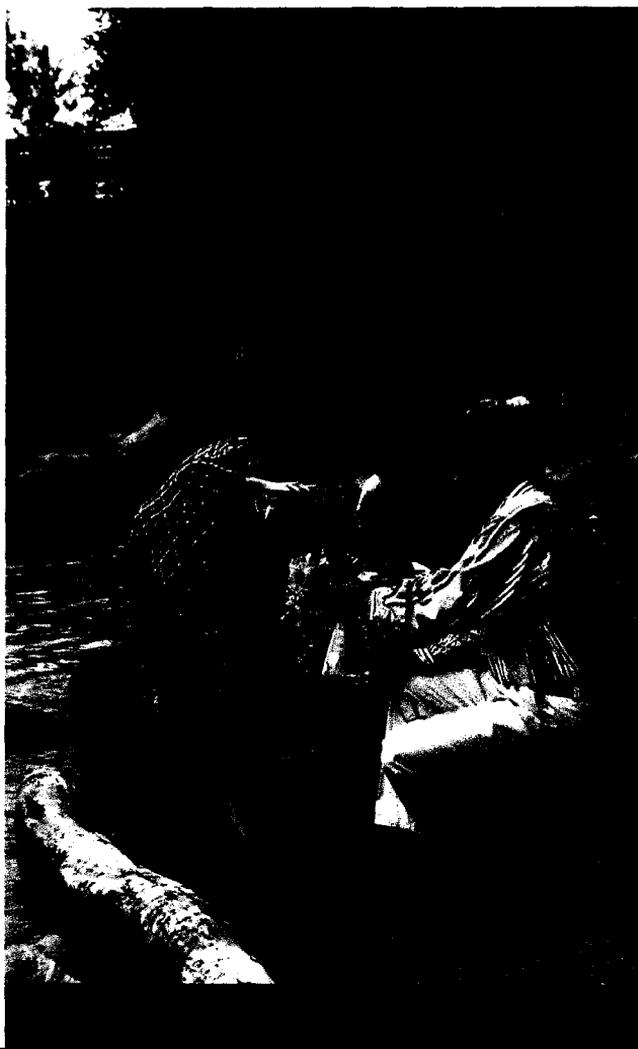


Public Health
University of Minnesota Bulletin
1990-92



Public Health

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|--|----|
| Introduction | 5 |
| Degree Programs and Academic Majors | 15 |
| Administrative Divisions | 29 |
| Educational, Research, and Service Centers | 33 |
| Course Descriptions | 35 |
| Campus Maps | 55 |
| Index | 59 |

General Information

This biennial bulletin describes the degree programs, specific majors, procedures, and requirements of the School of Public Health. Other college bulletins may be obtained by contacting Student Support Services, 110 Williamson Hall, University of Minnesota, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-3030).

University Regents

Charles H. Casey, West Concord, Chair
Elton A. Kuderer, Fairmont, Vice Chair
Wendell R. Anderson, Minneapolis
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Jack P. Grahek, Ely
Jean B. Keffeler, Minneapolis
Alan C. Page, Minneapolis
Mary J. Page, Olivia
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School of Public Health Administrators

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James R. Boen, Associate Dean for
Academic Affairs
Judith L. Peterson, Administrative
Director and Equal Opportunity and
Affirmative Action Officer for Staff
Joanne B. Easter, Administrative
Director
Harold Kurtz, Development Officer

School of Public Health Directory

Call these offices directly for information (area code 612) or write each office in care of the School of Public Health, Box 197 Mayo Memorial Building, 420 Delaware Street S.E., Minneapolis, MN 55455.

Dean's Office
624-6669

Division Offices
Biostatistics
624-4655

Environmental and Occupational
Health
626-0900

Epidemiology
624-5400

Health Services Administration
624-1110

Health Services Research and Policy
624-6151

Human Development and Nutrition
626-1447

Academic Offices**M.P.H. Program**

Biostatistics
624-4655

Environmental Health
626-0900

Epidemiology
625-6498

Community Health Education
624-3916

Health Services Administration
624-1110

Maternal and Child Health
625-3660

Public Health Administration
625-9480

Public Health Nutrition
625-4100

M.H.A. Program

Hospital and Healthcare
Administration
624-1110

Education, Research, and Service Centers

Health Care Finance Administration
Research Center
624-6151

Midwest AIDS Training and Education
Center
625-6979

Midwest Center for Occupational
Health and Safety
626-0900

Policies

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

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, religion, color, sex, national origin, handicap, age, 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, 420.S.C. 20000e; and by the requirements of Title IX of the Education Amendments of 1972; by Sections 503 and 504 of the Rehabilitation Act of 1973; by Executive Order 11246, as amended; 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 addressed to Patricia A. Mullen, Director, Office of Equal Opportunity and Affirmative Action, 419 Morrill Hall, University of Minnesota, 100 Church Street S.E., Minneapolis, MN 55455 (612/624-9547).

Immunization—Beginning July 1, 1990, students born after 1956 who will be taking 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.

General Information

Postal Statement

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Introduction



Introduction

Applicant Information

This bulletin is for prospective and enrolled students in the School of Public Health at the University of Minnesota. Potential applicants, especially, should read this section of the bulletin for information on degree programs, admission criteria, application procedures, costs, and financial aid. Later sections provide detailed information on majors within each degree program, administrative divisions, faculty listings, and course descriptions. A campus map and an index are in the back of this bulletin.

The School of Public Health, in conjunction with the Graduate School, offers post-baccalaureate degrees in the following areas:

Biostatistics—M.P.H., M.S., and Ph.D.
Environmental Health—M.P.H., M.S., and Ph.D.
Epidemiology—M.P.H., M.S., and Ph.D.
Community Health Education—M.P.H.
Health Services Administration—M.P.H.
Health Services Research, Policy, and Administration—Ph.D.
Hospital and Healthcare Administration—M.H.A.
Maternal and Child Health—M.P.H. and M.S. in Public Health
Public Health Administration—M.P.H.
Public Health Nutrition—M.P.H.

Most degrees awarded to public health students are the master of public health (M.P.H.) and master of health-care administration (M.H.A.) degrees. There are eight different M.P.H. majors and one M.H.A. major, hospital and health-care administration. All of the M.P.H. majors have in common certain required competencies, called Educational Objectives (see page 7). Students have some latitude in choosing courses to satisfy these educational objectives, as well as in choosing elective courses. Each student has a faculty adviser, who assists in planning a course curriculum based on the background and interests of the student. The faculty adviser gives final approval of the curriculum.

