance, time series approaches, Laird-Ware two-stage model for random effects. Emphasis on normal theory linear models.
- 8434. ADVANCED SURVIVAL ANALYSIS.** (3 cr; prereq 8420, Stat 5133 or equiv; offered alt yrs) Grambsch
Martingale methods and counting process theory as applied to survival data, including Martingale foundations, statistical tests for comparing survival among groups, Cox proportional hazards model, diagnostics and analysis of residuals, multivariate survival data, and extensions to event history analysis.

8435. SEMINAR IN CATEGORICAL DATA. (3 cr; prereq 8421 or Stat 5133, Stat 5421 or Stat 8431 or #)

Topics of current research interest in analysis of categorical data. Readings from recently published statistical methodology.

8436. SPATIAL BIostatISTICS. (3 cr; prereq 8420, 8421, exper with BMDP or SAS, programming exper with FORTRAN or C) Waller
Statistical methodologies useful in analyzing spatial data. Tests for spatial autocorrelation, spatial prediction through kriging, random spatial processes, tests for disease clustering.

8449. TOPICS IN BIostatISTICS. (Cr ar; prereq 5450, #) Staff
Studies in special topics for advanced students.

8450. RESEARCH IN BIostatISTICS. (Cr ar) Staff
Opportunities for qualified students to pursue research.

8750. SEMINAR: ALTERNATIVE PATTERNS OF HEALTHCARE. (4 cr; prereq HA or HSRP&A student or #) Litman
In-depth examination of problems associated with alternative approaches to organization, financing, and delivery of ambulatory care, long-term care, maternal and child care, mental healthcare.

8760. TOPICS IN HOSPITAL AND HEALTHCARE ADMINISTRATION. (3 cr; prereq HSRP&A student) Staff
Independent study under tutorial guidance of selected problems and current issues in health and healthcare.

8761. READINGS IN THEORY AND PRINCIPLES OF HOSPITAL AND HEALTHCARE ADMINISTRATION. (3 cr; prereq HSRP&A student or #) Staff

8762. CONTEMPORARY PROBLEMS OF HOSPITAL AND RELATED HEALTH SERVICES. (3 cr) Weckwerth
Current concepts, problems, principles, and future developments in health and healthcare.

8763. EXTERNAL FORCES AFFECTING HEALTH SERVICES DELIVERY. (3 cr; prereq HSRP&A student or #) Weckwerth
Developing of concepts, models, and principles of financing, social policy making, organizing, and human resource development for health service delivery, including written papers, oral presentation, and cross examination.

8765. SEMINAR: ORGANIZATION AND MANAGEMENT THEORY IN HEALTHCARE. (3 cr; prereq advanced statistics, HSRP&A student or #) Staff
Organizational, managerial, and administrative theories as they apply to contemporary health services research problems.

8770. SEMINAR: HEALTH AND HUMAN BEHAVIOR. (3 cr; prereq 5790 or Soc 5855 or #) Litman
Sociology of health and healthcare; social and personal components of behavior in sickness and health; community health; relationship of social and cultural factors in the organization and delivery of healthcare services.

8780. ADVANCED STATISTICAL METHODS IN HEALTHCARE RESEARCH. (3 cr; prereq one qtr each of applied and theoretical statistics) Weckwerth
Survey and analysis of applying nonparametric statistics to healthcare research.

8782. RESEARCH PRACTICUM. (3 cr per qtr [max 6 cr]; prereq HSRP&A student or #) Litman, Weckwerth, staff
Supervised independent and team research on selected topics and problems in healthcare.

8790. SEMINAR: POLITICAL ASPECTS OF HEALTHCARE. (3 cr; prereq HSRP&A student or #; offered odd yrs) Litman
Interrelationships among government, politics, and healthcare; political and social basis of health legislation and community decision making in provision and modification of health services.

8796. TOPICS IN HEALTH ECONOMICS. (3 cr; prereq HA student or #) tor Dahl
General principles of health economics applied to current issues in health. Implications for health policy.

8801. SEMINAR: HEALTH SERVICES POLICY. (3 cr; prereq HSRP or HSRP&A student or #) Kralewski, Moscovice
Policy science. Evolution of U.S. health services policy; alternative policy-making models and substantive policy areas.

8803. SEMINAR: LONG-TERM CARE POLICY. (3 cr; prereq grad-level hlth policy course or #) R A Kane
Long-term care policy for functionally impaired persons, particularly the elderly. Team-taught from a healthcare and social services perspective and grounded in research literature on evidence of program effects. Emphasis on innovative programs addressing current disconnections.

8810, 8811, 8812. SEMINAR: RESEARCH STUDIES IN HEALTHCARE. (4 cr; prereq HSRP or HSRP&A student, Stat 5121, Stat 5122, Stat 5302 or #) Dowd, Finch
Review and appraisal of design, measurement, analysis, and findings of contemporary studies. Developing and articulating research proposal.

8813. MEASUREMENT OF HEALTH-RELATED SOCIAL FACTORS. (3 cr, §SAPh 8840; prereq intro statistics course, understanding of simple correlations or #) Choi
How social factors such as innovativeness, compliance, religiosity, and stress are measured and tested for reliability and validity. Relationships among theory concepts, variables, and data.

8820. HEALTH ECONOMICS II. (3 cr; prereq 5793, one qtr each of calculus and linear algebra or #) Manning
Applying microeconomic theory to healthcare decisions of consumers and producers under different assumptions about market structure and behavior.

8821. HEALTH ECONOMICS III. (3 cr; prereq 8820 or equiv or #) Feldman
Applying microeconomic theory to health services research through selected reading from published and unpublished health economics literature.

8861. TOPICS IN THEORY AND PRINCIPLES OF HEALTH SERVICES RESEARCH POLICY AND ADMINISTRATION. (3 cr; prereq HSRP&A student or #) Staff
Offerings and/or critiques of selected readings in advanced topics in health services research.

8880. DIRECTED RESEARCH. (1-8 cr; prereq HSRP&A student or #) Staff
Guided research in health services research, policy, and administration.

8900. SEMINAR IN ADVANCED LIFE CYCLE NUTRITION. (3 cr; prereq 5902 or 5932 or 5935 or equiv) Staff
Critical evaluation of research and research issues in nutrition during various stages of the life cycle. Methodological issues of applied human nutrition investigation, current status of knowledge, and implications of research results for public health policies, programs, and future research.

General Information

Living in the Twin Cities

The Twin Cities of Minneapolis and St. Paul are home to the largest of the four University campuses. As the name suggests, the Twin Cities are really two cities, with healthy, growing downtowns located just nine miles apart. With more than 2.3 million residents, the Twin Cities offer all the educational and cultural advantages of a major metropolitan area. Unknown to most, the Cities are emerging as a quiet giant of cultural events and performing arts second only to New York City. The Minnesota Orchestra, St. Paul Chamber Orchestra, Minneapolis Institute of Arts, Guthrie Theater, and Walker Art Center, as well as many vigorous new theaters, galleries, and musical groups, provide countless opportunities for cultural enrichment.

Most metropolitan homes boast easy access to abundant natural wildlife areas with plentiful parks, lakes, and rivers. Minnesota's diversity of seasons allows for a variety of outdoor activities including skiing, skating, and hiking in the winter and swimming, sailing, fishing, cycling, golfing, tennis, and jogging during the other seasons. For indoor enthusiasts, the Twin Cities support professional baseball, football, and basketball teams. Every segment of the metropolitan area offers a rich diversity in retail, entertainment, and commercial activities, including the Mall of America, the country's largest shopping mall.

The business climate is strong, particularly in areas such as high technology, healthcare, insurance, and agribusiness. Supporting these activities is a population that is growing faster than any northern metropolitan area. The largest employer in the Twin Cities and the state is the healthcare industry, which supports 190,000 jobs in Minnesota. Minnesota serves as the model for the implementation of the nation's healthcare reform, demonstrated by the recently enacted MinnesotaCare and organizations such as Medical Alley and the Business Healthcare Action Group. The University of Minnesota's Academic Health Center is a significant educational resource supporting this industry, which not only employs health sciences graduates but also depends on health sciences research as the basis for new products and companies.

Housing and Transportation

If you are looking for a place to live while at the University, Housing Services is the place to start. Located next to Coffman Memorial Union in Comstock Hall-East, 210 Delaware Street S.E., Minneapolis, MN 55455 (612/624-2994, fax 612/624-6987), Housing Services is open from 8:00 a.m. to 4:15 p.m. weekdays with some late evening and Saturday morning hours during the summer. Services are free and include information on eight residence halls with graduate/professional school areas in

- Bailey, Centennial, Comstock, and Middlebrook Halls.

The information booklet, *Living On Campus*, will be mailed to you upon request. It contains a residence hall



contract. Average quarterly cost for a double room (including 21 meals/week) is \$1,258; cost for a single room is \$1,382.

- low-cost family and partnered housing that is cooperatively managed and maintained. There is usually a waiting list for these units. Commonwealth Terrace Cooperative (1250 Fifield Street, St. Paul, MN 55108, 612/646-7526) is adjacent to the St. Paul campus. Como Student Community (1024 27th Avenue S.E., Minneapolis, MN 55414, 612/378-2434) is about halfway between the two campuses. A one-bedroom unit costs about \$280 per month, a two-bedroom \$380 per month, including utilities except telephone. Both areas are served by the intercampus bus line. An information brochure will be mailed to you upon request.
- apartments, sublets, houses, and roommate availabilities. New listings are available daily and include such information as location, cost, and utility charges. Unfurnished two-bedroom apartments range from \$475 to \$850 per month. An information brochure will be mailed to you upon request.

University of Minnesota Transit Services makes getting to, from, and around campus easy. *Route 52* consists of 12 semi-express bus routes that extend throughout the Twin Cities to campus. It is the quickest, most convenient way to get to the University. *Route 13, the Campus Connection*, provides transportation around campus. For more information, call (612) 625-9000.

Contract and daily parking are available throughout the University. For more information, call Parking Services at (612) 625-3492.

University of Minnesota

The University of Minnesota is a state land-grant institution well known for its commitment to education, public service, and research. One of the largest universities in the United States, it granted more than 10,000 degrees in the 1992-93 school year, including more than 600 doctorates. It reaches out to the community, listening and responding to needs as was shown when Minnesota Extension Service personnel helped communities deal with the 1992 floods. The University has a well-deserved

national and international reputation as a major research institution and in 1992 its faculty were awarded 32 new patents and \$263 million for sponsored research.

Enrollment in 1992 at the four campuses of Duluth, Crookston, Morris, and the Twin Cities was more than 70,000, including almost 3,000 international students representing 125 countries. More than half of these students are enrolled at the Twin Cities campus.

The Gophers on the Twin Cities campus field eleven men's intercollegiate teams and nine women's teams in the Big Ten conference.

The University of Minnesota Alumni Association has 16 chapters nationwide and 23 constituent societies.

Resources and Services

While the School of Public Health provides services tailored to meet the needs of our own students, the University community has an extensive support system available to all students.

With more than 40,000 periodical and journal subscriptions and close to 5 million books and volumes on the Twin Cities campus alone, the *University Library System* is the fifteenth largest in the nation. The libraries' on-line catalog provides computerized access to more than 2 million bibliographic records.

There are many *computer facilities* located throughout campus that are available to University students free of charge. The microcomputer labs have IBM and Macintosh computers and laser printers. Some have special equipment such as scanners and equipment for people with disabilities. Each facility provides different software but all offer a wide variety, including spreadsheet, database, statistical graphics, desktop publishing, and word processing. Electronic mail is also available as a free, campus-wide service. The University is reaching its goal of providing everyone access to the worldwide network, Internet.

E-mail is an electronic mail system for personal computers. With e-mail you can send and receive messages from anyone on your local area network or the Internet, an international network commonly available at colleges, government institutions, and private companies. The school encourages the use of e-mail as an efficient means of communication.

Boynton Health Service is an outpatient healthcare facility that serves University students, staff, faculty, alumni, and retirees. It is self-supported primarily by student fees and third-party payments and has been meeting the special needs of students for 75 years. Boynton can take care of most of your nonhospital medical needs, including seeing a doctor, dentist, or mental health counselor; having your eyes examined; getting a lab test or X-ray; and having a prescription filled.

The University offers a variety of opportunities on campus whether you are interested in social activities, cultural events, sports, or all of the above. The recently built Weisman Art Museum has a permanent collection of more than 10,000 works, or you can stroll through one of the frequent book or computer fairs at Coffman Memorial

Union. The spectacular new University Recreation Center provides one way to get exercise; you can also choose from among the more than 20 intermural sports teams and 50 sports clubs on campus.

Financial Support and Reciprocity

While most of the information on financial aid is described here, each major may have additional financial aid sources available to their students. Opportunities for financial aid include traineeships, fellowships, and research and teaching assistantships. Applicants interested in financial aid should contact their major directly.

For information on University scholarships, grants, and loans, contact the Office of Student Financial Aid, 210 Fraser Hall, 106 Pleasant Street S.E., Minneapolis, MN 55455-0422 (612/624-1665 or 1-800-400-UofM).

School of Public Health Financial Aid

Public Health Traineeships—Funding is provided to some majors by the federal government to help support training in specified areas.

Research/Teaching Assistantships—Some students are awarded a graduate research/teaching assistantship that provides a tuition waiver equal to double the percentage of time worked (remaining tuition is at resident rates). Graduate assistants work under the supervision of a faculty member on a research project.

Higher-Ability Minority Scholarships—The school has scholarships available for minority or disadvantaged students. This funding is limited and awarded early in the admission process.

Resident Tuition Rates—The School of Public Health charges resident tuition rates to out-of-state higher-ability minority or disadvantaged students. To be eligible for this benefit, students must be U.S. citizens or permanent residents, hold a baccalaureate or higher degree from an accredited college or university, and meet the School of Public Health eligibility requirements.

Graduate School Financial Aid

- Graduate School first-year fellowships
- Minority and disadvantaged student fellowships
- Tuition fellowships
- Research/teaching assistantships
- Doctoral dissertation fellowships

Tuition Reciprocity

The University has reciprocity arrangements with North Dakota, South Dakota, Wisconsin, and Manitoba. If you are a resident of any of these, you may qualify for reciprocity tuition rates, usually comparable to resident rates. Before applying, verify application requirements by contacting the resident classification office or other appropriate office in your home state/province. Timely application is important. Apply for reciprocity before your first quarter of enrollment at the University.

If you are a minority student from any state, you are eligible for resident tuition rates.

Standards of Student Conduct

School of Public Health students must adhere to all rules of conduct established by the University of Minnesota and published in the Student Conduct Code.

Grading System and Course Evaluations

Grading System—The University of Minnesota offers two grading options: the letter grade system (A-B-C-D-F, with the GPA based on A=4.00, B=3.00, C=2.00, D=1.00) and the satisfactory-no credit system (S-N). The School of Public Health permits students to take no more than 20 percent of the credits applied to their degree S-N (excluding courses offered S-N only). Each student's record is reviewed at the end of every quarter to determine whether satisfactory progress is being made toward the degree.

Major departments may specify additional requirements concerning choice of grading systems.

Probationary Status—Each major department sends written notification to a student, by the middle of each quarter, when the student's cumulative GPA has fallen below 3.00 at the conclusion of the preceding quarter.

Course Evaluations—Students evaluate courses taught in the school. Summaries of these evaluations are available to all students.

Policies

Access to Student Educational Records—In accordance with regents' policy on access to student records, information about a student generally may not be released to a third party without the student's permission. (Exceptions under the law include state and federal educational and financial aid institutions.) The policy also permits students to review their educational records and to challenge the contents of those records.

Some student information—name, address, electronic (E-mail) address, telephone number, dates of enrollment and enrollment status (full time, part time, not enrolled, withdrawn and date of withdrawal), college and class, major, adviser, academic awards and honors received, and degrees earned—is considered public or directory information. Students may prevent the release of public information only during their terms of enrollment. To do so, they must notify the records office on their campus.

Students have the right to review their educational records. The regents' policy, including a directory of student records, is available for review at 150 Williamson Hall, Minneapolis, and at records offices on other campuses of the University. Questions may be directed to the Office of the Registrar, 150 Williamson Hall (612/625-5333).

Equal Opportunity—The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

In adhering to this policy, the University abides by the Minnesota Human Rights Act, Minnesota Statute Ch. 363; by the Federal Civil Rights Act, 42 U.S.C. 2000e; by the requirements of Title IX of the Education Amendments of 1972; by Sections 503 and 504 of the Rehabilitation Act of 1973; by the Americans With Disabilities Act of 1990; by Executive Order 11246, as amended; by 38 U.S.C. 2012, the Vietnam Era Veterans Readjustment Assistance Act of 1972, as amended; and by other applicable statutes and regulations relating to equality of opportunity.

Inquiries regarding compliance may be directed to Patricia A. Mullen, Director, Office of Equal Opportunity and Affirmative Action, University of Minnesota, 419 Morrill Hall, 100 Church Street S.E., Minneapolis, MN 55455 (612/624-9547).

Accessibility—The University is committed to providing services to all students. Disability accommodations are available upon request. For more information, call Disability Services at (612) 624-4037.

Bulletin Use—The information in this bulletin and other University bulletins, publications, or announcements is subject to change without notice. University offices can provide current information about possible changes.

This publication is available in alternative formats upon request. Please contact the Office of Admissions, University of Minnesota, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-2008).

This bulletin also is available in electronic format on Internet and may be accessed via Gopher.

Immunization—Students born after 1956 who take more than one University class are required under Minnesota law to submit an Immunization Record form.

The form, which is sent along with the official University admission letter, must be filled out and returned to Boynton Health Service within 45 days of the first term of enrollment in order for students to continue registering for classes at the University. Complete instructions accompany the form.

Extracurricular Events—No extracurricular events requiring student participation may be scheduled from the beginning of study day to the end of finals week. Exceptions to this policy may be granted by the Senate Committee on Educational Policy. The Senate advises all faculty that any exemption granted pursuant to this policy shall be honored and that students who are unable to complete course requirements during finals week shall be provided an alternative and timely opportunity to do so.

Smoke-Free Campus Policy—Smoking is prohibited in all facilities of the University of Minnesota, Twin Cities campus except for designated private residence hall rooms.

Academic Advising

Academic advising is a crucial component of the University's educational mission. University academic advisers participate in an Academic Advising Network—a

forum for sharing information and expertise across colleges and departments. Expect academic advisers at all levels to assist you in designing and implementing a program of study and related activities that will allow you to achieve your educational goals. Advisers expect you to prepare for program planning sessions by giving careful thought to possible course selections, program schedules, and short- and long-term education and career goals, and to come to appointments with pertinent academic records and materials.

Summer Session

Summer session consists of two terms, each five weeks long. In each term, courses taught during the regular academic year are offered in a concentrated time period. Special workshops and intensive programs of study are also offered during the summer. Students cannot complete an advanced degree through summer session only. For more information, see the *Summer Session Bulletin* available through the Summer Session Office, 135 Johnston Hall, 101 Pleasant Street S.E., Minneapolis, MN 55455 (612/624-2388).