The Degree Programs and Academic Majors section of this bulletin describes the goals and processes of nine distinctly different majors and provides a listing of the corresponding personnel for each major and typical course schedules. The personnel in each major are divided into two categories: those whose primary appointments are in the School of Public Health and those called affiliated personnel, who have their primary appointments in other schools of the University or who are employed elsewhere, such as the Minnesota Department of Health. The second category also includes retired faculty who still contribute to the educational processes.

The Graduate School administers the master of science (M.S.) and doctor of philosophy (Ph.D.) degree programs in biostatistics; environmental health; epidemiology; health services research, policy, and administration; and public health. Faculty from the School of Public Health advise, teach, and recommend admission for these programs, but students must apply through the Graduate School. For more information, see the *Graduate School Bulletin* or write: The Graduate School, University of Minnesota, 309 Johnston Hall, 101 Pleasant Street S.E., Minneapolis, MN 55455.

History

The School of Public Health at the University of Minnesota has established a strong reputation for its educational programs as a result of more than a half century of teaching, research, and community service. The school's beginnings date to 1918, when a program in public health nursing—one of the first of its kind in the country—was established. Because of the increased need for health education and for trained leaders in public health, a separate Department of Preventive Medicine and Public Health was established in 1922. In 1935, health officers of adjacent states selected the University of Minnesota to train public health personnel under provisions of the Social Security Act. Curricula for the

training of health officers and public health engineers were established at that time. The Board of Regents authorized expansion of the Department of Preventive Medicine and Public Health into the School of Public Health in 1944. The College of Medical Sciences was reorganized in 1970 into the health sciences, consisting of six units: the School of Dentistry, Medical School, School of Nursing, College of Pharmacy, School of Public Health, and College of Veterinary Medicine.

The School of Public Health is located within the health sciences complex on the East Bank of the Twin Cities campus in Minneapolis.

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, and improvement of systems for delivering health care services.

Educational Objectives—To receive an M.P.H. or M.S. degree in public health, students shall demonstrate the following knowledge, skills, and attitudes given a defined community setting:

1. Identify and define biological, chemical, physical, and other environmental factors that affect the health of persons in a community, and be able to identify and define measures for the detection and control of those factors.
2. Identify and define social, cultural, political, economic, behavioral, and other factors that affect the health of persons in a community, and be able to identify and define an appropriate method of changing those factors to achieve a higher level of health in that community.
3. Identify and describe components and operation of health services delivery systems as they affect prevention and

health care for individuals and the community.

4. Identify, define, and demonstrate ability to apply methods, techniques, and procedures of information collection, storage, retrieval, analysis, reporting, and interpretation.

5. Identify and define factors that inhibit or facilitate cross-disciplinary cooperation, and through coursework or field experience, demonstrate the ability to apply this knowledge in the solution of public health problems requiring cross-disciplinary participation.

6. Identify and evaluate health needs of the community; analyze plans proposed to meet such needs; prepare plans by which such needs can be met, including identification of resources to implement and methods to evaluate the effectiveness of such programs.

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

Accreditation

The School of Public Health and its M.P.H. degree program are accredited by the Council on Education for Public Health. The M.H.A. degree program is accredited by the Accrediting Commission on Education for Health Services Administration. All degree programs offered by the School of Public Health or through the Graduate School are fully accredited by the appropriate national accrediting agencies. The school does not offer the doctor of public health (Dr.P.H.) degree.

Degree Choices

The decision to apply directly to the School of Public Health for study toward a professional degree (M.P.H. or M.H.A.) or to the Graduate School for study toward an academic degree (M.S. or

Introduction

Ph.D.) will depend upon a number of considerations, including the applicant's chosen program of study, long-term career needs and goals, prior experience and academic preparation, and future academic plans. It is recommended that applicants correspond with the chairpersons of the appropriate major in the School of Public Health before applying.

Master of Public Health

This advanced professional degree is granted in recognition of scholastic attainment in public health to individuals with suitable previous education and experience. The requirements for admission to the M.P.H. degree program are guided by criteria established by the Council on Education for Public Health. Applicants must possess a graduate or baccalaureate degree from an acceptable institution in a discipline relevant to public health.

M.P.H. Majors—Professional majors leading to the M.P.H. degree are offered in the areas of biostatistics, community health education, environmental health, epidemiology, health services administration, maternal and child health, public health administration, and public health nutrition. The length of time required to complete the degree may vary depending upon the major and the student's educational background and work experience.

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 the dean.

Degree Requirements—To receive the M.P.H. degree from the School of Public Health, students must complete the following requirements:

1. **Credits**—Completion of major requirements with a minimum of 45 credits. Credits transferred for courses taken outside the University of Minnesota must be approved by the faculty of the major 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 educational objectives of the school.
3. **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.
4. **Comprehensive Examination**—Successful completion of a written or oral examination as provided for by the major.
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 required for graduation.
7. **Residency**—Completion of a minimum of two quarters in residence for a total of at least 16 credits while registered in the school.

8. Time Frame—Completion of all degree requirements within seven years from admission to degree candidacy.

Master of Healthcare Administration

This advanced professional degree is granted in recognition of scholastic attainment in hospital and health care administration to individuals with appropriate previous education and experience. The goal of the M.H.A. degree program is to prepare graduates for chief executive and other top-level administrative positions in health services organizations (after the requisite years of experience in responsible managerial positions).

The degree program with a major in hospital and health care administration emphasizes organization and management, quantitative methods for decision making, human resources, public health, economics, finance, strategic planning, problem solving, and health policy analysis.

An alternative plan of study is available for students who successfully complete the Alternative Study Program (ISP) for Hospital and Health Care, Ambulatory Care, Patient Care, or Nutrition Administration with tracks in long-term care and mental health.

The hospital and health care administration major consists of 21 months of study on campus including a three-month summer administrative residency. Requirements for the M.H.A. degree include satisfactory completion of a specified number of credits in required courses (currently 57 credits) and 25 credits of elective courses, an overall GPA of 3.00 for all courses taken on A-F basis, and either an acceptable research thesis or a management project. All degree requirements must be completed within five years of initial enrollment.

Master of Science and Doctor of Philosophy

Programs of study and research leading to the M.S. and/or Ph.D. degrees, administered through the Graduate

School, may be elected with a major or minor in biostatistics; environmental health; epidemiology; health services research, policy, and administration; and public health. For more information on these programs, contact the appropriate director of graduate studies listed in the *Graduate School Bulletin* or write the School of Public Health.

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, 322 Johnston Hall, University of Minnesota, 101 Pleasant Street S.E., Minneapolis, MN 55455.

Undergraduate Education

Although the School of Public Health does not offer bachelor's degree programs, students may take courses in the school and apply credits earned to a number of bachelor's degree programs offered by other units of the University. The School of Public Health participates in the Inter-College Program of the University College, which enables students to design an individual program of study for the bachelor's degree involving two or more areas of concentration. Public health and related coursework can be used to fulfill one of these areas of concentration for students whose coursework is approved by a School of Public Health adviser. Further information is available from University College, 317 Walter Library, University of Minnesota, 117 Pleasant Street S.E., Minneapolis, MN 55455.

The School of Public Health offers courses at the undergraduate level to meet requirements of other departments and colleges. Some graduate-level courses offered by the school are also open to upper division undergraduate students and may be used to satisfy distribution or elective requirements. Many of the school's courses are open to graduate students from other departments or colleges of the University. Some nondegree, special summer, independent study, and continuing

Introduction

education offerings may also be taken for credit and applied to degree programs. For more information about the applicability of credit, consult both the college and the director of the major to which credits are to be transferred.

Preventive Medicine Residency

The Preventive Medicine Residency is a two-year program designed to prepare physicians for careers in academic preventive medicine/public health; clinical preventive medicine; or public health practice at the local, state, or federal level.

The residency has two phases. The academic phase involves completion of a master's degree in a public health major. The practicum phase emphasizes research in an area of the resident's specialty interest and health department experience. Current practicum sites are the Minneapolis Health Department, St. Paul Division of Public Health, Minnesota Department of Health, University of Minnesota Department of Family Practice, and the Section on Ambulatory Care of the Veterans Administration Hospital in Minneapolis.

Stipends are provided either by School of Public Health training grants or the affiliated institutions.

Applicants must have M.D. or D.O. degrees and have completed a post-graduate year of clinical training and experience in direct patient care (i.e., an internship) in an accredited hospital. Foreign nationals and graduates of medical schools whose programs are not accredited must meet special requirements. Applicants must also have a full and unrestricted license to practice medicine in the United States.

For more information on application procedures and sources of funding, contact the School of Public Health.

Nondegree and Continuing Education Programs

The School of Public Health, in cooperation with other units in the health sciences and various departments of the

University, offers a number of credit and noncredit continuing education programs. In addition to the regularly offered programs described below, the school offers a variety of in-service courses on campus and elsewhere in the state. These courses, which vary in length from one- or two-day workshops to two- or three-week institutes, are offered for selected professional and paraprofessional groups in the health field. School and University faculty members as well as special lecturers are used.

Nondegree credential programs are regularly offered through the majors in public health nutrition (Nutrition Administration Alternative Study Program) and in hospital and health-care administration (Hospital and Healthcare, Patient Care, and Ambulatory Care Alternative Study Programs) with tracks in mental health and long-term care. Further information about these programs can be found on page 21.

Evening Classes and Independent Study—Through the University's Continuing Education and Extension division, the school offers a number of courses in the evening and through independent study for the convenience of health professionals working toward degree programs part-time or supplementing their education. It should be noted that it is not possible for a student to complete an advanced degree through evening classes only. Degree credits earned through Extension and independent study courses may be transferred to apply toward degrees offered by the school or by other units of the University when approved by the degree-granting unit. A complete listing of Extension class and independent study offerings can be found in the *Extension Classes Bulletin* and the *Independent Study Bulletin*, available from Continuing Education and Extension, 101 Westbrook Hall, University of Minnesota, 77 Pleasant Street S.E., Minneapolis, MN 55455.

Summer Session—The summer session consists of two terms, each five weeks long. In each of these terms, courses taught during the regular year are offered in a concentrated time period. Special workshops or intensive programs of study are also offered during the summer. It should be noted that it is not possible for a student to complete the requirements for an advanced degree through summer session attendance only. Further information can be obtained from the *Summer Session Bulletin*, available through the Summer Session Office, 135 Johnston Hall, University of Minnesota, 101 Pleasant Street S.E., Minneapolis, MN 55455.

The Annual Occupational Health and Safety Institute—The Annual Occupational Health and Safety Institute is planned as an intensive two-week program offering graduate credit or continuing education with an interdisciplinary setting. This mini-series offers introductory and/or review courses in occupational health, industrial hygiene, occupational health nursing, occupational safety, occupational medicine, occupational toxicology, health statistics, occupational ergonomics, and principles of management in health service organizations. For more information, contact the Midwest Center for Occupational Health and Safety, 640 Jackson Street, St. Paul, Minnesota 55101 (612/221-3992).

Academic Policies

Grading System—The University of Minnesota offers two grading options to all students: 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% 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.

Majors may specify additional requirements concerning choice of grading systems.

Probationary Status—Each major 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—Every course in the school, including seminars, field study, and independent study projects, is evaluated by students. Summaries of student evaluations of courses are available to all students.

Human Subjects in Research—All research projects involving the use of human subjects must be approved by the University Committee on the Use of Human Subjects in Research.

Grievances—A copy of the publication *School of Public Health Grievance Procedures and Policies* may be obtained from the Dean's Office, School of Public Health, (A302 and Box 197 Mayo Memorial Building), University of Minnesota, 420 Delaware Street S.E., Minneapolis, MN 55455.

Admission Requirements and Procedures

Each School of Public Health major has its own additional admission requirements, which are described in the Degree Programs and Academic Majors section of this bulletin, but the following requirements and procedures apply to all prospective M.P.H. and M.H.A. students:

Admission Requirements:

1. Baccalaureate or higher degree from an accredited college or university.
2. 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.

Introduction

or

Minimum Graduate Record Examination (GRE) [or Graduate Management Admission Test (GMAT) equivalent] score of not less than 1500 based on the three sections and taken within the last five years or a minimum Miller Analogies Test score of not less than 40 taken within the last five years. International students whose primary language is not English must attain a minimum of 550 on the Test of English as a Foreign Language (TOEFL).

These requirements define the minimally acceptable criteria, but students who meet these criteria are not guaranteed admission. Final admission decisions are made based on the total profile of the student, 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 each major in the school.

Procedures:

1. Describe in your letter of inquiry your present or previous professional experience; future career goals and educational needs, including your desired professional role; and, when possible, the type of agency, organization, or setting in which you plan to work.
2. Submit with your initial letter, or arrange to have forwarded to the major chairperson, two certified transcripts of your complete academic record from all previous collegiate institutions attended.
3. Submit three letters of recommendation, or names and addresses of individuals who would be willing to write one, as required by the individual major. These letters should be 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.
4. The admissions committee may require you to participate in an inter-

view with faculty members or designated representatives.