Evening Classes and Independent Study

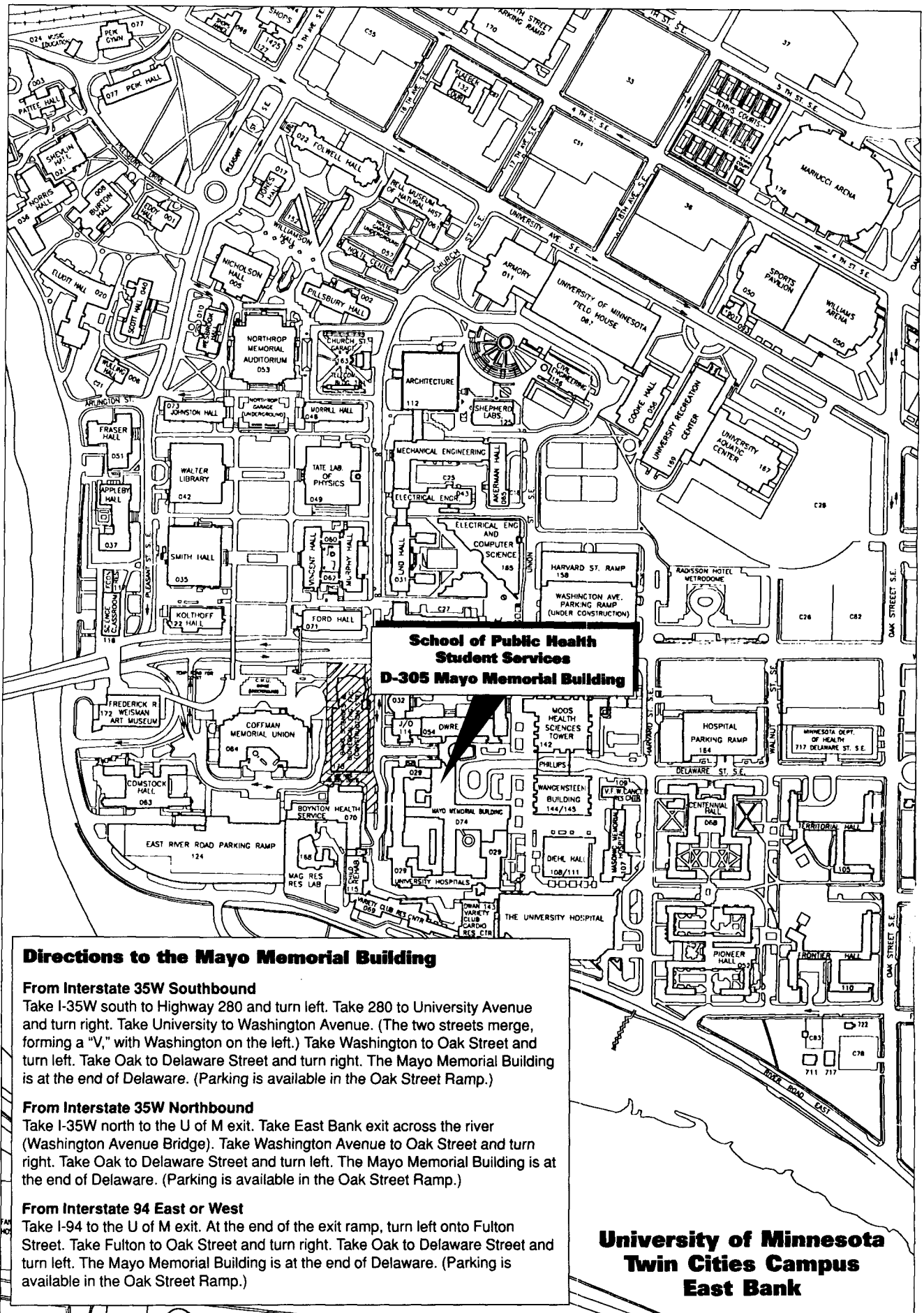
Through University Continuing Education and Extension (CEE), the School of Public Health offers a number of courses in the evening and through independent study for the convenience of health professionals working through degree programs part-time or supplementing their education. Degree credits earned through CEE and independent study may be applied toward degrees offered by the school or other University units when approved by the degree-granting unit. Students cannot complete an advanced degree through evening classes only. A complete list of CEE and independent study offerings can be found in the *Extension Classes Bulletin* and the *Independent Study Bulletin*, available from Continuing Education and Extension, 101 Wesbrook Hall, 77 Pleasant Street S.E., Minneapolis, MN 55455-0216 (612/625-3333).

University Counseling and Consulting Services

University Counseling and Consulting Services (UCCS) offers counseling for academic, career, personal, or relationship concerns. Besides counseling, UCCS features a variety of services. The Career Development Center and the Learning and Academic Skills Center offer workshops, courses, and materials for career development or academic skills improvement. The Organizational Development Program offers consultation, assessment, team building, conflict mediation, training, and workshops. UCCS's Measurement Services office administers tests; scores exams, surveys, and research instruments for University faculty; and operates the Minnesota Statewide Testing Program for Minnesota elementary and secondary schools. The Testing Center administers admissions, placement, and national tests.

Affiliated Faculty

Alton, Irene, M.S., adjunct lecturer (PH Nutr)
 Ayers, Jeanne, M.P.H., adjunct instructor (EH)
 Bender, Alan, Ph.D., D.V.M., adjunct associate professor (Epi)
 Bouchard, Pauline, J.D., adjunct assistant professor
 Bracht, Neil, M.S.W., M.P.H., professor (CHE)
 Cairns, Katherine, M.P.H., adjunct lecturer (CHE)
 Christensen, Margaret, M.P.H., adjunct lecturer (EH)
 Craig, James, M.D., adjunct professor (EH)
 Dahl, N. tor, M.B.A., adjunct associate professor (HA)
 Daly, Kathleen, Ph.D., assistant professor (PH Nutr)
 Danila, Richard, Ph.D., M.H.A., assistant professor (Epi)
 Diesch, Stanley, D.V.M., M.P.H., professor (Epi)
 Doring, Frances, M.P.H., adjunct lecturer (PH Nutr)
 Ederer, Fred, M.A., adjunct professor (Bio)
 Ehlinger, Edward, M.D., M.S.P.H., adjunct assistant professor (CHE)
 Ensrud, Kristine, M.D., M.P.H., assistant professor (Epi)
 Eschwey, Maymie, Ph.D., M.P.H., adjunct lecturer (MCH)
 Feinwachs, David, Ph.D., J.D., M.H.A., adjunct assistant professor (HA)
 French, L. Ronald, Ph.D., M.P.H., adjunct assistant professor (Epi)
 Gatewood, Laël, Ph.D., lecturer (Epi)
 Giese, David, M.P.H., adjunct assistant professor (PHA)
 Grimm, Richard, M.D., associate professor (Epi)
 Halberg, Julia, M.D., adjunct assistant professor (EH)
 Henry, William, M.A., adjunct instructor (HA)
 Hillestad, Steve, M.A., adjunct instructor (HA)
 Hillson, Steven, M.D., assistant professor (HSR)
 Hirschhorn, Norbert, M.D., visiting professor (MCH)
 Hollister, C. David, Ph.D., professor (CHE)
 Holtzman, Jordan, M.D., adjunct assistant professor (EH)
 Johnson, Brenda, M.P.H., R.D., adjunct instructor (PHA)
 Kaplan, Edward, M.D., professor (Epi)
 Keenan, Kathleen, Ph.D., associate professor (Bio)
 Kurland, Leonard, M.D., Dr.P.H., adjunct professor (Epi)
 Langan, Patrick, M.B.A., adjunct instructor (HA)
 Lansing, Darlene, M.P.H., adjunct instructor (PH Nutr)
 Leon, Arthur, M.D., professor (Epi)
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 Luehr, Ruth, adjunct instructor (MCH)
 Lurie, Nicole, M.D., associate professor (HSR)
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 Mortimer, James, Ph.D., associate professor (Epi)
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 Mulhausen, Robert, M.D., adjunct professor (EH)
 Neglia, Joseph, M.D., M.P.H., adjunct associate professor (Epi)
 Olmstead, Gary, Ph.D., adjunct assistant professor (EH)
 Osberg, Brian, M.P.H., clinical preceptor (PHA)
 Osterholm, Michael, Ph.D., M.P.H., adjunct associate professor (Epi)
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 Pflug, Irving, Ph.D., adjunct professor (EH)
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 Quigley, Joseph, D.V.M., instructor (Epi)
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 Rhame, Frank, M.D., adjunct associate professor (Epi)
 Rice, James, Ph.D., adjunct instructor (HA)
 Riley, William, Ph.D., adjunct assistant professor (HA)
 Robinson, R. Ashley, D.V.M., M.P.H., professor (Epi)
 Robison, Leslie, Ph.D., adjunct associate professor (Epi)
 Shandeling, Stanton, Ph.D., M.P.H., adjunct assistant professor (MCH)
 Shu, Xiao, M.D., adjunct assistant professor (Epi)
 Shubat, Pamela, Ph.D., adjunct assistant professor (EH)
 Shutske, John, Ph.D. adjunct assistant professor (EH)
 Streifel, Andrew, M.S., adjunct instructor (EH)
 Ward, W. Dixon, adjunct professor (EH)
 Weiner, Pamela, M.P.H., Ph.D., adjunct instructor (MCH)
 Wendt, John, Ph.D., adjunct assistant professor (EH)
 Willard, Paul, Ph.D., adjunct professor (EH)
 Yoakum, John, M.D., adjunct lecturer (MCH)



**School of Public Health
Student Services
D-305 Mayo Memorial Building**

Directions to the Mayo Memorial Building

From Interstate 35W Southbound

Take I-35W south to Highway 280 and turn left. Take 280 to University Avenue and turn right. Take University to Washington Avenue. (The two streets merge, forming a "V," with Washington on the left.) Take Washington to Oak Street and turn left. Take Oak to Delaware Street and turn right. The Mayo Memorial Building is at the end of Delaware. (Parking is available in the Oak Street Ramp.)

From Interstate 35W Northbound

Take I-35W north to the U of M exit. Take East Bank exit across the river (Washington Avenue Bridge). Take Washington Avenue to Oak Street and turn right. Take Oak to Delaware Street and turn left. The Mayo Memorial Building is at the end of Delaware. (Parking is available in the Oak Street Ramp.)

From Interstate 94 East or West

Take I-94 to the U of M exit. At the end of the exit ramp, turn left onto Fulton Street. Take Fulton to Oak Street and turn right. Take Oak to Delaware Street and turn left. The Mayo Memorial Building is at the end of Delaware. (Parking is available in the Oak Street Ramp.)

**University of Minnesota
Twin Cities Campus
East Bank**

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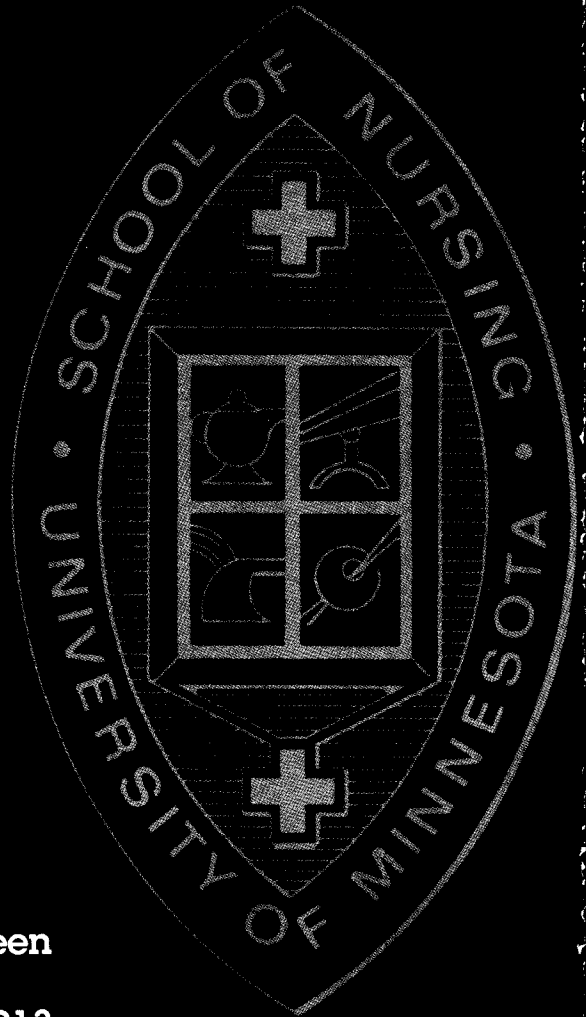
1994 - 1996



Significance of the School Symbol

**This symbol of the
University of Minnesota
School of Nursing has been
used since September 1913.**

The antique lamp represents the metaphysical sciences; the telescope, the physical sciences; the plow, the industrial arts; and the artist's palette, the fine arts. These are the four dimensions of a baccalaureate education. Above and below are the crosses of St. George, which have stood for unselfish service for centuries. *We are proud of this heritage.*



School of Nursing

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Introduction

Policies

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General Information



General Information

Development of the School

The University of Minnesota School of Nursing is the first nursing school on a university campus in the United States. The school opened in March 1909, offering a three-year program in which four students were enrolled. In 1919, a five-year program leading to a baccalaureate degree in nursing was begun. The shorter nondegree program continued until 1947. In response to the need for more prepared teachers and supervisors, specialized baccalaureate programs for RNs were established in the fields of nursing education (1922) and nursing administration (1955). These specialized programs were phased out in the early 1960s with the establishment of a general nursing program for RNs with many requirements identical to those of the generic baccalaureate program. In 1989, a new baccalaureate curriculum was implemented, with the nursing major concentrated in an upper division two-year program. A new program for RNs who want to continue work on bachelor's and master's degrees was also begun fall 1989.

The first postbaccalaureate programs in nursing were initiated in 1951 and 1952. These programs were phased out between 1965 and 1968 as master's degree programs in nursing were developed and offered through the Graduate School. Graduate programs in nursing have undergone considerable change over the last 20 years, and the curriculum core has evolved to offer a variety of focuses to accommodate the diverse interests of students. The programs are described in the *Graduate School Bulletin*.

The School of Nursing assumes responsibility for the improvement of nursing care through its programs in nursing education, research, and service. These programs include continuing education programs for a variety of groups within the field of nursing, consultation services for individuals and agencies, and ongoing research in nursing. In 1958, the University of Minnesota School of Nursing Foundation was established. Its purpose is to improve

patient care through appropriate assistance to the school in carrying forward programs of nursing education, research, and community service. The baccalaureate and master's programs are accredited by the National League for Nursing.

Philosophy of Nursing Education

Nursing education at the University of Minnesota is directed toward maturation of the student as a fully sensitive human being with an investigative orientation and toward achievement of competencies as a developing professional.

Nursing education is a process involving a relationship between student and teacher that fosters independence on the part of the learner. This process occurs in a milieu that encourages intellectual curiosity and mutual respect. It involves a progression of contemporary, challenging, and flexible learning experiences that make use of a wide variety of academic, professional, and community resources.

The student is an active participant with teachers, peers, clinicians, and others involved in the learning process. The student establishes a personal identity as a nurse and human being. The student learns to exercise rights and responsibilities through challenging the educational process and to be self-directed by using resources, seeking educational experiences, and developing an ability for self-evaluation. The teacher guides the student throughout this process.

Governance

The School of Nursing faculty makes decisions about goals and priorities and plans programs to carry out the education, research, and service missions of the school and the University. Faculty committees are concerned with curriculum, admission and progression of students, research, student and faculty awards, and long-range planning. The Consultative Committee, elected by the faculty, advises the dean on matters relating to the budget, school activities, and planning. Students and civil

service staff members are represented on committees, and consultants are brought in when appropriate. The committees recommend major policies to the General Assembly of the School of Nursing, which acts as the governing body of the school.

Bachelor of Science in Nursing

The purpose of the baccalaureate program is to prepare outstanding graduates who are skilled in the delivery of nursing care, able to contribute to the evolving science of nursing, and capable of moving into leadership positions where they can positively influence health care for individuals and groups. Graduates of the program are confident of their contributions to the care of clients, identify with nursing as a profession, and are able to articulate the nurse's role to other disciplines in health care and to the public. They are sensitive and caring persons, involved in ethical decisions, accountable for their own behavior, and advocates for clients.

To meet today's urgent national concern for health care costs while significant alterations take place in traditional modes of health care delivery, graduates acquire a strong clinical practice foundation and the capability to cope with as well as institute change. They function effectively in a variety of settings with increasing autonomy. They are aware of political, social, and economic forces that affect systems of health care as well as the health of individuals.

At a time when there is decreasing return for the increasing expenditures of illness care, the program emphasizes skills needed to assist people to maintain and promote health as they grow and develop throughout their lives and as they experience acute or chronic health problems.

The milieu of the School of Nursing contributes uniquely to the mission of the undergraduate program. The school is located in a health science complex that is an integral part of a large land grant research university. It is in a large metropolitan area characterized by innovation in health care. Thus, the undergraduate program provides students

access to rich resources for learning in environments that strengthen the link between liberal arts and professional education, provide cultural diversity in client populations, facilitate interaction with other disciplines and students of other cultures, and enhance skill in accessing the rapidly expanding information base relevant to health.

Because of the environment of the University and the commitment of the School's faculty to knowledge development and research, the program provides an experimental context for curricular research and for theory testing at the first level of nursing practice. Through experiencing an intellectually stimulating learning environment, graduates have a scholarly approach to the acquisition of knowledge that will influence the care of clients. Graduates are lifelong learners, most of whom pursue further study at the master's and doctoral levels.

The program is for high-ability, achievement-oriented students, providing a challenging learning environment with innovative approaches to faculty-student scholarly relationships and learning experiences.

No less than the students they teach, faculty are lifelong learners, continually developing their own knowledge and insights. They are excited about working with high-ability students, sensitive to student responses, and motivated to experiment with innovative approaches. They find satisfaction in sharing their scholarship, skills, philosophy, and values.

The faculty role of transmitting knowledge includes strategies that challenge high-ability students. Faculty value and develop the clinical practice component of the curriculum, and many demonstrate excellence in clinical practice. In addition, all faculty expand the body of nursing knowledge and involve students in this experience. Many faculty are clinical and content experts in the curriculum's focus areas.

The curriculum provides a sound scientific foundation that develops the competence necessary for the autonomous delivery of

General Information

nursing care in a variety of settings. Although the focus of nursing care is maintaining and promoting health as well as addressing acute and chronic health problems, additional emphasis is placed on making changes in nursing care regardless of the practice setting. This requires the fostering of independence, innovation, and creativity. Emphasis is placed on critical thinking, problem solving, and excellence in clinical practice as well as development of skills to address professional, moral, and ethical issues. Preparation for leadership in the profession requires that students gain confidence in their role, develop a vision of the discipline of nursing, and obtain leadership development throughout the program.

Admission Procedures

Requirements—Before entering the School of Nursing, students must complete 90 quarter credits of transferable courses. Usually these requirements can be fulfilled during the first two years of study at any regionally accredited institution of higher education (including community or junior colleges). Those who attend the University of Minnesota for the freshman and sophomore years usually enroll in the College of Liberal Arts as prenursing majors.