5. Complete and return to the major chairperson the application for admission along with a check, payable to the University of Minnesota, for the application fee. Former University of Minnesota students must complete a change of college form but are not required to pay the fee.

6. Arrange to have the Miller Analogies, Graduate Record Examination, Test of English as a Foreign Language (TOEFL), or other requested test scores forwarded to the major chairperson. Information about when and where such tests are administered may be obtained from the University Counseling Services, 109 Eddy Hall, University of Minnesota, 192 Pillsbury Drive S.E., Minneapolis, MN 55455, or at a student testing office of a college or university near you. For information about TOEFL, contact the Educational Testing Service, Princeton, NJ 08541, USA.

After the application and all supporting documents have been received and reviewed by the major's admission committee, applicants are officially notified by the School of Public Health dean of the action taken and any conditions of admission. Questions regarding admission should be addressed to the major chairperson.

International Students

All prospective students from countries other than the United States must observe the following procedures to ensure consideration of their application. Foreign nationals already studying or working in the United States, unless they have been admitted for the purpose of establishing residency or have acquired such status under appropriate immigration regulations, are required to observe the same procedures as those still residing in their home country.

All international students must have earned a bachelor's degree or its equivalent, or a higher degree, from an accept-

able institution. All applications must be for study in a specific major.

Assurance of Financial Support—

The School of Public Health does not have funds to assist international students, either on a planned or an emergency basis. All international students are required to give the school written assurance of their ability to provide full financial support for their entire period of study. This assurance must be from an official government agency in the student's home country or an international agency such as the World Health Organization, the Agency for International Development of the U.S. State Department, the AFGRAD program (through the African-American Institute), or some other acceptable national or international agency or organization. Students planning to finance their education out of their own, family, or other private resources must also provide written assurance from an official agency that their financial resources are adequate for the entire period of study and that the agency giving such assurance is prepared to provide or otherwise secure appropriate assistance for the student in the event that an unforeseen emergency arises while studying in the United States.

Proficiency in English—The school requires that every international applicant whose native language is not English provide evidence of proficiency in English at the time of application. Prospective students whose primary language is not English must demonstrate fluency or attain a score above 550 on the TOEFL. Evidence of proficiency in English usually is provided routinely when application is made through the World Health Organization, Agency for International Development, or other long-established international programs. In most cases, students must take the TOEFL and arrange to have the certified examination results forwarded to the school. Final action on an application for admission cannot be taken until official evidence of proficiency in English is received.

Application Procedure—International students should initiate their application procedures early due to delays in obtaining necessary clearances and assurances before formal application. 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 also encouraged to apply through their Ministry of Health, the World Health Organization, or a similar official agency because these agencies are usually able to expedite the necessary clearances. Direct application, while possible, is not encouraged. Students are encouraged, however, to correspond with the chairperson of the major they wish to enter as early as possible and before initiating formal application procedures. Early correspondence that clearly articulates the student's educational and career needs and goals is essential.

Expenses

Tuition and Fees—Tuition rates for the 1990-91 academic year, although subject to change, are:

Students registering in the School of Public Health

| | |
|--|------------------|
| M.P.H., M.H.A., Adult Special—Resident (0-14 credits) | \$ 72.75/credit* |
| M.P.H., M.H.A., Adult Special—Nonresident (0-14 credits) | 145.50/credit* |

Students registering in the Graduate School

| | |
|---|--------------|
| M.S., Ph.D.—Resident (7-15 credits) | \$1,030.00** |
| M.S., Ph.D.—Nonresident (7-15 credits) | 2,060.32** |

*For students registering in the School of Public Health there is a credit plateau from 14-18 credits where tuition rates remain at the 14-credit rate; the per-credit rate resumes at 19 credits.

**For students registered in the Graduate School part time, there is a

Introduction

per-credit charge. Effective fall quarter 1984, students registered in the Graduate School who have completed the residency requirement of four quarters of full-time registration (7 or more credits per quarter) for the master's degree or nine quarters of full-time registration for the doctorate may register at half the rates listed above.

See the current *Class Schedule* for detailed information on tuition and fees.

All students registered for 6 or more credits must pay a student services fee of \$115.78 per quarter (amount subject to change). Consult the quarterly *Class Schedule* for information on other course or special fees that may be applicable.

Financial Aid—Opportunities for traineeships, loans, and other financial assistance may be available in the various fields of study. Limited research and teaching assistantships are available within each major. Some scholarships are available for higher ability minority students. Applicants who need financial assistance or who would like specific information about qualifying and applying for financial support may write to the chairperson of the major in which they plan to enroll.

For information on all-University scholarships, grants, and loans, contact the Office of Student Financial Aid, 210 Fraser Hall, 106 Pleasant Street S.E., Minneapolis, MN 55455.

Student Organizations

The Public Health Student Senate represents the professional and graduate student body of the School of Public Health. It deals with issues affecting the student body. Primary concerns of the organization are the interdisciplinary approach to professional and graduate education and social activities of the school. Membership is composed of representatives elected from each major. Senate members also participate in major committees of the school.

The Council for Health Interdisciplinary Participation (CHIP) is an organization for health sciences students that

is dedicated to promoting the team approach to health care delivery through student services and community programs. CHIP offers educational and social activities.

Alumni Society

The School of Public Health has established 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.