Required prerequisites for admission include:

<i>Courses</i>	<i>Quarter Credit</i>
English composition	4
General chemistry	8
General biology	4
Cultural diversity/pluralism course*	3
Introductory sociology	3
General psychology	3
Biochemistry (or organic chemistry)	4
Abnormal psychology	4
Family theory	3
Small group dynamics	3
Human growth and development across the lifespan	4
Human anatomy	4
Human physiology	4
Microbiology	3
Basic/general nutrition	3
Statistics	3
Upper division writing	4

*Cultural Anthropology will meet this requirement.

Students must complete all required prerequisite courses by August 31 before enrolling in the nursing program.

The remaining required credits must be chosen from liberal arts elective courses. Particularly recommended are courses in Group D, Literary and Artistic Expression.

The University of Minnesota is implementing new liberal education requirements fall 1994. Check in the School of Nursing Admissions Office, 5-160 Health Sciences Unit F (612/624-4454), for changes affecting students with 38 or fewer credits enrolling fall quarter 1994 and later. See page 14 for a general description of the new liberal education requirements.

Academic and career counseling is provided for prenursing students in the College of Liberal Arts (CLA) Pre-Health Sciences Advising Center (612/624-9006) in 30 Johnston Hall.

To be considered for admission, a minimum admission grade point average (GPA) of 2.80 is preferred. The GPA used for admission purposes is not the cumulative GPA but a special admission GPA, computed on 60 quarter credits. The 60 quarter credits are composed of all prerequisite courses completed by the end of winter quarter or fall semester of the year of application. If the prerequisite coursework does not add up to 60 quarter credits, then the most recent transferable coursework will be used to establish the 60 quarter credits for the admission GPA. If the number of credits taken in prerequisite courses adds up to more than 60, all those credits will be used in the admission GPA. Admission is granted pending satisfactory completion of all prerequisites with a competitive admission GPA. Two-thirds of admission credits must be on a letter-grade basis and one-third may be taken satisfactory-no credit basis.

A written profile statement is required that provides information about academic achievement, work, cultural diversity, and other experiences; concept of nursing; and anticipated career path in the discipline. The profile statement form is available from the School of Nursing.

Selection is competitive because enrollment is limited to 96 students.

Application Procedures—Application forms are available in the Office of Admissions, 240 Williamson Hall, University of Minnesota, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-2008). School of Nursing admission packets may be picked up in the Admissions Office, School of Nursing, 5-160 Health Sciences Unit F, University of Minnesota, 308 Harvard Street S.E., Minneapolis, MN 55455 (612/624-4454).

Applicants enrolled in other educational institutions must complete an Application for Admission and return it to the Office of Admissions in 240 Williamson Hall with the required application fee and an official transcript from each college previously attended.

Students currently enrolled in another unit of the University of Minnesota must complete a Request for Change of College or Status, which is available in 150 Williamson Hall. The form should indicate a transfer to the School of Nursing for fall quarter of the year of application.

After the initial processing of applications, applicants receive memoranda acknowledging receipt of their applications by the School of Nursing, explaining admission criteria and selection procedures, and soliciting information on their progress in completing courses required for admission. Applicants who have any deficiencies in preadmission requirements will receive notification from the School of Nursing. Documentation indicating completion of all prerequisite courses must be submitted to the School of Nursing Admissions Office by August 31.

Each applicant is responsible for ensuring that all materials required for application are received by the School of Nursing.

Rolling Admission

Students may apply after completing 45 quarter credits, which must include one-third (about six courses) of the required prerequisite nursing courses. Applications

are reviewed in October, January, and April. Applications that are reviewed for rolling admission (October and/or January) and not accepted will automatically be forwarded to the next review period.

Important Deadlines

April 15—is the last date for receipt of application to the University of Minnesota Office of Admissions and receipt of the profile statement to the School of Nursing Admissions Office.

August 31—receipt of *evidence* to the School of Nursing Admissions Office that all prerequisite courses requirements have been met.

Acceptance—The School of Nursing will notify applicants of the admission decision as soon as all records are processed each quarter. Acceptance is provisional pending satisfactory completion of all entrance requirements and maintenance of a satisfactory admission GPA of 2.80.

Registration materials for fall quarter will be sent to newly admitted students during the summer by the Office of Admissions.

Adult Special Status—Selected individuals may be admitted to the School of Nursing as adult special students, a category reserved for those who have particular professional needs that cannot be met through one of the regular program offerings. Generally, adult special students are not permitted to complete major course sequences.

International Students—Applicants who are neither citizens of the United States nor permanent resident aliens should secure an application from the Office of Admissions (see Application Procedures).

International students must complete the same prerequisite courses and credits as other students.

Selection of international students is based on (a) evidence of superior previous academic achievement; (b) demonstrated ability to read, write, speak, and understand English; and (c) possession of a student or other appropriate visa.

General Information

Disability Accommodation—Students who have been admitted to the School of Nursing who require accommodation for a disability should contact the Director of Student Services at (612) 624-4454.

Expenses

For tuition and fees, students should consult the quarterly *Class Schedule*.

With an ever-increasing number of clinical assignments at off-campus locations, students should include transportation costs in their educational planning.

Uniforms, laboratory coat, name pins, a watch with a second hand, and a stethoscope are essential items and must be considered in educational costs. Purchase of additional equipment may be recommended as clinical experiences and placements warrant.

Housing

Most Twin Cities campus students rent apartments off campus or live with parents, families, or relatives. Other students—some 4,500—live in residence halls, taking advantage of living and learning on campus. For more information on housing both on and off campus, contact Housing Services, Comstock Hall East, 210 Delaware Street S.E., Minneapolis, MN 55455 (612/624-2994).

Financial Aid

Federal Loan and Scholarship Program—Current information about loans and scholarships available for nursing students is available in the Office of Student Financial Aid, 210 Fraser Hall, University of Minnesota, 106 Pleasant Street S.E., Minneapolis, MN 55455 (612/624-1665).

University Scholarship Funds—University scholarship funds for School of Nursing students are administered by the Office of Student Financial Aid. For scholarships to be awarded for the following year, students may apply after completing one quarter in the School of Nursing. Applications should be submitted before March 1. To be eligible,

students must show financial need and have a minimum cumulative GPA of 3.00. Information concerning application for these scholarships appears in the Official Daily Bulletin column of The Minnesota Daily during winter quarter.

School of Nursing Foundation—The School of Nursing extends appreciation to the many individuals and groups who support ongoing scholarship awards, especially the School of Nursing Foundation, which aids in the collection and handling of many of the following funds:

Carolina and Margaret E. Benson Scholarship
Marion Borgenson Nursing Scholarship
Ruth Thomas Brinker Scholarship in Nursing
Clifton J. Brisco Nursing Scholarship
Margaret Caldwell Scholarship
Danielson Nursing Scholarship
Grace B. Dayton Scholarship Fund
Beatrice Lofgren Delue Scholarship
Katharine J. Densford Dreves Scholarship
Agnes Dempster Scholarship
Suzanne J. Doehring Memorial Scholarship in Nursing
Fran Dunning Memorial
Anna and Ottilie Eisenmenger Scholarship
Ellen T. Fahy Leadership Award
Helen Hanson Memorial Fund
Cecilia Hauge Scholarship
Ardus Kluth Hopkins Scholarship
Alice and Gale Perry Scholarship Fund
Jennie Siebold Memorial Scholarship Fund
Mary Hensler Spurzem Scholarship
Margaret Vannier Scholarship Fund

Nurses Educational Funds—A limited number of scholarships, fellowships, and loans are available to registered nurses enrolled in baccalaureate and master's degree programs. Applicants must be members of the American Nurses' Association and must have had at least one year of successful nursing experience. For application information, write to Nurses' Education Funds, Inc., 2420 Pershing Road, Kansas City, MO 64108. Applications must be submitted by March 1 before fall enrollment.

State Nurses' Associations—Some state associations maintain funds to aid registered nurses who are members of the association who are enrolled in bachelor's or master's degree programs or specialized short courses. For application information, write to the appropriate association. In Minnesota,

contact the Minnesota Nurses' Association, 1821 University Avenue, St. Paul, MN 55104.

Other Sources of Financial Aid—In many communities, some financial aid is available to students through churches, clubs, medical and medical auxiliary groups, the American Legion, and service groups such as the Rotary, Kiwanis, and Zonta. Many district and state nursing associations have established scholarship and loan funds for registered nurses interested in further education. Students should explore these resources.

As additional sources of financial aid become available, information will be published in the School of Nursing's newsletter.

Student Services

Orientation—The School of Nursing provides an orientation for new nursing students during late summer. Every new student is required to attend.

CPR and First Aid—Students who have been admitted to the School of Nursing are required to have current certification in cardiopulmonary resuscitation, both infant and adult, and standard first aid.

Health—Students who have been admitted to the School of Nursing are required to provide evidence that they have completed a physical assessment examination, a tuberculin test or chest X-ray, evidence of rubella and rubeola immunity, Hepatitis B vaccination, and an infectious disease history. To provide a basic health assessment, examinations may be performed by the Boynton Health Service at the student's expense or by the student's private physician. Recommended immunizations include a diphtheria-tetanus booster every 10 years and oral poliomyelitis (basic series if not taken previously). An annual tuberculin test and/or chest X-ray is required; those with positive reactions will be evaluated for treatment.

During the course of enrollment, students should assume responsibility for their own health surveillance. Additional documentation of health status is required when a clinical agency requires it or when a problem arises. Although not required, a physical examination before graduation is highly recommended.

Organizations

Nursing College Board—The Nursing College Board (NCB) is the official student organization within the School of Nursing. Representatives to the board are elected by the student body. The purposes of the board are to promote unity among nursing students and to increase communication between nursing students and the school's faculty and administration and between nursing students and other members of the University community. Board activities include representing students on school committees; planning recognition and graduation ceremonies; publishing the student newsletter, *Progress Notes*; planning school assemblies; and planning and being involved in new student orientation and registration. The NCB is part of the Twin Cities Student Association and has representation in the Minnesota Student Association, the Nursing Alumni Society, and the Council for Health Interdisciplinary Participation (CHIP).

Council for Health Interdisciplinary Participation (CHIP)—This student organization sponsors programs for students from all University health science schools and programs. CHIP organizes workshops, noontime lectures, conferences, and other programs throughout the academic year. The council also publishes a newsletter featuring announcements of upcoming events and articles of interest to students. CHIP headquarters in 1-425 Moos Health Sciences Tower includes a lounge, typing room, and services for students. For more information, come to this office or call (612) 625-7100.

General Information

Alpha Tau Delta—This professional nursing fraternity was founded in 1921 on the campus of the University of California at Berkeley. The Beta Chapter at the University of Minnesota was chartered in 1927. Alpha Tau Delta is dedicated to developing leadership, maintaining high professional educational standards, providing service to the community, and encouraging mutual helpfulness and understanding among students in the profession. Membership is open to all School of Nursing students.

Sigma Theta Tau International—The international honor society of nursing, Sigma Theta Tau, has a chapter at the University of Minnesota. Installed in 1934, Zeta Chapter is one of the oldest chapters in the country. The purposes of the society are to recognize superior achievement and leadership qualities, foster high professional standards, encourage creative work, and strengthen commitment to the ideals and purposes of the profession. Zeta Chapter sponsors an annual research day, provides grants for research, presents the annual Excellence in Nursing award, and organizes programs of interest to its members. The membership selects new members from undergraduate and graduate students nominated by the faculty and from professional nurses in the community nominated by members or faculty.

School of Nursing Alumni Association—All School of Nursing graduates are encouraged to become members of the Alumni Association of the School of Nursing. Its purposes are to:

- stimulate the continued interest of graduates and other nurses in the School of Nursing;

- support and assist fund-raising efforts for the School of Nursing;
- promote the continued emphasis on high standards in the school's education, research, and service functions;
- promote the professional interests of nurses through newsletters, educational functions, and social functions; and
- provide an opportunity for communication among alumni, faculty, and students of the School of Nursing about educational trends and developments in nursing.

University Counseling and Consulting Services

University Counseling and Consulting Services (UCCS) offers counseling for academic, career, personal, or relationship concerns. Besides counseling, UCCS features a variety of services. The Career Resource Center and the Learning and Academic Skills Center offer workshops, courses, and materials for career development or academic skills improvement. The Organizational Development Program offers consultation, assessment, team building, conflict mediation, training, and workshops. UCCS's Measurement Services office administers tests; scores exams, surveys, and research instruments for University faculty; and operates the Minnesota Statewide Testing Program for Minnesota elementary and secondary schools. The Testing Center administers admissions, placement, and national tests.

Curriculum, Policies, and Requirements



Curriculum, Policies, and Requirements

Baccalaureate Program

The baccalaureate program is organized into two levels of study, offering increasing complexity and responsibility. Level I focuses on disruptions in health seen in the acute care setting with a variety of client populations. Skills in interpersonal communication and knowledge about pathophysiology, pharmacology, growth and development, and public health are integrated with nursing knowledge and skill in providing care to clients with increasingly difficult clinical problems. The curriculum requires full-time attendance of the summer sessions between Levels I and II.

Level II focuses on health enhancement, the community, and clients with chronic health problems. Content includes health assessment, research, leadership, management, and professional issues. Practice experiences occur primarily in the community and in long-term care facilities. Client populations include families with children, childbearing families, and clients with mental health and other chronic health problems.

Nursing courses include lectures, seminars, skill development, laboratories, and clinical practice. Students can learn client care in hospitals, clinics, homes, long-term care facilities, and other health care settings. Students provide care to clients with diverse health care problems in real life situations and, thus, can realize the impact of their care.

Learning and Clinical Resources

To provide opportunities for all students to acquire essential skills, the School of Nursing contracts with a variety of acute and community-based agencies, including the University of Minnesota Hospital Clinic, for use of their facilities for planned clinical experiences. The school's faculty plans and supervises these experiences. The types of facilities used include acute care hospitals, public health agencies, community agencies, residence facilities, long-term care homes, clinics, child care centers, and schools. While most of the agencies are located in

areas serviced by the metropolitan transit system, students should be prepared to arrange transportation if assigned to a more distant site. By the completion of the nursing program, students will have experienced a total of 715 clinical hours. Clinical hours include day and evening hours.

The Honors Program

The Honors Program provides academic opportunities that challenge students to perform at their highest level of excellence while becoming increasingly independent learners. It seeks to prepare outstanding graduates who are skilled in the delivery of nursing care, able to contribute to the evolving science of nursing, and capable of demonstrating dynamic leadership.

Honors students experience the excitement of discovery and the rigor of problem solving in an intellectually stimulating environment. In honors seminars, they discuss issues and questions important to health care and to the essential role nursing performs. Through honors courses and self-directed clinical and field experiences, students gain depth and breadth in the discipline and practice of nursing. Students also have the opportunity for individualized interaction with University faculty and their associates. Graduates have learned a scholarly approach to the acquisition of knowledge that influences the care of clients and the future direction of the health care system. Thus, the Honors Program is excellent preparation for subsequent graduate or professional study in nursing.

Students admitted to the School of Nursing with a strong academic record will be invited to apply to the Honors Program. Further criteria for admission include leadership potential, problem-solving skills, well developed communication abilities, creativity, perseverance, and self direction. When the curricular and Honors Program requirements are completed, the student will graduate with honors (*summa cum laude*: GPA of 3.75 and honors thesis; *magna cum*

laude: GPA of 3.66 and honor thesis or project; *cum laude*: GPA of 3.50 and honors thesis or project).

For more information about the Honors Program, contact the School of Nursing Admissions Office.

Curriculum Requirements

Freshman and Sophomore Years—

Qualified students are admitted to the baccalaureate program after completing the two-year prenursing requirements. The minimum quarter-credit requirement for the freshman and sophomore years is 90. For information about admission requirements and a list of the courses required, see the Admission Procedures section.

Levels I and II—Required courses for Levels I and II, with the minimum credits in parentheses, are as follows:

- Phcl 5100—Pharmacology (4)
- LaMP 5172—Pathophysiology (4)
- Nurs 5000—Core Concepts in Nursing (4)
- Nurs 5021—Practicum: Ill Adults (3)
- Nurs 5040—Restoration and Enhancement of Health in the Acutely Ill Adult (4)
- Nurs 5041—Practicum: Acutely Ill Adults (7)
- Nurs 5042—Interpersonal Communication (2)
- Nurs 5140—Restoration and Enhancement of Health in the Acutely Ill Across the Life Span (4)
- Nurs 5141—Practicum: Ill Children/Aged (8)
- Nurs 5142—Advanced Interpersonal Communication (2)
- Nurs 5240—Core Concepts in Critical Care (6)
- Nurs 5241—Practicum: Critically Ill Infants, Children, or Adults (7)
- Nurs 5450—Public Health (3)
- Nurs 5440—Core Concepts in Community Health and Long-Term Care (4)
- Nurs 5441—Practicum: Families with Children (8)
- Nurs 5445—Health Assessment (3)
- Nurs 5443—Practicum: Individuals/Groups/Populations (10)
- Nurs 5420—Applied Clinical Research (3)
- Nurs 5460—Leadership/Followership/Management (4)
- Nurs 5462—Professional Issues (3)
- Nurs 5480—Special Topics (1)

Liberal Education Requirements

To carry out the University's commitment to a liberal education for all students, the School of Nursing expects every undergraduate to complete coursework in areas of study outside of nursing. All undergraduates must complete the following requirements:

1. Writing practice requirement and upper division writing course.
2. Liberal arts credits distributed as indicated among the following four groups:
 - Group A. Language, Logic, Mathematics, and the Study of Argument*—fulfilled with prerequisite courses.
 - Group B. The Physical and Biological Universe*—fulfilled with prerequisite courses.
 - Group C. The Individual and Society*—fulfilled with prerequisite courses.
 - Group D. Literary and Artistic Expression*—12 to 15 credits (normally three courses).
3. 12 elective liberal arts credits in upper division courses (3xxx or 5xxx).

A 3xxx or 5xxx course may be used to fulfill both the distribution requirements for a specific group and the upper division elective credit requirement. Exceptions to this rule are those CLA courses required by the School of Nursing for the baccalaureate degree. Those required courses may be used to fulfill the appropriate liberal education credit requirement but not the upper division elective credit requirement.

Any course accepted by CLA to meet the liberal education or upper division elective credit requirement is accepted by the School of Nursing. Other courses may be used to meet liberal education or upper division requirements only with the approval of the Admissions and Progressions Committee.

Liberal Education Requirements

(effective fall 1994 and later for students enrolling with 38 or fewer credits)

A liberal education introduces you to the modes of inquiry and subject matter of the major branches of knowledge, including the factual information and theoretical or artistic constructs that form their foundations; the “ways of knowing”—the kinds of questions asked and how insight, knowledge, and data are acquired and used; the changes over time of their central ideas or expressive forms; and the interrelationships among them and with human society in general. To these ends, study by all undergraduate students on the Twin Cities campus is guided by a common framework.

The Diversified Core Curriculum

Physical and Biological Sciences. Comprehension of physical and biological principles; understanding of and ability to use the methods of scientific inquiry—the ways in which scientists investigate physical and biological phenomena; and appreciation of the importance of science and the value of a scientific perspective.

Requirement: A minimum of three courses totaling at least 12 credits, including one course with a laboratory or field experience in the physical sciences and one course with a laboratory or field experience in the biological sciences.

History and Social Sciences. Knowledge of how historians and social scientists describe and analyze human experiences and behavior; study of the interrelationships among individuals, institutions, structures, events, and ideas; understanding of the roles individuals play in their historical, cultural, social, economic, and political worlds.

Requirement: A minimum of three courses totaling at least 12 credits, including one course with historical perspective.

Arts and Humanities. Understanding of approaches to the human condition through works of art, literature, and philosophy; knowledge of how artists create and humanistic scholars think; ability to make aesthetic judgments.

Requirement: A minimum of three courses totaling at least 12 credits including courses in two of the following: literature, philosophical perspective, and visual or performing arts.

Mathematical Thinking. Acquisition of mathematical modes of thinking; ability to evaluate arguments, detect fallacious reasoning, and evaluate complex reasoning chains; appreciation of the breadth of applications of mathematics and its foundations.

Requirement: A minimum of one course totaling at least four credits.

The Designated Themes of Liberal Education

The designated themes of liberal education offer a dimension to liberal learning that complements the diversified core curriculum. Each of the themes focuses on an issue of compelling importance to the nation and the world, the understanding of which is informed by many disciplines and interdisciplinary fields of knowledge.

Requirement: A minimum of six courses (or five courses if one includes an approved practicum), including one course in each of the following:

Cultural Diversity. Understanding of the roles gender, ethnicity, and race play in structuring the human experience in and developing the social and cultural fabric of the United States.

International Perspectives. Comprehension of the ways in which you are part of a rapidly changing global environment dominated by the internationalization of most human endeavors.

Environment. Knowledge of the interaction and interdependence of the biophysical systems of the natural environment and human social and cultural systems.

Citizenship and Public Ethics. Reflection on and determination of a clearer sense of your present and future civic relationships and your obligations to the community.

Writing Skills *(effective 1995)*

The ability to communicate effectively is a hallmark of a liberally educated individual and a key to a successful and satisfying life. To encourage refining of writing skills, the liberal education curriculum includes both writing courses and writing across the curriculum.

Requirement: one writing course and four courses certified as writing intensive.

You may satisfy the liberal education requirements with a number of courses and credits different from those of other students because some courses serve multiple goals in the curriculum; e.g., some courses will satisfy a diversified core requirement and a designated theme requirement, and other courses will satisfy the requirements for each of two themes. Thus, you may satisfy the designated theme requirements with a smaller number of courses than is stated in the requirement. Each quarter, the *Class Schedule* will publish the requirements and list all courses that satisfy them. In addition, the *Class Schedule* will list which of these courses are offered that quarter and which are tentatively scheduled for the subsequent quarters during the academic year.

A liberal education introduces you to the modes of inquiry and subject matter of the major branches of knowledge, including the factual information and theoretical or artistic constructs that form their foundations; the "ways of knowing"—the kinds of questions asked and how insight, knowledge, and data are acquired and used; the changes over time of their central ideas or expressive forms; and the interrelationships among them and with human society in general. To these ends, study by all undergraduate students on the Twin Cities campus is guided by a common framework.

The University of Minnesota is implementing new liberal education requirements fall 1994. Check in the School of Nursing Admissions Office, 5-160 Health Sciences Unit F (612/624-4454), for changes affecting students with 38 or fewer credits enrolling fall quarter 1994 and later. See page 14 for a general description of the new liberal education requirements.

Degree Requirements

Degrees from the University of Minnesota are granted by the Board of Regents on recommendation of the faculty. The degree of bachelor of science in nursing will be recommended for students who have satisfactorily completed all required courses, fulfilled the liberal education and upper division elective requirements, maintained a minimum GPA of 2.00, and completed a minimum of 200 credits.

Undergraduates must present 45 credits awarded by the University of Minnesota. Of the last 45 credits earned before graduation, 30 must be awarded by this University. All acceptable credits awarded by this University, including those earned through Continuing Education and Extension and special examination, will count toward the total credit requirement for the degree.

Credits for Equivalent Courses/Petitions—

Credits for courses in excess of the 90-credit minimum required for admission may be applied toward fulfillment of requirements for the baccalaureate degree. When such credits

have been taken elsewhere, the Office of Admissions determines their transferability after applicants have been accepted for admission by the School of Nursing. In general, credits for liberal arts courses taken at other accredited schools are accepted for transfer, but credits for nursing courses generally are not accepted for transfer and must be evaluated individually for suitability to this program.

Any courses accepted by CLA to satisfy liberal education requirements are accepted by the School of Nursing for credit toward the baccalaureate degree in nursing. General College courses will be accepted only if taken before enrollment in the School of Nursing. Credits earned through extension classes (evening school), independent study (correspondence), special department examinations, or challenge examinations will also be considered for acceptance.

To request approval to use courses not listed in the *College of Liberal Arts Bulletin* to satisfy liberal education or upper division requirements, a student must petition the Admissions and Progressions Committee.

If the student has completed the required 48 credits of liberal education coursework, 12 credits of upper division liberal arts elective coursework, and supportive and nursing coursework, and has not earned 200 credits, the remaining credits may be completed by taking any courses carrying degree credit.

Credit by Examination—Students can earn credit by examination for many of the prerequisite courses and several elective courses through examinations offered by the appropriate departments. These examinations may make it possible for students to gain college credit for past noncollegiate study or experiences. Examinations for the following basic science courses are usually offered during the summer (credits in parentheses):
CBN 3001—Elementary Anatomy (4)
FScN 3602—Nutrition in Professional Health Care (4)
LaMP 5170-5171—Pathophysiology: Disease I-II (6)
Phsl 3051—Human Physiology (5)

CLEP Examinations—The College Level Examination Program (CLEP), sponsored by the College Entrance Examination Board, is a national program that offers the opportunity to obtain recognition for college level achievement no matter when, where, or how material was learned. CLEP offers general examinations in five liberal arts areas and subject examinations in chemistry, biology, psychology, sociology, and human growth and development. Credits earned through the general examinations may be used to meet liberal education requirements. Credits earned through the subject examinations may be used to gain exemption from taking specified required courses. One need not be a student at the University to take these examinations. Further information is available from University Counseling Services, 101 Eddy Hall, 192 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/624-3323).

Registration

All students entering the School of Nursing for the first time must attend the orientation-registration program scheduled in August. The program includes an overview of the curriculum, tours of facilities, and assistance from advisers with program planning for the first fall quarter.

Each quarter the schedule of registration dates for students in the School of Nursing is published in the Official Daily Bulletin column of *The Minnesota Daily*. Registration dates and instructions appear in the quarterly *Class Schedule*. Nursing class schedule information is sent out quarterly to nursing students. Baccalaureate nursing students are required to register for the nursing courses and sections assigned to them. Changes in schedules of nursing courses are posted on the registration bulletin board in the Office of Student Services lobby.

Registration dates are assigned on a schedule that rotates alphabetically by last name, giving first choice for classes to a different group of students each quarter.

Students enrolled in the school are responsible for completing registration during the scheduled registration period.

Change of Registration—The Course Request form is used to add or drop courses and to change grading systems. Courses may be added through the first week of a quarter. Grade base changes may be completed through the end of the second week of the quarter. To drop a non-nursing course after the second week, the instructor's permission is required before the adviser's approval.

Course Request and override permit forms are available in the School of Nursing Office of Student Services lobby. After the necessary signatures have been secured, students should return the form to this office.

Tuition refunds for canceled courses are made according to all-University regulations. These are published in the quarterly *Class Schedule*.

Summer Session—Many courses required by the school that are offered by other departments within the University and courses that meet liberal arts elective requirements are offered during the summer. Because summer offerings change yearly, the appropriate departments should be consulted regarding the availability of particular courses.

The curriculum requires full-time attendance during summer sessions between Levels I and II.

Students in the School of Nursing are encouraged to seek the counsel of their advisers if they plan to take summer study as a means of meeting degree requirements for any of the school's programs. Summer bulletins are available from the Summer Session Office, 101 Pleasant Street S.E., Minneapolis, MN 55455 (612/624-3555).

Advising

Academic advising is carried out by faculty advisers assigned at the time of admission. Advisers help students with academic concerns as well as with decisions concerning nursing careers and graduate

study. They also assist students with orientation and in determining how to apply their credits to meet graduation requirements.

Educational, psychological, and career counseling by trained specialists is available through campus and community resources. Students who have problems in these areas may be referred to specific resources.

Academic Regulations and Requirements

Grading—The quarterly *Class Schedule* contains detailed information on University grading policies and practices. Specific School of Nursing policies and variations follow.

Nursing students may choose between two grading systems: A-B-C-D-F (A-F) or Satisfactory-No Credit (S-N). Students may elect to take up to 40 percent of their nursing course credits and up to 50 percent of their total credits on an S-N basis. All nursing courses are offered on both the A-F and S-N grading systems. Students entering the nursing program fall quarter 1994 may elect to take a *maximum of 14 nursing credits* on an S-N basis and be eligible to graduate "with distinction" (see *Graduating with Distinction*, page 18).

C is the lowest acceptable grade in nursing courses, designated *Nurs* in this bulletin and in class schedules. An S indicates a grade of C or higher. No D grade is given in professional nursing courses. Any student who does not earn a C or better or an S in a nursing course will receive an F or N (No Credit).

A student who receives an F or N in a non-nursing course may proceed in nursing, but the course in which the F or N was received must be satisfactorily completed before courses for which it is a prerequisite may be taken. A student who receives an F or N in a nursing course may retake the course only once. A student who receives two unsatisfactory grades (F or N) in nursing courses, either in two different courses or twice in the same course, must withdraw from the School of Nursing.

A student who receives an incomplete (I) must arrange with the instructor to make up the unfinished coursework. The instructor may require a written contract with the student specifying work remaining to be completed and a required completion date. The deadline for completion of makeup work is the date established by the course instructor or the end of the student's next quarter of enrollment, whichever comes first. An incomplete in a prerequisite course must be completed by the end of the third week of the quarter of registration in the course for which it is prerequisite.

Attendance—School of Nursing instructors determine and inform students of their own policies and procedures regarding absence from class, laboratory, and examinations. They also determine whether or not a student may make up work missed because of absence. Instructors are required to provide makeup opportunities only in cases where absence is due to the following circumstances: (a) participation in formally approved and scheduled University activities; (b) performance of military or civil duty (such as jury duty) that cannot be deferred; (c) illness or family emergency for which acceptable evidence is available. In general, attendance at first class and clinical sessions is required. Instructors are not required to permit makeup of laboratory experiences or examinations to suit a student's personal convenience.

Satisfactory Progress—All courses prerequisite to nursing courses must be successfully completed before the student can proceed in the program. Students may not take nursing courses out of sequence.

A student must maintain a minimum GPA of 2.00 in (a) all courses completed, (b) all courses in nursing, and (c) each quarter of study.

When an undergraduate student's GPA (overall, in nursing courses or in a given quarter) falls below 2.00, or when the student receives an F or N grade in a required course, the individual's case is referred to the Admissions and Progressions Committee for appropriate action.

It is the responsibility of students to be aware of their academic standing and to see their instructor or adviser immediately if problems arise.

Unsatisfactory Progress—Students who fail to complete the required percentages of courses or whose grades fall below the acceptable level are subject to probation—the signal that academic progress is not satisfactory. Students on probation who do not improve their academic record the following quarter may be required to adjust their program plans, withdraw from the school, or take other appropriate action.

Students are taken off probation when academic work has improved enough to indicate potential for continuous progress toward the degree.

Students may be required to withdraw from the School of Nursing under one of the following circumstances:

Academic—Students who fail to make satisfactory progress may not continue in the program. Students who receive two unsatisfactory grades (F or N) in nursing courses, either in two different courses or twice in the same course, will be required to withdraw from the school.

Nonacademic—The nature of a nurse's responsibilities to patients and others requires certain personal and behavioral characteristics suitable to the discharge of these responsibilities. Students who do not display these characteristics may be required to withdraw from the School of Nursing. If progress is handicapped by conditions other than scholastic ability (such as ill health, personal or family circumstances), the student may be required to withdraw.

School of Nursing Quarterly Dean's List—The School of Nursing recognizes students in the baccalaureate program who are registered for 12 or more letter grade credits and maintain a minimum GPA of 3.75 in nursing courses throughout a quarter. The following credit exceptions will be recognized during the Level II year: fall quarter—nine letter grade credits, winter quarter—eleven letter

grade credits, and spring quarter—ten letter grade credits at or above a 3.75 GPA.

Graduating with Distinction—For students entering fall quarter 1994, the designation of graduation "with distinction" will be awarded to graduates with a School of Nursing GPA of 3.75 or above.

The School of Nursing GPA is computed on all coursework taken after enrollment in the School of Nursing. If any required nursing courses are taken before entering the School of Nursing, these courses will be computed in the School of Nursing GPA. *No more than 14 nursing credits may be taken S-N.* The GPA is calculated after completion of all degree requirements. An N or F in any course taken after admission to the School of Nursing eliminates a student from graduating "with distinction."

Those graduation candidates who qualify to graduate "with distinction" will be notified by the School of Nursing Student Services Office and by the University Office of the Registrar. Graduation "with distinction" entitles the graduate to receive an honors cord.

Credit Loads

Ratio of Credits to Work—The amount of work expected for a course is expressed in credits. Each credit demands an average of three hours per week of a student's time; e.g., one class hour with two hours of preparation, or three hours of laboratory work.

Credit Limitations—The usual number of credits taken per quarter is 16. If a student wishes to register for more than 19 credits in a given quarter, she or he must consult an adviser and must file a petition with the Admissions and Progressions Committee in sufficient time to be acted upon before registration for that quarter.

Petitions—The faculty has established certain regulations to assist students in acquiring a sound professional education in nursing and to facilitate the operations of the school. These rules are believed to be in the best interests of the majority of students, but

occasionally they may not suit the educational needs of a particular individual. In this event, students may ask for exemption from a regulation through petition to the Admissions and Progressions Committee.

Petitions concerned with exceptions to course and school regulations should be submitted in the quarter preceding the quarter for which the action is needed. Petitions concerning a course to be taken should be submitted before registering for the course. Petitions from Level II students regarding a graduation requirement must be submitted at least four months before graduation.

Petition forms are available in the School of Nursing Office of Student Services lobby. A petition should be reviewed, recommended, and signed by an adviser before being submitted to the Admissions and Progressions Committee. If the student desires, she or he can discuss the request with a committee representative. When the committee has taken action, the student and the adviser will be informed of the decision.

Voluntary Withdrawal or Leave of Absence—To withdraw from a single course, a student follows the change of registration procedure already described.

Students who want to drop all of their courses after having registered should:

1. Complete a Course Request form.
2. Have an adviser sign the form.
3. File at the School of Nursing Records

Office a written statement of the reasons for the withdrawal and plans, if any, for continuing their education.

4. Petition for a leave of absence if they plan to return the following quarter.

Students who officially cancel after the second week of a quarter receive withdrawal (W) grades for all courses identified on the Course Request form. Students who do not register for the following quarter will be considered to have withdrawn from the School of Nursing.

Students in good standing who voluntarily withdraw may later apply for reentry to the School of Nursing. The decision on granting

permission to reenter will depend upon several factors (see Reentry below).

Reentry—Students who have withdrawn from the nursing program, for whatever reason, and later wish to reenter must seek prior authorization from the school. A letter requesting permission to reenter the baccalaureate program must be submitted to the chairperson of the Admissions and Progressions Committee at least three months in advance of the quarter for which registration is desired. Each applicant must provide information necessary to support the request.

Admissions and Progressions Committee action is required on reentry petitions from individuals who previously withdrew in good standing, were required to withdraw, or voluntarily withdrew because of limited academic progress. Students with leaves exceeding two years must reapply to the School of Nursing. The decision on reentry will take into account current availability of needed learning opportunities and the school's resources for serving additional students. Placement upon reentry will be determined by the director of Student Services.

In view of possible changes in the curriculum, students seeking reentry may be asked to update their knowledge in some areas to meet new requirements, and this may result in additional coursework.

Access to Student Educational Records—Students may inspect their nursing program records in the School of Nursing Records Office, 5-160 Health Sciences Unit F. While students are reviewing their records, a faculty or staff member will be present.

Grievances—The school's policies and procedures conform to those adopted by the University Senate.

Graduation

Students may complete degree requirements in any term of the academic year or summer session. Prospective graduates must complete an Application for Degree in 150 Williamson

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Hall at least two quarters before the expected graduation date.

Professional Licensure—Examinations for state licensure may be taken after all program requirements have been completed and the degree awarded, or during the last quarter of enrollment if all nursing courses have been completed before the last quarter. Applications for examination are obtained from the Minnesota Board of Nursing (or the state in which the examination will be taken). Policies and procedures relating to licensure are formulated by boards of nursing; any questions should be directed to the appropriate board. Deadlines established for applications are strictly observed.

Two Baccalaureate Degrees and Academic Minors

Students may earn the B.S.N. and a bachelor's degree or a minor from another University unit concurrently. To do so, they must meet all requirements for both units, which may involve additional time for study. Students wishing to complete two baccalaureate degrees or a minor should consult with an adviser in the other unit as well as their School of Nursing adviser.

RN/B.S.N./M.S.

The School of Nursing offers a program for registered nurses who have either a diploma in nursing from an accredited hospital nursing program or an associate degree in nursing from an accredited two-year college. RNs in the program complete a baccalaureate degree and are encouraged to complete a master's degree.

In this program the registered nurse has both an undergraduate and graduate adviser who help design the program to meet individual goals and objectives. The coursework includes required nursing courses, nursing courses of the student's choice, and elective courses (including Extension and independent study). Students may apply to the M.S. program as they near

completion, 10 credits or less remaining, of the B.S.N. program. Full- or part-time study is available in either degree program.

Qualifications

- A.D. or diploma nursing education from an accredited program
- licensed as a registered nurse
- two years of experience as a registered nurse
- evidence of high scholastic achievement (a minimum GPA of 2.80 is preferred)
- acceptable scores on the Graduate Record Examination
- three references
- profile statement

The Program

Nursing Major (total 90 cr)

Total transferable nursing credits will be determined by the School of Nursing. The range is generally up to 40 credits for diploma nursing programs and up to 45 credits for associate degree programs.

Required nursing credits (26 cr)

Nurs 5214—Expansion of Perspectives in Nursing I (4 cr)

Nurs 5215—Expansion of Perspectives in Nursing II (4 cr)

Nurs 5450—Introduction to Public Health (3 cr)

Nurs 5440—Core Concepts in Community Health and Long-Term Care (4 cr)

Nurs 5460—Leadership/Followership/Management (includes a leadership experience) (4 cr)

Nurs 5462—Professional Issues in Nursing (2 cr)

Nurs 5443—Practicum: Individuals/Groups/Populations (clinical in community health) (5 cr)

Nursing electives (19 cr)

Liberal education (total 90 cr)

To satisfy the liberal education requirements, the following minimum requirements must be met. Please refer to page 14 for information on the new liberal education requirements effective fall 1994.

Liberal arts education credits transferred in to satisfy the following requirements (40-45 cr):

- Upper division writing course (4 cr)
- Group A: Language, Logic, Mathematics, and the Study of Argument (8-10 cr)
- Group B: The Physical and Biological Universe (12-15 cr)
- Group C: The Individual and Society (16-20 cr)
- Group D: Literary and Artistic Expression (12-15 cr)
- Liberal Arts upper division courses (12 cr)

Students must complete a total of 180 credits to earn the B.S.N. degree.