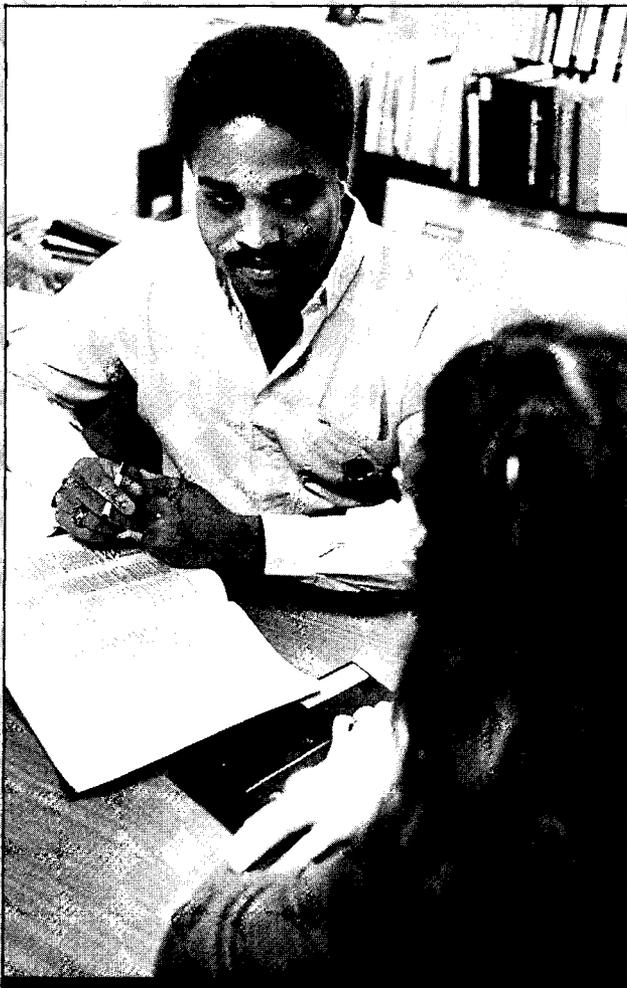
Access to Student Educational Records

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, telephone number, dates of enrollment and enrollment termination, 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 the Williamson Hall Information Center, 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).

Degree Programs and Academic Majors



Degree Programs and Academic Majors

Master of Public Health Program

This degree program's nine areas of specialization, called M.P.H. majors, are listed in this section in alphabetical order with descriptions of educational experiences, typical course schedules, and lists of faculty. Students enrolled in one of the majors of the M.P.H. Program must satisfy the six Educational Objectives (see Introduction) in addition to their major's special requirements.

Biostatistics

Major Chairperson: Marcus O. Kjelsberg, Ph.D.

This major is designed for students with mathematical ability and background who wish to prepare for a career in application of statistical methods to problems in public health.

Faculty and students in biostatistics have participated in numerous nationwide studies for the prevention and treatment of cardiovascular disease, cancer, and diabetes. The data from these studies offer faculty and students opportunities to develop and apply a variety of statistical methods. Analysis of data from current research projects is yielding valuable insights into ways of reducing the risk of disease.

The biostatistics curriculum includes biostatistical theory, epidemiologic methods, and public health courses. These classroom experiences are complemented by hands-on experience in biostatistical consulting and collaborative research.

First-year students without a background in biostatistics take basic biostatistics and theoretical statistics, become familiar with computer statistical packages, and learn other computing and data management skills. Courses in demography and public health supplement the first-year program. These are selected by students according to their needs and interests.

Second-year students take survival analysis, epidemiology, categorical data analysis, sampling methods, clinical trial methodology, and biostatistical consulting. Time is also available for electives, and most students choose additional courses in applied statistics or epidemiology.

Biostatistics and other School of Public Health courses are described under Course Descriptions in this bulletin. In addition to these courses, students may select courses from a wide range of areas such as management sciences, computer science, mathematics, statistics, and medical sciences.

Additional Admission Requirements (see also Introduction)

1. College major in one of the social, biological, mathematical, or physical sciences.

2. Two years of college mathematics.

Application deadline—July 15.

Typical Course Schedule

First Year

Fall:

PubH 5420 Statistical Computing I (3 cr)

PubH 5450 Biostatistics I (4 cr)

PubH 5460 Demographic Methods in Public Health (2 cr)

Stat 5131 Theory of Statistics I (4 cr)

Winter:

PubH 5421 Statistical Computing II (3 cr)

PubH 5452 Biostatistics II (4 cr)

PubH 5701 Public Health Administration II (3 cr) or

PubH 5751 Principles of Management in Health Services Organizations (3 cr)

Stat 5132 Theory of Statistics II (4 cr)

Spring:

PubH 5422 Statistical Computing III (3 cr)

PubH 5454 Biostatistics III (4 cr)

PubH 5461 Biostatistical Topics in Epidemiology (3 cr)

Stat 5133 Theory of Statistics III (4 cr)

Second Year

Fall:

PubH 5330 Epidemiology I (4 cr)

PubH 8420 Survival Analysis (3 cr)

— Behavioral Science elective (3 cr)

Winter:

PubH 5462 Clinical Trials I (3 cr)

PubH 8421 Categorical Data Analysis (3 cr)

PubH 8422 Sampling Theory (3 cr)

Spring:

- PubH 5152 Environmental Health (2 cr)
- PubH 5456 Biostatistical Consulting Seminar (3 cr)
- Electives (3 cr)

Primary Personnel

James R. Boen, Ph.D., Professor
Anne I. Goldman, Ph.D., Professor
Marcus O. Kjelsberg, Ph.D., Professor
Chap Le, Ph.D., Professor
Thomas A. Louis, Ph.D., Professor
Glenn E. Bartsch, Sc.D., Associate Professor
John E. Connert, Ph.D., Associate Professor
James Neaton, Ph.D., Associate Professor
Patricia M. Grambsch, Ph.D., Assistant Professor
William Thomas, Ph.D., Assistant Professor
Daniel Zelterman, Ph.D., Assistant Professor
Dorothy A. Jeffries, M.S., Public Health Specialist

Affiliated Personnel

Jacob E. Bearman, Ph.D., Professor Emeritus
Paul Gunderson, Ph.D., Lecturer; Minnesota Center
for Health Statistics, Minnesota Department of
Health
Eugene A. Johnson, Ph.D., Professor Emeritus
Kathleen M. Keenan, Ph.D., Associate Professor;
School of Dentistry
Frederick L. King, B.A., Lecturer; Chief,
Administrative Services, Minnesota Department
of Health
John P. Matts, Ph.D., Assistant Professor;
Department of Surgery, Medical School
Richard B. McHugh, Ph.D., Professor Emeritus

Community Health Education

Major Chairperson: Cheryl L. Perry, Ph.D.

The primary occupational goal of the health educator is to design innovative educational programs that will promote the health of the community, prevent disease, and help citizens use health services more effectively. Modern health educators work in a variety of settings including health departments, voluntary agencies, medical care organizations, the workplace, and schools. This two-year program focuses on behavioral theory, community intervention strategies, communication methods and evaluation skills.

The normal period of study is approximately six quarters of full-time study or 70 credits. The major is also designed to take into consideration the special needs of part-time students. Each student will have the opportunity to explore an area of special interest through the elective course selections and the master's project.

Additional Admission Requirements (see also Introduction)

1. Bachelor's degree with minimum of 10 quarter credits in health, biology, or biochemistry, 5 quarter credits in measurement sciences, and 20 quarter credits in the social and behavioral sciences.
2. Minimum total score on Graduate Record Examination of 1500 taken in the last five years.
3. A minimum of one year of voluntary or salaried work in health or social service settings.