Interested RNs may contact the School of Nursing Recruitment Office for more

information on the program and admission requirements (612/624-9494).

Graduate Study in Nursing

Graduate study leading to the M.S. and Ph.D. degrees with a major in nursing is available for qualified candidates. The M.S. degree is offered under both Plan A and Plan B. See the *Graduate School Bulletin* for a complete description of the programs. Nurses who are doctoral students majoring in another discipline may choose nursing either as a minor or as a part of a supporting field. For more information contact the Director of Graduate Studies, School of Nursing, 6-101 Health Sciences Unit F, University of Minnesota, 308 Harvard Street S.E., Minneapolis, MN 55455 (612/624-9600).

Continuing Education

Continuing education coursework in nursing fosters intellectual curiosity and growth. A progression of contemporary, challenging, and flexible learning experiences that make use of a wide variety of academic,



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professional, and community resources is offered. The courses are presented to help maintain and improve the quality of professional practice statewide, carrying out a mission of the school and of the other University health sciences. The emphasis of these offerings is on the further development of professional practice.

Continuing education offerings of the School of Nursing currently include:

- Degree credit courses offered through Continuing Education and Extension in evening school, off campus, or through independent study;
- Seminars, workshops, and conferences offered through the Department of Continuing Education, for which continuing education units (CEUs) are granted; and

- Offerings through cooperative efforts with other University divisions or departments or with professional organizations, institutions, or groups.

Some courses that are prerequisites for admission to School of Nursing programs may be offered by Continuing Education and Extension through evening classes or independent study. Prospective students who plan to take such courses are urged to consult with the prenursing adviser in CLA or with a graduate adviser in the School of Nursing. See the *Continuing Education and Extension Bulletin* and the *Extension Independent Study Bulletin* for course offerings.

Course Descriptions



Course Descriptions

The following courses are taught by the School of Nursing faculty or by cooperating faculty from other educational units of the University. Meeting hours, days, and rooms for these courses are listed in the quarterly *Class Schedule* or are announced to students by the School of Nursing Records Office/faculty.

Descriptions of the required courses that are taught by other educational units of the University are found in the bulletins of those units.

Course Numbers and Symbols

Courses primarily for freshmen and sophomores are numbered 1000 through 1998; for juniors and seniors, 3000 through 3998; for juniors, seniors, and graduate students, 5000 through 5998. Courses numbered 8000 and above are open only to graduate students. The following symbols are used throughout the descriptions:

- ¶ Concurrent registration is allowed (or required) in the course listed after this symbol.
- # Registration Override Permit, completed and signed by the instructor is required for registration.
- , In prerequisite listings, comma means "and" (e.g., "prereq 1101, 1102 or 1103" means the prerequisites are 1101 and either 1102 or 1103).

Note: Course prerequisites do not necessarily apply to RN/B.S.N./M.S. students.

Nursing (Nurs) Courses

1001. CHALLENGE OF NURSING. (2 cr)
Overview of the profession through discussions, demonstrations, tours, lectures, interactive experiences. A view of contemporary nursing and its historical roots and stages. Career opportunities and challenges.

5000. CORE CONCEPTS IN NURSING. (4 cr; prereq ¶5021)
Introduction to profession of nursing and concepts of health, person, environment, and nursing as components of the nursing paradigm. Content strands, including adaptation, nursing process, research process, professional development, and ethics.

5021. PRACTICUM: ILL ADULTS. (3 cr; prereq ¶5000, ¶pathophysiology, ¶pharmacology)
Development of psychomotor skills to implement selected nursing functions. Synthesis of this content with knowledge from didactic and supportive courses to assess and intervene in simulated situations and with clients in acute care environments.

5040. RESTORATION AND ENHANCEMENT OF HEALTH IN THE ACUTELY ILL ADULT. (4 cr; prereq 5000, 5021, pathophysiology, pharmacology, ¶5042, 5212)
Paradigm (concepts of health, person, environment, and nursing) and content strands (adaptation, nursing process, research process, professional development, and ethics). Concepts of stress, crisis, and loss. Adults experiencing a variety of disruptive events.

5041. PRACTICUM: ACUTELY ILL ADULTS. (7 cr; prereq ¶5040)
Application of concepts and skills from nursing and supportive courses to the care of adult clients. Practice of additional psychomotor skills in simulated and actual acute care settings.

5042. INTERPERSONAL COMMUNICATIONS. (2 cr; prereq admission to School or #)
Continuation of nurse/client relationship introduced in Nursing 5000. Promotion of students' interpersonal competence in therapeutic interaction with clients experiencing stress and loss.

5140. RESTORATION AND ENHANCEMENT OF HEALTH IN THE ACUTELY ILL ACROSS THE LIFE SPAN. (4 cr; prereq 5040, ¶5042)
Continuation of paradigm and content strands with emphasis on how developmental level and group/family membership affect illness and health in children and aged. Ethical issues regarding vulnerable clients and such multiple roles of the nurse as a member of a profession, a worker in an organized delivery system, and a consumer of research.

5141. PRACTICUM: ILL CHILDREN/AGED. (8 cr; prereq ¶5140)
Application of concepts and skills to the care of acutely ill children, aged, and their family/support groups in simulated and actual acute care settings. Analysis of impact of acute care environment and use of research outcomes, ethical principles, and health teaching in the practice of nursing.

5142. ADVANCED INTERPERSONAL COMMUNICATIONS. (2 cr; prereq 5042, admission to School or #)
Interaction with clients who have difficulty in communicating/relating because of psychological/physical problems and with staff who are members of a health team. Modification of communication strategies because of developmental status.

5214. EXPANSION OF PERSPECTIVES IN NURSING I. (4 cr; prereq RN, admission to School)
Emphasizes interface between course content, individual experience, and goals for professional practice. Expand and refine definition of nursing and the framework within which to practice.



5215. EXPANSION OF PERSPECTIVES IN NURSING II. (4 cr; prereq RN, admission to School, 5214)

Exploration of nursing theories and expansion of selected concepts and perspectives on person, health, and environment.

5216. EXPANSION OF THE CLINICAL ROLE OF THE RN. (3 cr; prereq RN, 5214, 5215)

Clinical course; analyze an experience/phenomenon common to a population of patients, select a nursing conceptual framework, and test nursing interventions. Multiple dimensions of the professional role explored.

5240. CORE CONCEPTS IN CRITICAL CARE.

(5 wks) (6 cr; prereq 5140, 5141, 5142)
Core knowledge underlying nursing of critically ill children or adults, including technological life support. Paradigm and content strands in critical care settings. Holistic approach to clients, families, and management of environment. Refinement of clinical judgment-making skills through client simulations.

5241. PRACTICUM: CRITICALLY ILL INFANTS, CHILDREN, OR ADULTS. (5 wks) (7 cr; prereq 5240)

Experience in caring for critically ill children or adults under supervision of a preceptor. Clinical decision making, ethical aspects of critical care, and impact of critical care environment on clients, families, and staff.

5420. APPLIED CLINICAL RESEARCH. (3 cr; prereq 5440)

Experience in the research process through involvement in the design and direction of a limited study that focuses on implications for nursing practice.

5440. CORE CONCEPTS IN COMMUNITY HEALTH AND LONG-TERM CARE. (4 cr; prereq 5450, 5241)

Continuation of content strands and paradigm with emphasis on concepts of health and chronicity. Health assessment of family and community within the structure of current health care delivery system. Professional role of nurse in community with research- and population-based focus on health enhancement and long-term care.

5441. PRACTICUM: FAMILIES WITH CHILDREN. (15 wks) (8 cr; prereq ¶5440, ¶5445)

Application of paradigm and content strands to care of families with children. Physical, psychosocial, and cultural patterns characteristic of childbearing and child rearing cycles. Sociopolitical aspects of health care for families with children. Nursing's primary role of health enhancement and client advocacy within the context of family-centered care. Experience with a diversity of clients and clinical settings.

5443. PRACTICUM: INDIVIDUALS/GROUPS/POPULATIONS. (2 qtrs) (10 cr; prereq ¶5440, ¶5445)

Application of paradigm and content strands to care of individuals, groups, and populations with interventions appropriate to health enhancement and chronic physical and mental illness. Nursing's primary roles as care giver, case manager, and client advocate for individual and populations. Experience with a diversity of clients and clinical settings.

Course Descriptions

5445. HEALTH ASSESSMENT. (3 cr; prereq 5000, 5021, # for RN students)
Assessing health status and structuring a holistic database using history taking and physical assessment. Patterns of behavior reflecting health and health disruptions. Applying interview and physical assessment skills using a systematic process.

5450. PUBLIC HEALTH. (3 cr; prereq admission to School or #)
Introduction to history, philosophy, methods, and issues of public health. Key concepts and tools of epidemiology and relationship of public health to health care systems.

**5460. LEADERSHIP/FOLLOWERSHIP/
MANAGEMENT.** (4 cr; prereq 5440)
Synthesis of leadership, followership, management theories. Analysis of nursing leadership and innovation in context of nursing history, theories of change, and forces affecting nursing in the health care delivery system. Selected opportunities for application of theory.

5462. PROFESSIONAL ISSUES. (2 cr; prereq 5440)
Key issues affecting professional nursing practice, including legal, ethical, political, economic, and legislative factors. Selected opportunities for application of theory.

5480. SPECIAL TOPICS. (2 cr; prereq admission to School or #: registration by qtr 7)
Focus on selected topical issues in health care.

For Graduate Students

Please refer to the *Graduate School Bulletin* or call the School of Nursing for information (612/624-4454).

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Administration and Faculty

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Debra Olson, M.P.H.
Janice Kathleen Olson, M.S., M.Ed.
Rita Kathleen O'Reilly, M.S., C.N.M.
Sharon Page, M.S.N.
Pamela Parker, M.P.A.
Ethel Pastarr, M.S., C.N.M.
Jane Persoon, M.S.
Helen K. Pitt, M.P.H.
Roberta Rae Poirier, M.S., C.N.M.
Jody Bauman Portu, M.S.
Mary Pynn, M.S.

Ruth E. Rabenhorst, M.S., C.N.M.
K. Ann Rabie, M.Ed.
Beth Reinhart, M.S., C.N.M.
Laurel J. Riedel, M.S., C.N.M.
Laura Risom, M.S., C.N.M.
Cheryl Robertson, M.P.H.
Ann L. Ropp, M.S.
Joni W. Ruhland, M.S., C.N.M.
Colleen Rusch, M.S., C.N.M.
Jill Sandeen, M.S.
Nancy Schamber, M.S., C.N.M.
Barbara Joan Schroeder, M.S.
Patricia Shaver, RN
Nahid Shokohi, M.S., C.N.M.
Kate Slattery, M.S.
Mary Steffes, M.S.
Mary Sumpmann, M.S.
Mary Swanson, M.S.
Judith Szalapski, M.S.
Margaret Taylor, M.S., C.N.M.
Susan Tighe, M.S., C.N.M.
Jane Torkelson, M.S.
Jacqueline L. Tornoe, M.S., C.N.M.
Carolyn C. Torp, M.S.
Eileen Turner, M.S., C.N.M.
Karen VonRuden, M.S., C.N.M.
Dorothy A. Wallevand, M.S., C.N.M.
Nancy DeZellar Walsh, M.S.
Beth Webster, M.S.
Phyllis Wernz, M.S., C.N.M.
Bonnie Westra, M.S.N.
Stephanie Wiley, M.S., C.N.M.
Patricia C. Wilson, M.S., C.N.M.
Ruth Wingeier, M.S., C.N.M.
Judy Wulf, M.S.
Kate Zatloukal, M.S.
Lynn Zdechlik, M.S.
Jacinta L. Zehrer, M.S.
Rebecca Zuckweiler, M.S.

Teaching Specialist

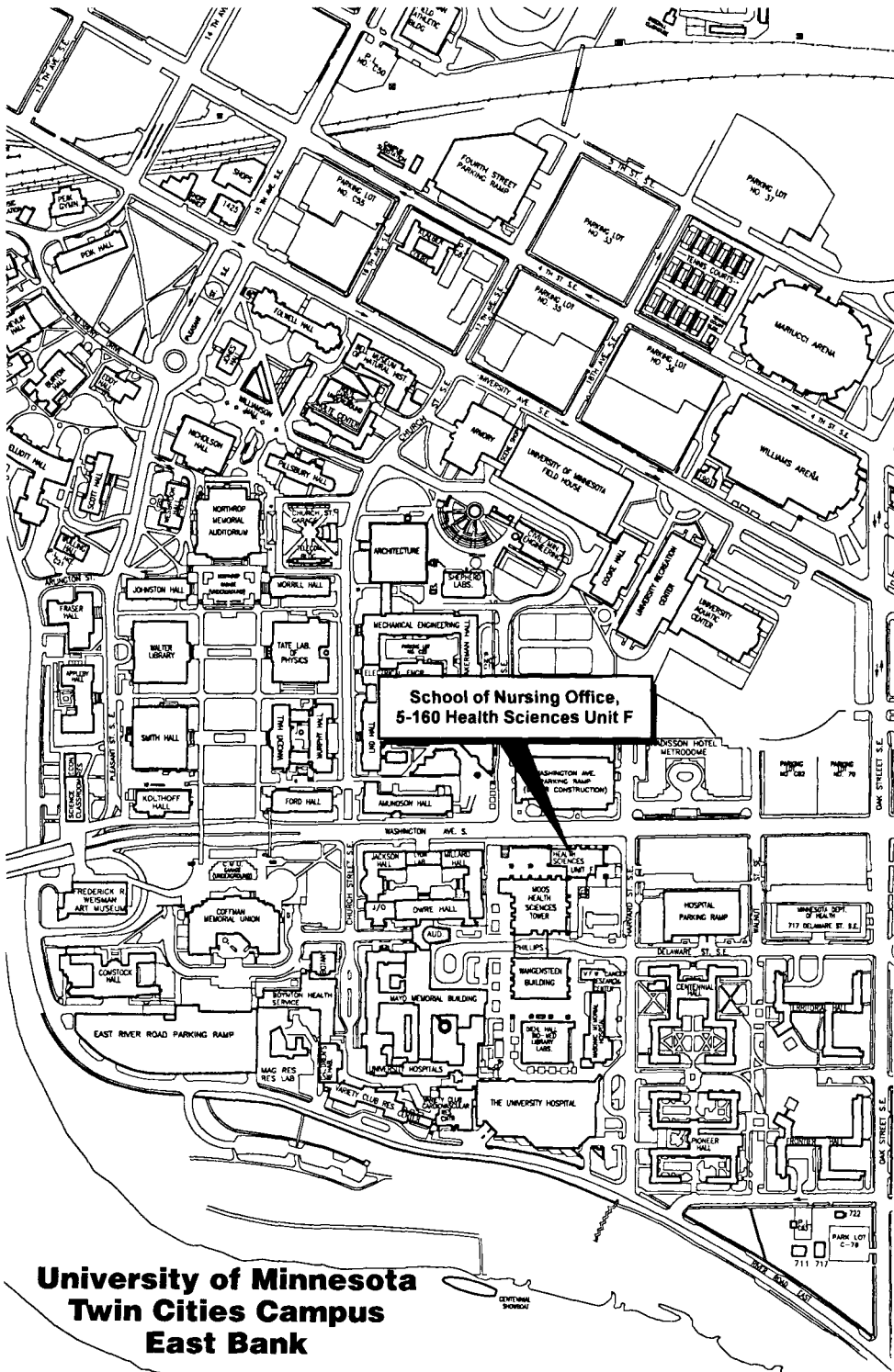
Deborah Bergman, M.C., C.N.M.
Connie I. Diercks, C.N.M.
Mary Joan Rourke, C.N.M.
Marsha Travis, M.S., C.N.M.
Edith L. Ziegler, C.N.M.

Clinical Preceptor

Nancy M. Staheli, C.N.M.
Michelle G. Stegeman, C.N.M.

Lecturer

Ethel Pastarr, M.S., C.N.M.



School of Nursing Office,
5-160 Health Sciences Unit F

**University of Minnesota
Twin Cities Campus
East Bank**

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Mailing Address

Admissions Office
School of Nursing
5-160 Health Sciences Unit F
University of Minnesota
308 Harvard Street S.E.
Minneapolis, MN 55455
612/624-4454

Resource Directory

The following campus offices may be helpful and should be contacted through the University of Minnesota, Minneapolis, MN 55455.

(area code 612)

Office of Admissions
240 Williamson Hall
231 Pillsbury Drive S.E.
625-2008

Office of Student Financial Aid
210 Fraser Hall
106 Pleasant Street S.E.
624-1665

Residency and Reciprocity
240 Williamson Hall
231 Pillsbury Drive S.E.
625-6330

International Student and Scholar Services
20 Nicholson Hall
216 Pillsbury Drive S.E.
626-7100

Disability Services
16 Johnston Hall
101 Pleasant Street S.E.
624-4037 voice or TTY

Housing Services
Comstock Hall East
210 Delaware Street S.E.
624-2994

Student Employment Center
120 Fraser Hall
106 Pleasant Street S.E.
624-8070

American Indian Learning Resource Center
125 Fraser Hall
106 Pleasant Street S.E.
624-2555

Asian/Pacific American
Learning Resource Center
306 Walter Library
117 Pleasant Street S.E.
624-2317

African American Learning Resource
Center
323 Walter Library
117 Pleasant Street S.E.
625-1363

Chicano/Latino Learning Resource Center
333 Walter Library
117 Pleasant Street S.E.
625-6013

Extension Class Information
101 Wesbrook Hall
77 Pleasant Street S.E.
625-3333

Postal Statement

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College of Pharmacy

UNIVERSITY OF MINNESOTA

PROGRAMS AND COURSES

1994-1995



Rx



New Doctor of Pharmacy Program

Rx

Pharm

This publication contains information about the new doctor of pharmacy program adopted by the College of Pharmacy faculty in October 1993 and scheduled to begin fall 1995. Course descriptions are preliminary and subject to change.

Rx

College of Pharmacy

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| 4 | Introduction |
| 5 | General Information |
| 11 | Pharmacy Curricula |
| 15 | Department and
Course Descriptions |
| 21 | Resources, Publications,
and Policies |
| 24 | Campus Map |
| Inside back cover | Index |



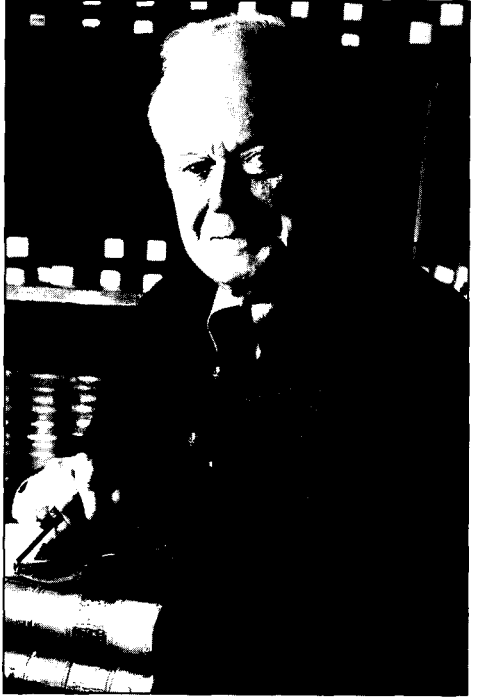
More than 8,000 Minnesota schoolchildren gathered on the University of Minnesota campus spring quarter 1993 to "Build a New World" in front of Northrop Auditorium with the help of 250 Institute of Technology alumni and students. The 1:1,000,000 scale model of the earth was 42 feet in diameter.

A Message from the Dean

You have already made one excellent decision. You chose to continue your formal education. Your next challenge is to find a career that will allow you to have a fun and productive life. We're glad you're interested in pharmacy. We will do our best to help you learn about the variety of opportunities available to you with a professional doctor of pharmacy degree. This variety makes changes in the direction of your career possible as you gain experience.

Our college has a history of leadership. We consistently rank among the top five colleges of pharmacy in this country. We are noted for being on the frontier of what is happening in pharmacy and our international involvements are important to the emerging global society.

Pharmacy is a caring profession. Thus, the choice of a pharmacy career will be rewarding to you as you contribute to people's health. Spend the time necessary to get your questions answered. We want you to be happy with your decision.



Lawrence C. Weaver

Lawrence C. Weaver
Interim Dean, College of Pharmacy

Introduction

Mission

The College of Pharmacy educates pharmacy practitioners to meet the pharmaceutical care needs of the people of Minnesota and the rest of society. The college is committed to improving human health through the development of new drugs and drug delivery systems, optimization of drug use, and improvement of pharmaceutical services. It is committed to advancing pharmaceutical technology to strengthen the economy of Minnesota.

Overview

The University of Minnesota College of Pharmacy is recognized as one of the outstanding pharmacy education and research institutions in the world. It is ranked among the top five colleges of pharmacy in the United States. As the only pharmacy college in the state, it has served an essential function throughout its more than 100 years of existence. The advanced level of the practice of pharmacy in Minnesota and the international leadership of its graduates reflect the high quality of the college's

programs. The college is accredited by the American Council on Pharmaceutical Education.

In addition to providing a solid foundation in the pharmaceutical sciences, the college is a national leader in clinically oriented professional education programs. The college's programs offer training at many sites with varied patient populations, overseen by faculty practitioners. A new program will begin fall 1995. This curriculum enhances the integration between basic and clinical science courses and provides more flexibility to pursue specific areas of interest within pharmacy.

The College of Pharmacy has 60 full-time and more than 200 volunteer faculty, and offers courses in three disciplines: medicinal chemistry, pharmaceuticals, and pharmacy practice.

The college is housed in a building designed specifically for professional education and research. This modern facility is part of the University of Minnesota Health Sciences Center. Pharmacy students have access to more than 350,000 volumes of pharmacy resource materials.



Drug Release from microcapsules

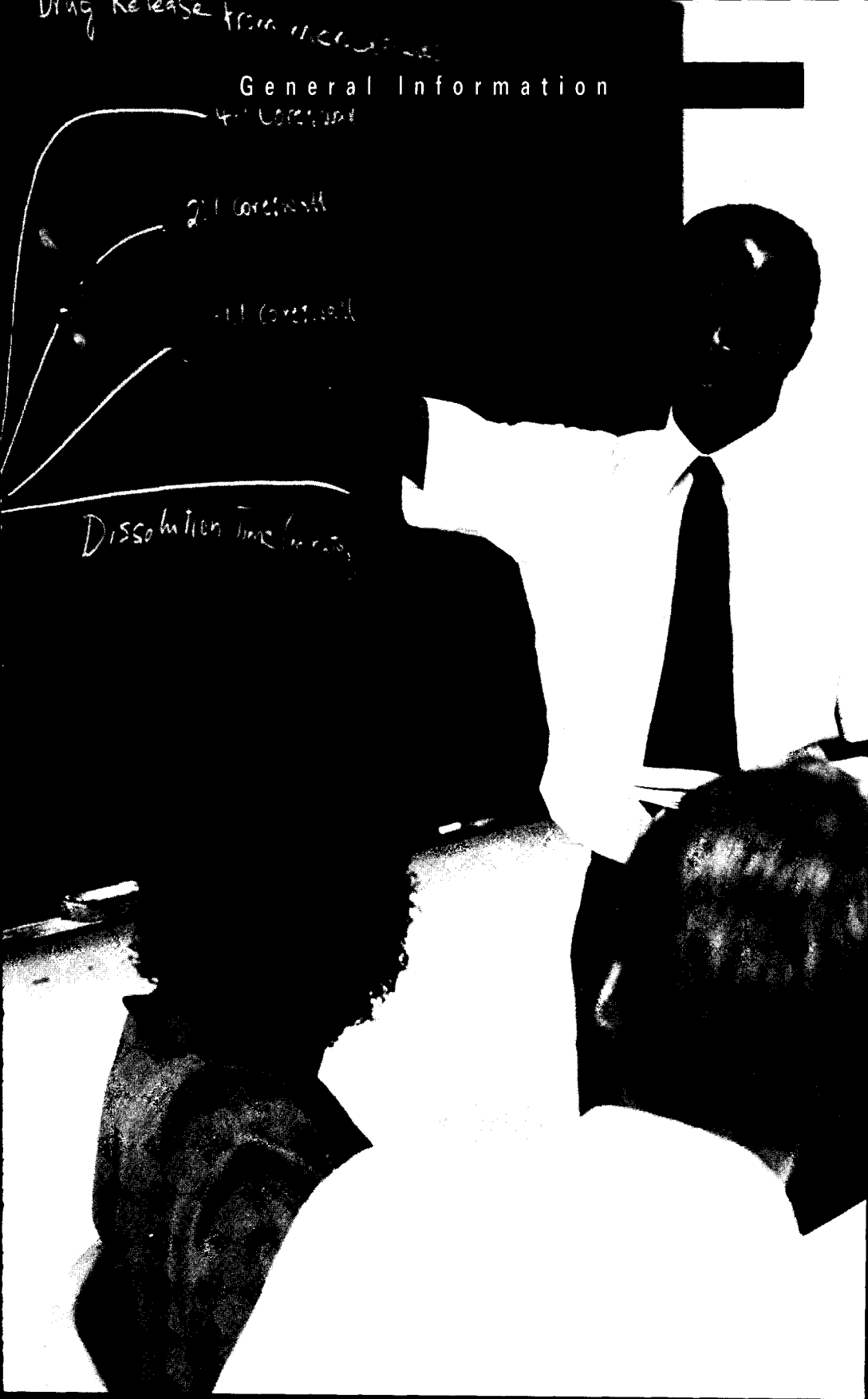
General Information

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General Information

Programs of Study

Entry-level Doctor of Pharmacy

(Pharm.D.) Program—Before enrolling in the college, students complete prepharmacy coursework at an accredited college. Students entering the college fall 1995 will complete the new four-year doctor of pharmacy (Pharm.D.) program. The required coursework listed in the Curricula section of this publication is offered on a full-time day school basis. The Pharm.D. program prepares pharmacists to identify, resolve, and prevent drug-related problems. These practitioners provide drug therapy to achieve positive outcomes that improve the quality of a patient's life.

Postbaccalaureate Doctor of Pharmacy

(Pharm.D.) Program—This program is open to applicants who hold a B.S. in pharmacy. The program enriches the experience and knowledge base of pharmacists to enable them to practice at an advanced level. For applicants who have a B.S. in pharmacy from a U.S. college of pharmacy, the Pharm.D. program requires two years of full-time study (day school only). An additional year of study is generally required of students who hold a B.S. in pharmacy from a non-U.S. college of pharmacy. The required coursework is listed in the Curricula section of this publication.

Postgraduate Fellowship and Residency Programs

—The postgraduate fellowship programs in pharmacy practice prepare clinical scientists to become leaders in drug research. The residency programs provide advanced training in specialty practices, including pharmacy administration.

Candidates for fellowships and most residencies must have a Pharm.D., M.S., or Ph.D. and equivalent clinical experience; be eligible for licensure to practice pharmacy in Minnesota; and meet other qualifications specific to the program for which application is made. Some residencies are available to candidates who have a B.S. in pharmacy. Call the Pharmacy Practice Department at (612) 624-2112 for information.

Graduate Programs—College of Pharmacy graduate programs for the M.S. and Ph.D. degrees are offered through the Graduate School in medicinal chemistry, pharmaceuticals, hospital pharmacy (M.S. only), and social and administrative pharmacy. Detailed information about these programs can be found in the *Graduate School Bulletin*.

Advising

The College of Pharmacy provides counseling and advising services to students. Staff advisers in the Office of Student Affairs approve registration forms, discuss academic difficulties, and counsel students who have personal concerns. In addition to this assistance, each student is assigned a faculty adviser. Faculty advisers help students select elective courses, discuss career opportunities, and provide guidance regarding academic problems.

Honors Program

The Honors Program provides interested students with opportunities to interact with faculty, develop specialized skills, learn about research, and enhance their professional development. Graduating students who have completed at least five honors options will graduate with the honors designation of *cum laude* (GPA 3.25-3.49), *magna cum laude* (GPA 3.50-3.79), or *summa cum laude* (GPA 3.80-4.00).

Off-Campus Course Requirements

Students must complete externships and clerkships as part of their required courses. These practice experiences are conducted at a variety of community and hospital sites in the Minneapolis/St. Paul metropolitan area as well as locations throughout the state. Students are responsible for arranging their own transportation to these sites and should expect to incur additional expenses during this time.

Admission Requirements

Entry-level Doctor of Pharmacy (Pharm.D.) Program—Applicants to the entry-level Pharm.D. program must complete prepharmacy requirements before entering the college. Required prepharmacy courses must be taken A-F and completed with a minimum grade of C before enrollment. Applicants to the entry-level program must have an overall GPA of 2.60 or better to be considered for admission. Nontransferable courses include physical education, word processing, orientation, repeated, and remedial courses.

In addition to the prepharmacy course requirements, students must complete at least 45 quarter credits of general education (nonscience, nonmathematics, nonprofessional) courses, including at least 8 credits of literary and/or artistic expression before graduation. Prepharmacy credits earned in behavioral science, English composition, microeconomics, and public speaking apply toward the general education requirement. It is recommended that this

requirement be completed before entering the college. General education courses that do not fulfill prepharmacy requirements may be taken S-N (pass/fail).

Students who complete a physiology course before enrolling in the college and wish to gain exemption from the pharmacy physiology course must pass a competency examination that is offered in the fall of the first professional year.

Postbaccalaureate Doctor of Pharmacy (Pharm.D.) Program—Applicants to this program must have professional GPAs of 2.80 or better to be considered for admission. Applicants who have a B.S. in pharmacy from a non-U.S. college must complete the entry-level Pharm.D. prepharmacy and general education/artistic expression course requirements listed above.

Application Procedures

Applications to the College of Pharmacy are available from the College of Pharmacy, Office of Student Affairs, 5-110 Health

Prepharmacy Course Requirements

Biology

- General biology, including lab 1 course
- Anatomy, including lab 1 course
- Microbiology, including lab 1 course

Calculus I and II 2 courses

Chemistry

- General chemistry, including labs sufficient to qualify for organic
- Organic chemistry, including labs one year

Physics

- General physics, including labs entire introductory sequence

Behavioral science

- Courses dealing with human behavior in society (e.g. psychology, sociology, anthropology) 2 courses

English composition 2 courses

Microeconomics 1 course

Public speaking 1 course

General Information

Sciences Unit F, University of Minnesota, 308 Harvard Street S.E., Minneapolis, MN 55455 (612/624-9490). Application materials are available in September and are accepted November 1 through March 1 of the academic year preceding the year of desired admission. Students are admitted to the college fall quarter only.

All applicants must submit a University of Minnesota College of Pharmacy application, a \$30 nonrefundable application processing fee, an official transcript from each college attended (including A-level examination results from other countries), and three recommendation forms. Applicants to the postbaccalaureate Pharm.D. program must submit a current curriculum vitae. International applicants must complete a Financial Certification Statement. The Pharmacy College Admission Test (PCAT) is not required.

Applicants who are nonnative English speakers must meet the college's requirements for written and spoken English. Written English skills are evaluated using results of the Test of English as a Foreign Language (TOEFL) or the Michigan English Language Assessment Battery (MELAB). Spoken English skills are evaluated using results of the Speaking English Assessment Kit (SPEAK) or the Test of Spoken English (TSE). English language standards for nonnative English-speaking applicants for fall 1995 will be available after September 1, 1994. For more information, contact the College of Pharmacy Office of Student Affairs at (612) 624-9490.

The Admissions Committee, which is composed of four faculty members and one student member, evaluates applicants whose application documents are all received by March 1 and GPAs meet the minimum requirement. Admission criteria include academic achievement, work experience, leadership/student involvement, recommendations, and a goals statement. In 1993, the range of GPAs of admitted applicants was 2.94 to 4.00.

Tuition Deposit—Applicants admitted to the college are required to pay a \$250

nonrefundable tuition deposit to hold a position in the class. The deposit is due in full by May 1 along with a signed Declaration of Intent form. The tuition deposit will be applied to students' fall quarter tuition. The deposit will not be refunded to applicants who do not enroll in the year for which they have been admitted nor is it transferable to another application cycle.

Transfer Students—Students wishing to transfer from another pharmacy college must fulfill all admission requirements. Professional courses completed at another college will be evaluated for equivalency to University of Minnesota College of Pharmacy professional coursework. Transfer students must spend a minimum of one year in residence at the University before qualifying for a degree.

Adult Special Students—Pharmacists licensed in the United States may apply for adult special status in the College and complete up to three College of Pharmacy courses. Contact the Office of Student Affairs at (612) 624-9490 for information. Adult special students who wish to enter a degree program must apply for admission following the application process outlined above.

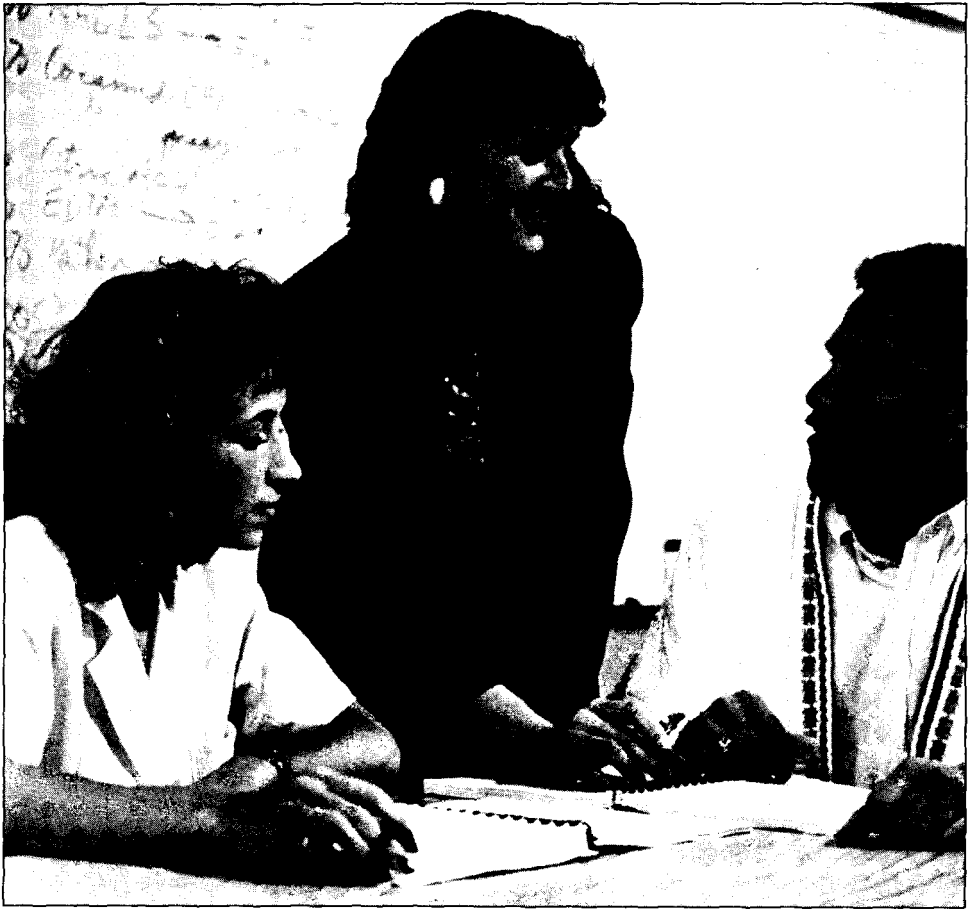
Tuition and Fees

The figures below are for the 1993-94 academic year. Future increases are possible.

Resident tuition	\$4,850
Nonresident tuition	\$9,700
Student services fee	\$400
Books and supplies	\$1,600

The above expenses do not include room and board, laundry and clothing, health insurance, recreation, travel, and other personal expenses.

Minnesota has tuition reciprocity agreements with Kansas, Michigan, Missouri, Nebraska, North Dakota, South Dakota, Wisconsin, and Manitoba. Contact the residency counselor, 240 Williamson Hall (612/625-6330), for information.



Financial Aid

Applications for financial aid are available from the Office of Student Financial Aid, 210 Fraser Hall, University of Minnesota, 106 Pleasant Street S.E., Minneapolis, MN 55455. The Free Application for Federal Student Aid (FAFSA) should be filed as soon after January 1 as possible. Students may apply for financial aid before they are admitted to the college. For more information about types of financial aid available and the application process, call (612) 624-1665 or 1-800-400-8636 and ask to speak with a health professions financial aid counselor.

Scholarships—Four \$500 scholarships are awarded to high-ability entering students whose applications are complete by December 31. In addition, full-time pharmacy students may apply for approximately 60 College of Pharmacy scholarships that range from \$250 to \$2,500. Scholarship applications will be mailed to admitted students in the spring. The scholarships are awarded on the basis of scholastic achievement, financial need, professional goals, participation in college or community activities, and other criteria. To be considered for scholarships based on financial need, students must have a FAFSA on file in the Office of Student Financial Aid. The college's Scholarships, Fellowships, and

General Information

Awards Committee recommends scholarship candidates to the faculty for approval.

Scholarships are disbursed by the Office of Student Financial Aid and become part of the student's financial aid package. If a fully funded student receives a scholarship, other forms of assistance will be affected.

Minority and Disadvantaged Student Aid—High-ability minority and disadvantaged students who are Minnesota or reciprocity state residents are eligible for tuition scholarships. Minority students who are not residents of Minnesota or reciprocity states are awarded resident tuition rates.

Student Activities

Pharmacy students have opportunities for valuable experience and personal growth through activities outside the classroom. Students are encouraged to take an active part in a variety of student groups.

College Board—The Pharmacy College Board is the student government body. It acts as the students' representative and liaison and sponsors many all-college activities. Its purpose is to advance students' interest in the college through active student participation. It is composed of class representatives and leaders of all student organizations in the college.

Academy of Students of Pharmacy/Minnesota Pharmacists Association—The Academy promotes the professional needs of students at the local, state, regional, and national levels. It is actively involved in educational activities and legislative matters affecting the profession at the state and national levels.