Application deadline—February 28. Applications received after this date are considered on a space-available basis.

Typical Course Schedule

All students take courses in the following core areas, or their equivalents:

- School of Public Health Core (15-17 credits, 6 courses)
- Foundations (9 credits, 3 courses)
- Intervention Core (6 credits, 2 courses)
- Problems and Issues for Intervention (9 credits, 3 courses)
- Evaluation (6-7 credits, 2 courses)
- Professional Development (minimum 5 credits)
- Master's Project (4 credits)
- Electives (5 courses, credits vary)

Primary Personnel

Henry Blackburn, M.D., Professor
Judith Garrard, Ph.D., Professor
Robert Jeffery, Ph.D., Professor
Russell Luepker, M.D., Professor
Robert Veninga, Ph.D., Professor
Harry Lando, Ph.D., Associate Professor
David Murray, Ph.D., Associate Professor
Cheryl Perry, Ph.D., Associate Professor
Phyllis Pirie, Ph.D., Associate Professor
Robert Schwanke, M.P.H., Associate Professor
Alexander Wagenaar, Ph.D., Associate Professor
Carolyn Williams, Ph.D., Associate Professor
John Finnegan Jr., Ph.D., Assistant Professor
Jean Forster, Ph.D., Assistant Professor
Mark Wolfson, Ph.D., Assistant Professor
James Rothenberger, M.P.H., Instructor

Affiliated Personnel

Neil Bracht, M.A., M.P.H., Professor; School of Social Work
David Garloff, Ph.D., Assistant Professor; Director, Health Sciences Learning Resources
C. David Hollister, M.S.W., Ph.D., Professor; Director, School of Social Work
John Hung, Ph.D., Adjunct Assistant Professor; Psychologist, Health Psychology, University of Minnesota Hospital and Clinic

Degree Programs and Academic Majors

James Kincannon, Ph.D., Associate Professor Emeritus
Lawrence Kutner, Ph.D., Clinical Associate Professor; President, Health and Science Communications, Inc., Minneapolis
Harold Leppink, M.D., Clinical Associate Professor; School of Medicine, University of Minnesota, Duluth; Executive Officer, St. Louis County and Lake County Boards of Health
James Maddock, Ph.D., Associate Professor; Department of Family Social Science, College of Human Ecology
James Meland, Ph.D., Assistant Professor; Director, Faculty and Academic Staff Assistance Program
Richard Needle, Ph.D., Associate Professor; Department of Family Social Science, College of Human Ecology
William O'Brien, M.D., Clinical Professor, Department of Medicine, Medical School
James Schaefer, Ph.D., Associate Professor
Linda Schenck, M.D., Adjunct Instructor

Environmental Health

Major Chairperson: Ian A. Greaves, M.D.

This major is designed for general environmental health students and those wishing to focus in environmental toxicology, environmental chemistry, environmental and occupational epidemiology, environmental microbiology, industrial hygiene (including radiation protection), injury prevention, occupational medicine, and occupational health nursing. Through the major's associations with other University programs, students can plan a curriculum that involves numerous scientific and engineering fields. The course of instruction leading to the M.P.H. or M.S. degrees requires a minimum of 11 months of study. Students should plan to begin their work in the fall quarter and remain in attendance at least through the following summer sessions. Students enrolling in specialty areas are encouraged to plan a two-year curriculum. Students planning to proceed to a doctoral degree should enroll initially in an M.S. program. The M.P.H. is viewed as a professional degree for the student who plans to practice environmental or occupational health.

Students in environmental health are required to pass a written comprehensive examination before earning their degree. The examination is given in spring and fall. Students who require longer than five years to complete a master's degree will be required to repeat and pass the current written comprehensive examination to satisfy degree requirements.

Additional Admission Requirements (see also Introduction)

1. Undergraduate major is preferred in one of the biological, chemical, or physical sciences or in engineering.
2. An acceptable score is required on the Graduate Record Examination or the Medical College Admission Test (MCAT) from the last five years.
3. Résumé with a statement of career objectives.
4. A baccalaureate degree from an accredited school of nursing is required for the occupational health nursing focus.

Application deadline—Applicants are encouraged to apply before April 15. Applications received after that date will be considered on a space-available basis.

Typical Course Schedule

Different specialties in environmental health require different periods of study and different electives. The following is an example of a one-year general program of study:

Fall:

PubH 5159 Environmental Health Seminar (1 cr)
PubH 5211 Industrial Hygiene Engineering (3 cr)
PubH 5261 General Environmental Toxicology (3 cr)

PubH 5413 Vital Health Statistics (1 cr)
PubH 5414 Biostatistical Methods I (3 cr)

Winter:

PubH 5184 Air Analysis (3 cr)
PubH 5186 Environmental Chemistry (3 cr)
PubH 5243 Water and Health (3 cr)
PubH 5253 Hazardous Waste Management (3 cr)
PubH 5330 Epidemiology I (4 cr)

Spring:

- PubH 5152 Environmental Health (2 cr)
PubH 5153 Case Studies in Environmental Health (2 cr)
PubH 5158 Health Risk Evaluation (3 cr)
PubH 5161 Administration of Environment Health (3 cr)
PubH 5201 Radiation Protection and Measurement (2 cr)
PubH 5391 Introduction to Behavioral Epidemiology (3 cr)

Comprehensive Exam

Summer Session I/II

- PubH 5154 Field Experience in Environmental Health (1-6 cr per session)
— Electives (1-6 cr)

Primary Personnel

- Donald E. Barber, Ph.D., Professor
Jack S. Mandel, Ph.D., Professor
Donald Vesley, Ph.D., Professor
James H. Vincent, Ph.D., Professor
Susan G. Gerberich, Ph.D., Associate Professor
Ian A. Greaves, M.D., Associate Professor
Rexford D. Singer, M.S., Associate Professor
William A. Toscano, Jr., Ph.D., Associate Professor
Lisa M. Brosseau, Sc.D., Assistant Professor
George S. Maldonado, Ph.D., Assistant Professor
Deborah L. Swackhamer, Ph.D., Assistant Professor
Patricia M. McGovern, M.P.H., Instructor
Debra K. Olson, M.P.H., Instructor