Professional Societies—Three professional pharmacy societies are active in the college: Kappa Epsilon, Kappa Psi, and Phi Delta Chi. These groups sponsor activities involving students, the college, the profession, and the public.

Honor Society—Rho Chi, the national honor society of pharmacy, is represented at the University of Minnesota by the Mu Chapter.

During their second professional year, eligible students may be elected to membership by society members. Election to the society is based on scholarship, character, and conduct.

Leadership Society—Phi Lambda Sigma, the national pharmacy leadership society, promotes the development of leadership qualities in pharmacy students. After the first professional year, eligible students may be elected to membership by society members. Election to the society is based on dedication, service, and leadership in the advancement of pharmacy.

Faculty Committees—Students are appointed to most standing and ad hoc committees that govern the college.

Council for Health Interdisciplinary Participation (CHIP)—This health science student organization promotes the team approach to health care delivery through student services and community programs.

Career Development—The college offers a variety of career-oriented activities including career decision-making workshops, career options speaker panels, an annual job fair, internship and postgraduate job listings, and résumé writing and interview skills presentations.

Requirements for Minnesota Licensure

Graduates of the Pharm.D. program are eligible to take the state licensure examination to practice pharmacy. The Minnesota Board of Pharmacy meets twice each year to examine candidates for licensure to practice pharmacy in Minnesota. State law requires that candidates for examination for licensure meet certain qualifications, including 1,500 hours of internship experience. For more information about licensure, call the Minnesota Board of Pharmacy at (612) 642-0541.



Pharmacy Curricula

Entry-level Doctor of Pharmacy Program

This curriculum is subject to change.
Course credits are listed in parentheses.

First Professional Year

Fall Quarter (14)

MChm 5151	Biochemistry I (4)
Phar 5811	Pharmaceutical Care I (4)
Phcy 5911	Pharmacy Clerkship I (1)
Phcy 5921	Pharmacy Lab I (1)
Phmc 5450	Introduction to Drug Delivery (2)
Phsl 3070	Neurophysiology (2)

Winter Quarter (18)

MChm 5152	Biochemistry II (4)
Phar 5830	Pharmacy and Health Care System (4)
Phcy 5912	Pharmacy Clerkship II (1)
Phcy 5922	Pharmacy Lab II (1)
Phmc 5451	Drug Delivery I (3)
Phsl 5100	Systems Physiology (5)

Spring Quarter (18)

MChm 5161	Therapeutic Agents I (3)
MChm 5170	Pharmaceutical Biotechnology (2)
Phar 5812	Pharmaceutical Care II (4)
Phar 5821	Pharmacotherapy I (3)
Phcy 5913	Pharmacy Clerkship III (1)
Phcy 5923	Pharmacy Lab III (1)
Phmc 5452	Drug Delivery II (4)

Second Professional Year

Fall Quarter (17)

MChm 5162	Therapeutic Agents II (2)
MChm 5172	Pharmaceutical Microbiology and Immunology (3)
Phar 5822	Pharmacotherapy II (2)
Phcl 5101	Pharmacology I (5)
Phcy 5924	Pharmacy Lab IV (1)
Phmc 5460	Pharmacokinetics (4)

Winter Quarter (18)

MChm 5163	Therapeutic Agents III (3)
MChm 5164	Therapeutic Agents IV (3)
Phar 5823	Pharmacotherapy III (4)
Phar 5824	Pharmacotherapy IV (3)
Phcl 5102	Pharmacology II (3)

Phcy 5914	Pharmacy Clerkship IV (1)
Phcy 5925	Pharmacy Lab V (1)

Spring Quarter (18)

MChm 5165	Therapeutic Agents V (2)
Phar 5825	Pharmacotherapy V (5)
Phar 5832	Statistics and Drug Literature Evaluation (3)
Phmc 5471	Biopharmaceutics I (3)
Phcy 5915	Pharmacy Clerkship V (1)
Phcy 5926	Pharmacy Lab VI (1)
Emphasis area course (3)	

Third Professional Year

Fall Quarter (15-18)

Phar 5826	Pharmacotherapy VI (5)
Phar 5834	Pharmacy Practice Management (4)
Phmc 5472	Biopharmaceutics II (2)
Phcy 5927	Pharmacy Lab VII (1)
Emphasis area courses (3-6)	

Winter Quarter (15-18)

MChm 5174	Nutrition (4)
Phar 5827	Pharmacotherapy VII (5)
Phar 5828	Pharmacotherapy VIII (5)
Phcy 5928	Pharmacy Lab VIII (1)
Emphasis area course (0-3)	

Spring Quarter (17)

Phar 5836	Ethical Issues in Pharmacy (2)
Required externships and/or clerkships (15)	
(See course descriptions for Phar 5840-Phar 5845)	

Fourth Professional Year

Summer Session

Required externships and/or clerkships
Emphasis area courses

Fall Quarter

Phar 5838	Pharmacy and the Law (2)
Required externships and/or clerkships	
Emphasis area courses	

Winter Quarter

Required externships and/or clerkships
Emphasis area courses

Spring Quarter

Required externships and/or clerkships
Emphasis area courses

Emphasis Areas

The first three years of the entry-level curriculum provide the fundamental components of pharmacy education needed to practice in a variety of pharmacy settings. The final year allows students to focus their education on their anticipated career pathway. Four emphases are offered: general pharmacotherapy, community and ambulatory pharmacotherapy, management, and research. Each emphasis has required and elective classroom and experiential courses. The culmination of a student's chosen emphasis area is the seminar and thesis.

Emphasis area requirements

	General Pharmacotherapy	Community and Ambulatory Pharmacotherapy	Management	Research
Required courses	Phar 5850 (3) Phar 5851 (3)	Phar 5851 (3) Phar 5852 (4) Phar 5853 (3) Phar 5854 (4)	Phar 5852 (4) or Phar 5855 (4) Phar 5856 (3) Phar 5857 (3)	12 credits
Required experiential courses	10 credits	Phar 5843 (5) Phar 5860 (5) Phar 5861 (5) Phar 5862 (5)	Phar 5862 (5) or Phar 5863 (5) Phar 5864 (5)	12 credits
Elective courses	9 credits	none	15-19 credits	0-11 credits*
Elective experiential courses	10 credits	none	none	0-11 credits *
Seminar	Phar 5890 (2)	Phar 5891 (3)	Phar 5892 (2)	MChm 5190 (2) or Phmc 5490 (2) or Phar 5893 (2)
Thesis	Phar 5895 (2)	Phar 5896 (2)	Phar 5897 (2)	MChm 5195 (2) or Phmc 5495 (2) or Phar 5898 (2)

* Eleven credits required between elective and elective experiential courses. The experiential component consists of not less than one-third or more than two-thirds of the research emphasis. Thesis credits are considered experiential credits.

Postbaccalaureate Doctor of Pharmacy Program

First-Year Postbaccalaureate (non-U.S. college of pharmacy graduates)

Students who have completed equivalent courses may submit documentation and request a waiver.

Fall Quarter

Phar 5321	Pharmacotherapeutics I (2)
Phar 5503	P/T Immune Diseases (2)
Phmc 5680	Pharmacokinetics (3)
General education courses	

Winter Quarter

Phar 5230	Pharmacy Law (2)
Phar 5303	Communications (2)
Phar 5322	Pharmacotherapeutics II (2)
General education courses	

Spring Quarter (16)

Phar 5295	Biostatistics (3)
Phar 5323	Pharmacotherapeutics III (3)
General education courses	

Summer Session (8)

Phar 5391	Community Externship (8)
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Second-Year Postbaccalaureate (non-U.S. college of pharmacy graduates)

First-Year Postbaccalaureate (U.S. college of pharmacy graduates)

Additional professional courses may be required, including pharmacokinetics (Phmc 5680), biostatistics (Phar 5295), and immune diseases (Phar 5503).

Fall Quarter (15)

Phar 5306	Clinical Toxicology (2)
Phar 5500	P/T Cardiovascular Diseases (4)
Phar 5504	P/T Gastrointestinal Disorders (2)
Phar 5505	P/T Kidney and Urinary Disorders (3)
Career tracking electives (4)	

Winter Quarter (15)

Phar 5506	P/T Fluid and Electrolyte Disorders and Shock (3)
Phar 5507	P/T Neoplastic Diseases (2)
Phar 5508	P/T Infectious Diseases (3)
Phar 5514	P/T Clinical Nutrition (1)
Phar 5516	P/T Endocrine and Reproductive Disorders (2)
Career tracking electives (4)	

Spring Quarter (16)

Phar 5308	Assessment of the Medicated Patient (1)
Phar 5501	P/T Pulmonary Diseases (3)
Phar 5502	P/T Nervous System (3)
Phar 5509	P/T Psychiatric Disorders (3)
Phmc 5685	Clinical Pharmacokinetics (2)
Career tracking electives (4)	

Third-Year Postbaccalaureate (non-U.S. college of pharmacy graduates)

Second-Year Postbaccalaureate (U.S. college of pharmacy graduates)

The final year of the postbaccalaureate Pharm.D. program begins during the summer and consists of 48 credits of externships and/or clerkships and a 2-credit seminar (Phar 5307).

Externship (not required of U.S. postbaccalaureate students)

Phar 5393	Hospital Externship (8)
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Required clerkships (20)

Phar 5550	Acute Care (12)
Phar 5551	Pharmacokinetics (4)
Phar 5552	Pediatrics (4)

Elective clinical clerkships (12-28)

See Phar 5553, 5555, 5556 course description.

Elective non-clinical clerkships (0-16)

See Phar 5554, 5557, 5558 course description.

Career Tracking Electives

Pharmacy students must complete 12 credits of career tracking elective coursework. They may select courses from three career tracks: pharmacy management, research, and pharmacy clinical practice. Students completing all career tracking elective coursework in one career track will have a transcript notation indicating their area of emphasis.

Department and Course Descriptions



Department and Course Descriptions

Departments

College of Pharmacy course offerings are arranged by topics within three departments.

The Department of *Medicinal Chemistry (MChm)* deals with the design and synthesis of new medicinal agents and the improvement of existing drugs. Medicinal chemistry courses provide the basis for understanding the relationship between molecular structure and biological activity of the major pharmacologic drug categories.

The Department of *Pharmaceutics (Phmc)* is concerned with all aspects of the development, design, manufacture, and evaluation of effective drug delivery systems and dosage forms. Pharmaceutics studies the relationship between drug levels in the body's tissues and fluids, and the rates and mechanisms of drug absorption, distribution, metabolism, and excretion. The Department of *Pharmacy Practice (Phar)* focuses on the drug use process. It uses scientific principles to provide drug therapy to achieve positive outcomes and improve the quality of a patient's life. Coursework concentrates on pharmacotherapy, the safety and effectiveness of medications, and the administrative, social, and public policy aspects of pharmacy practice. Courses that include topics from more than one department are listed under *Pharmacy Interdepartmental (Phcy)*.

Brief descriptions of courses listed in the curricula are provided below. Additional elective courses are available.

Entry-level Doctor of Pharmacy Courses

MChm 5151. BIOCHEMISTRY OF MEDICINALS I.
Biochemistry topics required for understanding pharmacodynamic action and therapeutic use of medicinal agents.

MChm 5152. BIOCHEMISTRY OF MEDICINALS II.
Continuation of MChm 5151.

MChm 5161. THERAPEUTIC AGENTS I.
Basic principles involved in drug design, metabolism, mechanisms of action, and receptor interaction.

MChm 5162. THERAPEUTIC AGENTS II.
Therapeutic properties and uses of autonomic, anti-allergic, antihistaminic, cardiovascular, and renal drugs.

MChm 5163. THERAPEUTIC AGENTS III.
Therapeutic properties and uses of drugs affecting the central nervous, endocrine, and intermediary metabolism systems.

MChm 5164. THERAPEUTIC AGENTS IV.
Therapeutic properties and uses of anti-infective agents.

MChm 5165. THERAPEUTIC AGENTS V.
Therapeutic properties and uses of antiviral and antineoplastic agents.

MChm 5170. PHARMACEUTICAL BIOTECHNOLOGY.
Biotechnology as it relates to basic and clinical pharmaceutical sciences with emphasis on monoclonal antibodies, recombinant DNA techniques, and the preparation and use of biotechnology-derived agents in the control and diagnosis of disease.

MChm 5172. PHARMACEUTICAL MICROBIOLOGY AND IMMUNOLOGY.
Microbiology and immunology as they relate to basic and clinical pharmaceutical sciences with emphasis on drug allergies, immunosuppressives, and the preparation of immunological agents in the control and diagnosis of disease.

MChm 5174. HUMAN NUTRITION AND DRUG THERAPY.
Basic concepts of human nutrition and clinical application.

MChm 5180. MEDICINAL CHEMISTRY CLERKSHIP.
Supervised research experience in medicinal chemistry.

MChm 5190. MEDICINAL CHEMISTRY RESEARCH SEMINAR.
Contemporary topics in medicinal chemistry research.

MChm 5195. MEDICINAL CHEMISTRY RESEARCH THESIS.
Final thesis describing medicinal chemistry research conducted.

Phmc 5450. INTRODUCTION TO DRUG DELIVERY.
Mathematics associated with dosage form design and the dispensing of drugs; the technology of common pharmaceutical dosage forms.

Phmc 5451. PRINCIPLES OF DRUG DELIVERY I.
Phenomenological and theoretical bases of equilibrium and steady-state processes controlling drugs and dosage forms.

Phmc 5452. PRINCIPLES OF DRUG DELIVERY II.
Phenomenological and theoretical bases of kinetic and dynamic processes controlling drugs and dosage forms.

Phmc 5460. PHARMACOKINETICS.

Physiological basis for drug absorption, distribution, metabolism, and excretion; use of mathematical principles for designing dosage forms for individual patients.

Phmc 5471. BIOPHARMACEUTICS I.

Applied theory of dosage form design for optimal drug activity and bioavailability (oral route).

Phmc 5472. BIOPHARMACEUTICS II.

Applied theory of dosage form design for optimal drug activity and bioavailability (all routes other than oral).

Phmc 5480. PHARMACEUTICS CLERKSHIP.

Supervised research experience in pharmaceuticals.

Phmc 5490. PHARMACEUTICS RESEARCH SEMINAR.

Contemporary topics in pharmaceuticals research.

Phmc 5495. PHARMACEUTICS RESEARCH THESIS.

Final thesis describing pharmaceuticals research conducted.

Phar 5811. PHARMACEUTICAL CARE I.

Pharmacy profession, drug information retrieval, professional communications, problem-solving skills.

Phar 5812. PHARMACEUTICAL CARE II.

Prescription processing, health belief models, legal issues, pharmaceutical care philosophy.

Phar 5821. PHARMACOTHERAPY I.

Pathology, pathophysiology, and treatment of common ear, nose, throat, and dermatologic disorders. Emphasis on over-the-counter products.

Phar 5822. PHARMACOTHERAPY II.

Pathology, pathophysiology, and treatment of common pulmonary disorders.

Phar 5823. PHARMACOTHERAPY III.

Pathology, pathophysiology, and treatment of common cardiovascular disorders.

Phar 5824. PHARMACOTHERAPY IV.

Pathology, pathophysiology, and treatment of common gastrointestinal and endocrine disorders.

Phar 5825. PHARMACOTHERAPY V.

Pathology, pathophysiology, and treatment of common infectious diseases and toxicologic disorders.

Phar 5826. PHARMACOTHERAPY VI.

Pathology, pathophysiology, and treatment of common renal and fluid and electrolyte disorders.

Phar 5827. PHARMACOTHERAPY VII.

Pathology, pathophysiology, and treatment of common central nervous system disorders.

Phar 5828. PHARMACOTHERAPY VIII.

Pathology, pathophysiology, and treatment of common hematologic, oncologic, and immunologic disorders.

Phar 5830. PHARMACY AND THE HEALTH CARE SYSTEM.

The U.S. health care system with emphasis on delivery of pharmaceuticals and pharmacy services. Issues in hospital and community pharmacy practice, characteristics of the pharmaceutical industry, economic and financial issues relevant to delivering pharmaceutical services.

Phar 5832. STATISTICS AND DRUG LITERATURE EVALUATION.

Biostatistical methods for data analysis and principles of study design for clinical research. Use of small computers to analyze and present data. Methods of searching for and evaluating drug-related information.

Phar 5834. PHARMACY PRACTICE MANAGEMENT.

Principles of pharmacy management, including inventory control, purchasing, pricing, financial analysis, and personnel management.

Phar 5836. ETHICAL ISSUES IN PHARMACY.

Nature and influences of moral and ethical considerations on decisions and action taken in pharmacy practice.

Phar 5838. PHARMACY AND THE LAW.

Minnesota and federal laws, rules, and court decisions affecting the practice of pharmacy. Legal control mechanisms, peer regulation, licensing, unprofessional conduct, labeling, drug distribution channels, the Cosmetic Act, and other regulations and topics.

Phar 5840. AMBULATORY CARE EXTERNSHIP.

Combines didactic and experiential learning. Students assigned to participating community pharmacies and involved in community practice activities 40 hours per week for five weeks. Weekly seminar session.

Phar 5841. INSTITUTIONAL CARE EXTERNSHIP.

Combines didactic and experiential learning. Students assigned to participating hospital pharmacies and involved in hospital practice activities 40 hours per week for five weeks. Students participate in pharmacy administration, drug distribution, IV and clinical services. Weekly seminar session.

Phar 5842. PRIMARY CARE CLERKSHIP.

Supervised ten-week clinical pharmacy experience. Students attend clinical rounds, take medication histories, monitor drug therapy, provide patient education, and research patient-specific drug information questions.

Phar 5843. AMBULATORY CARE CLERKSHIP.

Supervised five-week clinical pharmacy experience in an environment where the primary focus is on ambulatory patients.

Phar 5844. PEDIATRICS CLERKSHIP.

Supervised five-week clinical pharmacy experience in a pediatric setting. Students provide and manage appropriate pharmacotherapeutic interventions for pediatric patients. Understanding the basic pharmacokinetic and pharmacodynamic differences between adult and pediatric patients.

Department and Course Descriptions

Phar 5845. PATIENT CARE CLERKSHIP.

Supervised five-week clinical pharmacy experience in various patient care settings. Specialties in adult, pediatric, inpatient, community practice, cardiology, infectious diseases, geriatrics, nutrition, oncology, transplant, psychiatry, nephrology, home health care, epilepsy, and others.

Phar 5850. THERAPEUTIC DRUG MONITORING.

Applying clinical pharmacokinetics and assay methodologies to patient care; assessment of drug therapy outcomes.

Phar 5851. OVER-THE-COUNTER DRUG FOCUS.

Expands on over-the-counter information presented in Phar 5821. Diagnostic material and applications in care of specific patients.

Phar 5852. COMMUNITY PHARMACY MANAGEMENT.

Management techniques needed in community pharmacy practice with emphasis on marketing and service.

Phar 5853. PHARMACY PRACTICE IN AMBULATORY SETTING.

Current topics such as reimbursement and managed care and how they relate to pharmaceutical care in the community/ambulatory setting.

Phar 5854. COMMUNICATIONS FOR THE HEALTH SCIENCES.

Communication models and theories as they relate to health services. Applying theoretical communications knowledge to practical situations with role playing and peer critique.