Affiliated Personnel

- Jeanne F. Ayers, M.P.H., Clinical Instructor; Director of Continuing Education, Midwest Center for Occupational Health and Safety
Thomas Jetzer, M.D., M.P.H., Clinical Assistant Professor; Corporate Medical Adviser, Control Data Corporation
William H. Lohman, M.D., Clinical Assistant Professor; Staff Physician, Occupational Health Services, Ramsey Clinic
Jeffrey Mandel, M.D., Clinical Assistant Professor; Director, Occupational Residency Program, St. Paul-Ramsey Hospital
Marian Marbury, Sc.D., Clinical Assistant Professor; Environmental Epidemiologist, Minnesota Department of Health
Charles E. McJilton, Ph.D., Adjunct Assistant Professor; Senior Industrial Hygienist, Twin City Testing Corporation
Gary Olmstead, Ph.D., Adjunct Assistant Professor; Director of Special Health Services, General Mills Inc.
Deborah W. Peterson, Ph.D., Clinical Assistant Professor; Research Scientist, Section of Health Risk Assessment, Minnesota Department of Health
Pamela J. Shubat, Ph.D., Clinical Assistant Professor; Research Scientist, Section of Health Risk Assessment, Minnesota Department of Health
Fay M. Thompson, Ph.D., Assistant Professor; Acting Director, Department of Environmental Health and Safety, Boynton Health Service
Paul W. Willard, Ph.D., Adjunct Professor; Manager, Product Regulatory Toxicology, 3M Co.

Epidemiology

Major Chairperson: J. Michael Sprafka, Ph.D., M.P.H.

This major is designed to prepare students for careers in teaching, research, and program development, administration, and evaluation in health agencies, medical institutions, regulatory agencies, and industry.

The Master of Public Health (M.P.H.) is offered in a two-year program or in an accelerated one-year program for students who already have earned the Ph.D., M.D., D.D.S. or D.V.M. degree.

Available Courses and Areas of Concentration—Epidemiology and

other public health courses are described under Course Descriptions in this bulletin. In addition, students may select elective courses from a wide range of areas such as anthropology, biochemistry, computer science, genetics, microbiology, pathology, physiology, political science, and sociology. A detailed description of the course of study and a more comprehensive list of elective courses may be obtained by writing to the major chairperson.

Candidates may select areas of concentration appropriate to their academic interests and career objectives. Among the areas of concentration available are the epidemiology of cancer, epidemiology of cardiovascular diseases, epidemiology of infectious diseases, behavioral epidemiology, nutritional epidemiology, the epidemiology of mental illness, and veterinary public health.

Additional Admission Requirements (see also Introduction)

1. Minimum of a baccalaureate degree from an acceptable institution. Degree work should preferably demonstrate a strong background in biological and physical sciences and high scholastic achievement (i.e., a GPA of 3.00 on a 4.00 scale).

Degree Programs and Academic Majors

2. Minimum total score of 1500 on the Graduate Record Examination. The student is responsible for ensuring that a copy of the test results is forwarded to the major.

Application deadline—February 28.

Typical Course Schedule

First Year

Fall:

- PubH 5330 Epidemiology I (4 cr)
- PubH 5384 Human Physiology (4 cr)
- PubH 5420 Statistical Computing I (3 cr)
- PubH 5450 Biostatistics I (4 cr)

Winter:

- PubH 5340 Epidemiology II (4 cr)
- PubH 5383 Pathobiology of Human Disease (4 cr)
- PubH 5452 Biostatistics II (4 cr)

Spring:

- PubH 5335* Infectious Disease Epidemiology (3 cr)
- PubH 5341 Epidemiology III (4 cr)
- PubH 5391 Behavioral Epidemiology (3 cr)
- PubH 5454 Biostatistics III (4 cr)

*Students choose two of the following:

- PubH 5335, 5386, 5387

Second Year

Fall:

- PubH 8379 Epidemiology Seminar (Chronic Diseases) (2 cr)
- Electives (8-10 cr)

Winter:

- PubH 5386* Cardiovascular Disease Epidemiology (3 cr)
- and/or—
- PubH 5387* Cancer Epidemiology (3 cr)
- PubH 5751 Principles of Management in HSOs (3 cr)
- or—
- PubH 5701 Public Health Administration II (3 cr)
- or—
- PubH 5161 Administration of Public Health Programs (3 cr)
- Electives (5-7 cr)

Spring:

- PubH 8379 Epidemiology Seminar: MPH Presentations (2 cr)
- PubH 5152 Environmental Health (2 cr)
- Required Courses: 53 credits total
- Electives: 15 credits total
- Core Curriculum: 68 credits total

Primary Personnel

- Henry Blackburn, M.D., Professor
- David R. Jacobs, Ph.D., Professor
- Robert W. Jeffery, Ph.D., Professor
- Robert L. Kane, M.D., Professor
- Arthur S. Leon, M.D., Professor
- Russell V. Luepker, M.D., Professor
- Richard S. Crow, M.D., Associate Professor
- Aaron R. Folsom, M.D., Associate Professor
- Richard H. Grimm, M.D., Ph.D., Associate Professor

- Harry A. Lando, Ph.D., Associate Professor
- David M. Murray, Ph.D., Associate Professor
- Cheryl L. Perry, Ph.D., Associate Professor
- Phyllis L. Pirie, Ph.D., Associate Professor
- John D. Potter, M.D., Ph.D., Associate Professor
- Alexander C. Wagenaar, Ph.D., Associate Professor
- Carolyn L. Williams, Ph.D., Associate Professor
- John D. Belcher, Ph.D., Assistant Professor
- Roberd M. Bostick, M.D., Assistant Professor
- Patricia J. Elmer, Ph.D., Assistant Professor
- John R. Finnegan, Jr., Ph.D., Assistant Professor
- John M. Flack, Ph.D., Assistant Professor
- Jean L. Forster, Ph.D., Assistant Professor
- Myron D. Gross, Ph.D., Assistant Professor
- Paul McGovern, Ph.D., Assistant Professor
- Sandra L. Melnick, Dr.P.H., Assistant Professor
- Thomas A. Sellers, Ph.D., Assistant Professor
- Richard K. Severson, Ph.D., Assistant Professor
- J. Michael Sprafka, Ph.D., Assistant Professor
- Mark Wolfson, Ph.D., Assistant Professor