Phar 5855. INSTITUTIONAL PHARMACY MANAGEMENT.

Management techniques needed in various institutional pharmacy settings. Integration of distributive and clinical components of institutional practice.

Phar 5856. DRUG USE REVIEW AND MANAGEMENT.

Principles of drug use review in various health care settings, including optimization of quality and minimization of drug therapy.

Phar 5857. PHARMACEUTICAL ECONOMICS AND PUBLIC POLICY.

Economic and public policy aspects of the U.S. health care system. Health economic principles and trends applied to the pharmaceutical market.

Phar 5860. COMMUNITY CLERKSHIP.

Supervised five-week clinical pharmacy experience in a community pharmacy in which the primary focus is on patient care activities.

Phar 5861. ALTERNATIVE CARE SETTING CLERKSHIP.

Supervised five-week experience in long-term care facilities, home IV therapy, and managed care.

Phar 5862. COMMUNITY PHARMACY MANAGEMENT CLERKSHIP.

Supervised five-week experience using management techniques in a community pharmacy.

Phar 5863. INSTITUTIONAL PHARMACY MANAGEMENT CLERKSHIP.

Supervised five-week experience using management techniques in an institutional setting.

Phar 5864. SPECIALIZED MANAGEMENT CLERKSHIP.

Supervised five-week experience in community chain store management, community independent ownership, hospital management, chain corporate management, long-term care, managed care, wholesale management, industry marketing, industry sales management, or other management area.

Phar 5890. PHARMACOTHERAPY SEMINAR.

Students present pharmacy-related topics to peers and faculty evaluators. Emphasizes preparation of a seminar or lecture, presentation of a professional image, and verbal communication skills.

Phar 5891. COMMUNITY AND AMBULATORY PHARMACOTHERAPY SEMINAR.

Students present pharmacy-related topics to peers and faculty evaluators. Emphasizes communication skills.

Phar 5892. MANAGEMENT SEMINAR.

Students present management-related topics to peers and faculty evaluators. Emphasizes preparation of a seminar or lecture, presentation of a professional image, and verbal communication skills.

Phar 5893. PHARMACY PRACTICE RESEARCH SEMINAR.

Students present research to peers and faculty evaluators.

Phar 5895. PHARMACOTHERAPY THESIS.

Final thesis describing patient care-oriented activities conducted.

Phar 5896. COMMUNITY AND AMBULATORY PHARMACOTHERAPY THESIS.

Final thesis describing community and ambulatory patient care-oriented activities conducted.

Phar 5897. MANAGEMENT THESIS.

Final thesis describing management-oriented activities conducted.

Phar 5898. PHARMACY PRACTICE RESEARCH THESIS.

Final thesis describing patient care-oriented research conducted.

Phcy 5911, 5912, 5913, 5914, 5915. PHARMACY CLERKSHIP.

Introduction to pharmacy practice. Students observe pharmacists in various roles and health care settings.

Phcy 5921, 5922, 5923, 5924, 5925, 5926, 5927, 5928. PHARMACY LABORATORY.

Integration of all facets of the pharmacy curriculum in a lab setting.

Postbaccalaureate Doctor of Pharmacy Courses

Phmc 5680. PHARMACOKINETICS.

Physiological basis for drug absorption, distribution, metabolism, and excretion; use of mathematical principles for designing dosage forms for individual patients.

Phmc 5685. CLINICAL PHARMACOKINETICS.

Applying knowledge of the time-course behavior of a drug in the body to therapeutically manage individual patients in a clinical setting.

Phar 5230. PHARMACY AND THE LAW.

Minnesota and federal laws, rules, and court decisions affecting the practice of pharmacy. Legal control mechanisms, peer regulation, licensing, unprofessional conduct, labeling, drug distribution channels, the Cosmetic Act, and other regulations and topics.

Phar 5295. CLINICAL RESEARCH METHODS AND BIostatISTICS.

Biostatistical methods for data analysis and the principles of study design for clinical research; use of small computers to analyze and present data.

Phar 5303. COMMUNICATIONS FOR THE HEALTH SCIENCES.

Communication models and theories as they relate to health services. Applying theoretical communications knowledge to practical situations with role playing and peer critique.

Phar 5306. CLINICAL TOXICOLOGY.

Poison treatment and prevention of poison emergencies, including salicylate, acetaminophen, narcotic, tricyclic antidepressant, carbon monoxide, heavy metal, alcohol overdoses, drug dependence, and dangers of household products.

Phar 5307. PHARM.D. IV SEMINAR.

Student presentations of pharmacy-related topics to peers and faculty evaluators. Emphasizes preparation of a seminar or lecture, presentation of a professional image, and verbal communication skills.

Phar 5308. ASSESSMENT OF THE MEDICATED PATIENT.

Systematically collecting subjective and objective information from patients receiving or about to receive medications. Monitoring efficacy and toxicity of drug therapy, taking histories, measuring selected physical parameters.

Phar 5321. PHARMACOTHERAPEUTICS I.

How pharmacists make drug therapy decisions, methods to retrieve and analyze drug information, practical aspects of communicating with patients and health care professionals.

Phar 5322. PHARMACOTHERAPEUTICS II.

Problem-based approach to safe, effective, and economical use of prescription and nonprescription drugs. Pharmacologic treatment of major disease states and drug-related problems, treatment goals, therapeutic alternatives, appropriate drug selection, dosage individualization, and cost-effective therapeutic drug-monitoring plans. Cardiovascular, central nervous system, renal system, fluid and electrolyte, hematologic, and psychiatric disorders.

Phar 5323. PHARMACOTHERAPEUTICS III.

Continuation of Phar 5322. Respiratory, infectious, oncologic, gastrointestinal, endocrine, bones and joints, and EENT disorders.

Phar 5391. PHARM.D. COMMUNITY EXTERNSHIP.

Combines didactic and experiential learning. Students assigned to participating community pharmacies and involved in community practice activities 40 hours a week. Weekly seminar session.

Phar 5393. PHARM.D. HOSPITAL EXTERNSHIP.

Combines didactic and experiential learning. Students assigned to participating hospital pharmacies and involved in hospital practice activities 40 hours per week. Students participate in pharmacy administration, drug distribution, IV and clinical services. Weekly seminar session.

Phar 5500. PATHOPHYSIOLOGY AND THERAPEUTICS: CARDIOVASCULAR DISEASES.

Pharmacologic approach to heart failure, arrhythmias, shock, and coronary artery disease.

Phar 5501. PATHOPHYSIOLOGY AND THERAPEUTICS: PULMONARY DISEASES.

Pharmacologic approach to pulmonary embolus, pneumonia, asthma, chronic obstructive airways disease, infections, tuberculosis, and lung cancer. Pharmacokinetics and therapeutic drug plans for the major drugs used in treating pulmonary diseases.

Phar 5502. PATHOPHYSIOLOGY AND THERAPEUTICS: NERVOUS SYSTEM DISORDERS.

Common disorders of the nervous system and how they influence drug therapy decisions. Clinical application of drug therapy principles for seizure disorders, Parkinsonism, stroke and increased intracranial pressure.

Phar 5503. PATHOPHYSIOLOGY AND THERAPEUTICS: IMMUNE DISEASES.

Applied pharmacotherapeutic approaches to treating immune diseases.

Phar 5504. PATHOPHYSIOLOGY AND THERAPEUTICS: GASTROINTESTINAL DISORDERS.

Digestive system organs and primary therapeutic and nutritional agents used to treat digestive system disorders.

Department and Course Descriptions

Phar 5505. PATHOPHYSIOLOGY AND THERAPEUTICS: KIDNEY AND URINARY TRACT DISORDERS.

Disorders of the kidney and urinary tract, including acute and chronic renal failure, glomerulonephritis, and urinary tract infections. Primary therapeutic modalities used to treat hypertension and renal dysfunction.

Phar 5506. PATHOPHYSIOLOGY AND THERAPEUTICS: FLUID AND ELECTROLYTE DISORDERS AND SHOCK.

Principles of achieving fluid and electrolyte homeostasis, correcting acid-base abnormalities, regulating hemodynamics, optimizing oxygen transport and delivery, and treating shock. Primary therapeutic agents used to treat these disorders.

Phar 5507. PATHOPHYSIOLOGY AND THERAPEUTICS: NEOPLASTIC DISEASES.

Antineoplastic drug usage and the pharmacist's role in monitoring therapy for patients with specific neoplasms. Appropriate supportive therapy for cancer patients.

Phar 5508. PATHOPHYSIOLOGY AND THERAPEUTICS: INFECTIOUS DISEASES.

Toxonomy of bacteria and microbiologic procedures related to antibiotic therapy, antibiotic pharmacology, and common disease states. Identifying likely pathogens, selecting appropriate antibiotics, and identifying appropriate action to monitor for efficacy and toxicity in the clinical setting.

Phar 5509. PATHOPHYSIOLOGY AND THERAPEUTICS: PSYCHIATRIC DISORDERS.

Pharmacology, clinical use, and appropriate monitoring parameters of antidepressants, antipsychotics, lithium, and benzodiazepines.

Phar 5514. PATHOPHYSIOLOGY AND THERAPEUTICS: CLINICAL NUTRITION.

Current guidelines for using parenteral nutrition in the hospital and home setting in adult and pediatric patients. Small group case discussions and lectures review drug-nutrient interactions and enteral nutrition.

Phar 5516. PATHOPHYSIOLOGY AND THERAPEUTICS: ENDOCRINE AND REPRODUCTIVE DISORDERS.

Thyroid and adrenal abnormalities, diabetes, and physiology of reproduction, pregnancy, and pharmacologic effects. Drug use from before conception to post-partum.

Phar 5550. PHARMACY PRACTICE CLERKSHIP: ACUTE CARE.

Supervised 12-week clinical pharmacy experience in an adult inpatient setting at an affiliated hospital. Students attend clinical rounds, take medication histories, monitor drug therapy, provide patient education, and research patient-specific drug information questions.

Phar 5551. PHARMACY PRACTICE CLERKSHIP: CLINICAL PHARMACOKINETICS.

Supervised four-week clinical pharmacy experience in a pharmacy-based pharmacokinetic consulting service at an affiliated hospital. Students identify clinical situations in which pharmacokinetic principles can be applied to evaluate or improve drug therapy. Data collection, interpretation, and application.

Phar 5552. PHARMACY PRACTICE CLERKSHIP: PEDIATRICS.

Supervised four-week clinical pharmacy experience in a pediatric setting. Students provide and manage appropriate pharmacotherapeutic interventions for pediatric patients. Understanding the basic pharmacokinetic and pharmacodynamic differences between adult and pediatric patients.

Phar 5553, 5555, 5556. PHARMACY PRACTICE CLERKSHIP: CLINICAL ELECTIVE I, II, III.

Supervised clinical pharmacy experience in various patient care settings. Specialties in adult, pediatric, inpatient, community practice, cardiology, infectious diseases, geriatrics, nutrition, oncology, transplant, psychiatry, nephrology, home health care, epilepsy, and others.

Phar 5554, 5557, 5558. PHARMACY PRACTICE CLERKSHIP: NON-CLINICAL ELECTIVE I, II, III.

Administrative, research, technology, drug delivery, and specially designed electives. May also include coursework.

Resources, Publications, and Policies



Resources, Publications, and Policies

College of Pharmacy Department Offices

Office of the Dean

5-110 Health Sciences Unit F
(612) 624-1900

Office of Student Affairs

5-110 Health Sciences Unit F
(612) 624-9490

Department of Medicinal Chemistry

8-101 Health Sciences Unit F
(612) 624-9919

Department of Pharmaceutics

9-105 Health Sciences Unit F
(612) 624-5151

Department of Pharmacy Practice

7-115 Health Sciences Unit F
(612) 624-2112

Office of Continuing Education

5-120 Health Sciences Unit F
(612) 624-2442

Other Helpful Offices

Boynton Health Service

Boynton Health Service Bldg.
(612) 625-8400

Child Care

1600 Rollins Avenue S.E.
(612) 627-4014

Continuing Education and Extension

101 Westbrook Hall
(612) 625-3333

Financial Aid

2-693 Moos Tower
(health professions office)
(612) 624-1665 or 1-800-400-8636

Housing

Comstock Hall East
(612) 624-2994

Student Relations, Transcripts

150 Williamson Hall
(612) 625-5333

University Information

(612) 625-5000

For More Information—Contact the Office of Student Affairs, College of Pharmacy, 5-110 Health Sciences Unit F, University of Minnesota, 308 Harvard Street S.E., Minneapolis, MN 55455 (612/624-9490).

Publications

Brochure Use—The contents of this brochure and other University publications are subject to change without notice. University offices can provide current information about possible changes.

This publication is available in alternative formats upon request. Please contact the College of Pharmacy Office of Student Affairs (612/624-9490).

Other Publications—Evening and summer courses are listed in the *Continuing Education and Extension Classes Bulletin* and *Summer Session Bulletin*, respectively.

Policies

Equal Opportunity—The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

In adhering to this policy, the University abides by the Minnesota Human Rights Act, Minnesota Statute Ch. 363; by the Federal Civil Rights Act, 42 U.S.C. 2000e; by the requirements of Title IX of the Education Amendments of 1972; by Sections 503 and 504 of the Rehabilitation Act of 1973; by the Americans With Disabilities Act of 1990; by Executive Order 11246, as amended; by 38 U.S.C. 2012, the Vietnam Era Veterans Readjustment Assistance Act of 1972, as amended; and by other applicable statutes and regulations relating to equality of opportunity.

Inquiries regarding compliance may be directed to Patricia A. Mullen, Director, Office of Equal Opportunity and Affirmative

Action, University of Minnesota, 419 Morrill Hall, 100 Church Street S.E., University of Minnesota, Minneapolis, MN 55455 (612/624-9547).

Access to Student Educational Records—In accordance with regents' policy on access to student records, information about a student generally may not be released to a third party without the student's permission. (Exceptions under the law include state and federal educational and financial aid institutions.) The policy also permits students to review their educational records and to challenge the contents of those records.

Some student information—name, address, electronic (E-mail) address, telephone number, dates of enrollment and enrollment status (full time, part time, not enrolled, withdrawn and date of withdrawal), college and class, major, adviser, academic awards and honors received, and degrees earned—is considered public or directory information. Students may prevent the release of public information only during their terms of enrollment. To do so, they must notify the records office on their campus.

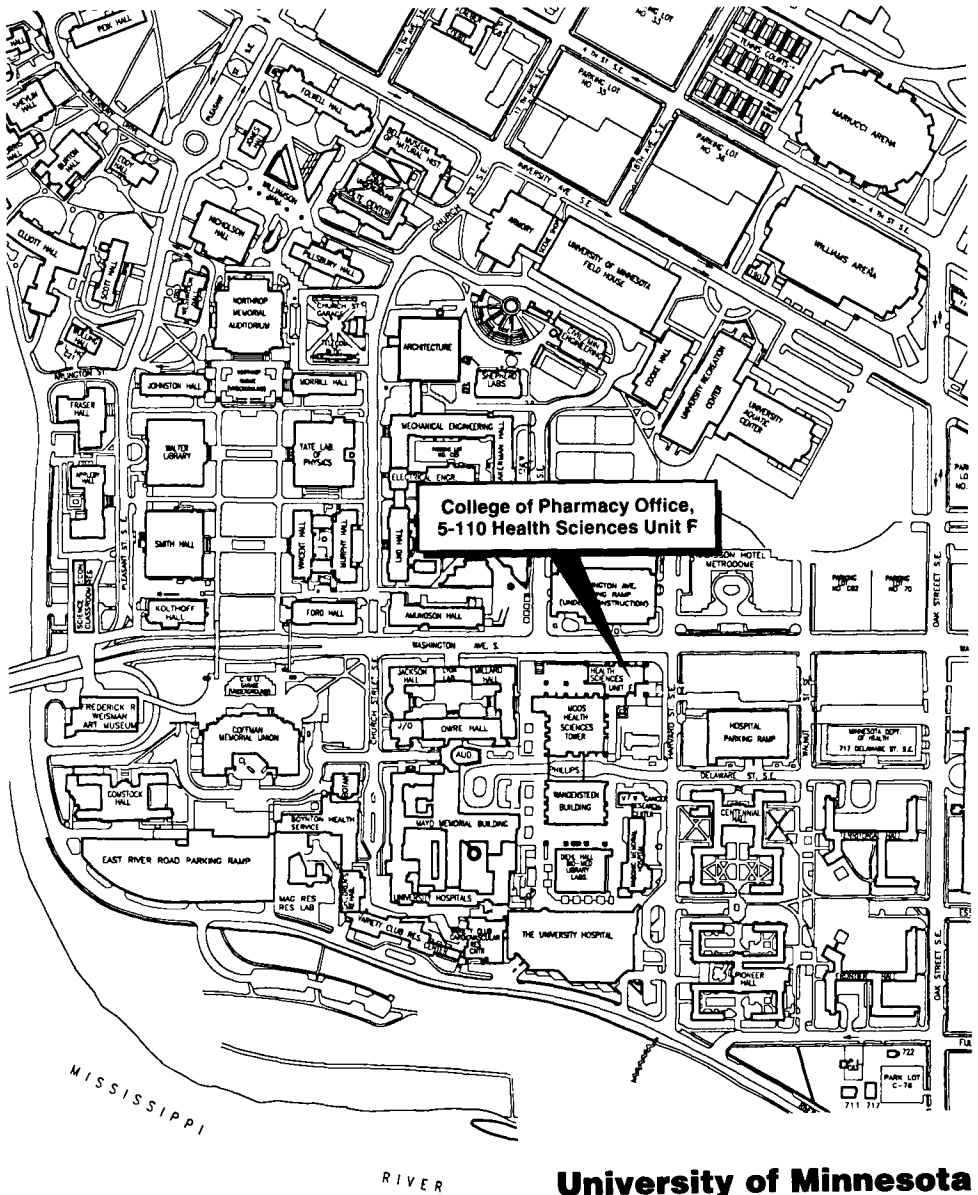
Students have the right to review their educational records. The regents' policy, including a directory of student records, is available for review at 150 Williamson Hall, Minneapolis, and at records offices on other campuses of the University. Questions may be directed to the Office of the Registrar, 150 Williamson Hall (612/625-5333).

Immunization—Students born after 1956 who take more than one University class are required under Minnesota law to submit an Immunization Record form. A second red measles and Hepatitis B immunizations are required of pharmacy students. Documentation of all immunizations is required.

Immunization forms, which are sent with the official admission letter, must be completed and returned to the College of Pharmacy Office of Student Affairs. Complete instructions accompany the forms.

Extracurricular Events—No extracurricular events requiring student participation may be scheduled from the beginning of study day to the end of finals week. Exceptions to this policy may be granted by the Senate Committee on Educational Policy. The Senate advises all faculty that any exemption granted pursuant to this policy shall be honored and that students who are unable to complete course requirements during finals week shall be provided an alternative and timely opportunity to do so.

Smoke-Free Campus Policy—Smoking is prohibited in all facilities of the University of Minnesota, Twin Cities campus except for designated private residence hall rooms.



**College of Pharmacy Office,
5-110 Health Sciences Unit F**

**University of Minnesota
Twin Cities Campus
East Bank**

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Postal Statement

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