Affiliated Personnel

- Robert K. Anderson, D.V.M., M.P.H., Professor Emeritus
- Alan P. Bender, Ph.D., Clinical Associate Professor; Chief, Section on Chronic Disease and Environmental Epidemiology, Minnesota Department of Health
- Stanley L. Diesch, D.V.M., M.P.H., Professor; Department of Large Animal Clinical Sciences, College of Veterinary Medicine
- Laël C. Gatewood, Ph.D., Professor and Director; Health Computer Sciences and Laboratory Medicine and Pathology
- Robert W. Gibson, Ph.D., Associate Professor; Department of Behavioral Sciences, School of Medicine, and Department of Sociology-Anthropology, College of Letters and Science, University of Minnesota, Duluth
- Frederick C. Goetz, M.D., Professor; Department of Medicine, Medical School, University of Minnesota
- Ancel Keys, Ph.D., Professor Emeritus
- Lawrence H. Kushi, D.Sc., Assistant Professor, Division of Human Development and Nutrition
- Jack S. Mandel, Ph.D., Professor, Division of Environmental and Occupational Health
- Joseph P. Neglia, M.D., Assistant Professor; Department of Pediatrics, Medical School
- Michael T. Osterholm, Ph.D., M.P.H., Adjunct Associate Professor; State Epidemiologist and Chief, Section on Acute Disease Epidemiology, Minnesota Department of Health
- Joseph Quigley, D.V.M., Instructor, College of Veterinary Medicine
- Frank S. Rhame, M.D., Assistant Professor; Director, Infectious Diseases Section, Department of Medicine, Medical School
- R. Ashley Robinson, Ph.D., Lecturer; Division of Epidemiology; Professor, Department of Large Animal Clinical Sciences, College of Veterinary Medicine
- Leslie L. Robison, Ph.D., Associate Professor; Department of Pediatrics, Medical School
- James M. Schaefer, Ph.D., Associate Professor
- Leonard M. Schuman, M.D., Mayo Professor Emeritus

Health Services Administration

Major Chairperson: Vernon E. Weckwerth, Ph.D.

This M.P.H. major is available only to those who have first been accepted in one of the four Alternative Study Programs (ISP): Ambulatory Care, Hospital and Health Care, Patient Care, or Nutrition Administration with tracks in mental health and long-term care. The individual must meet the admission criteria for the master's option in addition to the ISP criteria.

The course of study includes completion of three years of any Alternative Study Program in addition to a minimum of 15 additional graduate credits and a research thesis. Enrollment in ISP requires employment as an administrator.

Typical Course Schedule

First Year

- PubH 5404 Statistical Decision Making (4 cr) or equivalent
 PubH 5775 Management and Organization (15 cr)

Second Year

- PubH 5766 Research Methods (2 cr)
 PubH 5776 Administrative and Professional Relationships (15 cr)

Third Year

- PubH 5155 Issues in Environmental and Occupational Health (2 cr)
 PubH 5330 Epidemiology I (4 cr)
 PubH 5770 Topics: Hospital and Health Care Administration (3 cr)
 PubH 5777 External Forces Affecting Health Care Delivery (25 cr)

TOTAL CREDITS = 70

Courses PubH 5775, 5776, and 5777 are a year in duration and begin only in the summer. Enrollment is specific to the administrative area and courses are specific to that area: (see PubH 5773-4, PubH 5778-9, PubH 5785-6, or PubH 5936-7). Some example courses above are offered in the summer but are also completed in the summer. Other epidemiology, research, and statistics courses are available. Contacts for the four Alternative Study Programs leading to this major are:

- Vernon E. Weckwerth, Ph.D., Professor, Hospital and Health Care Administration, Ambulatory Care Administration
 Bonnie Brysky, M.H.A., Mental Health Administration, Program Coordinator, Community University Health Care Center
 G. Kenneth Gordon, Ed.D., Associate Professor, Long-Term Care Administration

- Mary Jane Madden, Ph.D., Assistant Professor, Patient Care Administration
 Patricia Splet, Ph.D., M.P.H., Assistant Professor, Nutrition Administration

Maternal and Child Health

Major Chairperson: Barbara J. Leonard, Ph.D.

This major is designed primarily to train health professionals to improve and protect the health of mothers and children, adolescents and youth, and their families, and to prepare students for leadership positions at national, state, or local levels working with maternal and child health projects or health programs. The major admits qualified physicians, nurses, social workers, occupational and physical therapists, and other health professionals to full- or part-time study.

Each student's program of study is planned individually with an adviser to take into account her or his previous experiences, special needs, and professional goals and the school's requirements. A program of study may emphasize education, research, or administration. Some established emphases are in adolescent and youth health, maternal health, school health, chronic and handicapping conditions of children, and child abuse and neglect.

The typical program of study is 15 months. A minimum of 50 credits of coursework and a supervised field experience are required for the M.P.H. degree. Of the 50 credits, 18 are required in maternal and child health. Faculty/student seminars and other special learning opportunities complement the academic work.

Additional Admission Requirements (see also Introduction)

1. Doctoral or master's degree in an appropriate health field. Occupational or physical therapists, educators, and nurses are not required to hold a master's degree.
2. Nurses must have earned the B.S. or B.S.N. from a nursing program accredited by the National League for Nursing.

Degree Programs and Academic Majors

3. Minimum of one year of clinical experience and preferably one year of public health experience. Priority will be given to prospective students with public health experience related to maternal and child health.

4. Results of the Graduate Record Examination.

Application deadline—May 15. Applications received after this date are considered on a space-available basis.

Typical Course Schedule

Fall:

- PubH 5414 Biostatistical Methods I (3 cr)
- PubH 5605 Perinatal Health and Family Planning (3 cr)
- PubH 5806 Principles of Public Health Research (3 cr)
- Leadership in MCH

Winter:

- PubH 5330 Epidemiology I (4 cr)
- PubH 5606 Health of Infants and Young Children (3 cr)
- PubH 5621 MCH Student Seminar (3 cr)
- PubH 5751 Principles of Management in Health Service Organization (3 cr)
- Behavioral Science Requirement or Elective

Spring:

- PubH 5152 Environmental Health (2 cr)
- PubH 5607 Adolescent Health: Issues and Challenges (3 cr)
- PubH 5731 Administrative Aspects of Planning Disease Prevention/Health Promotion Programs (4 cr)
- Behavioral Science Requirement or Elective

Summer:

- PubH 5614 Field Experience in MCH
- PubH 5648 Topics in Maternal and Child Health (4 cr)
- PubH 5649 Maternal and Child Health Research (1 cr)

Primary Personnel

- Judith Brown, R.D., Ph.D., M.P.H., Professor
- Robert W. ten Bensel, M.D., M.P.H., Professor
- Gregory Alexander, M.P.H., Sc.D., Associate Professor
- John H. Himes, Ph.D., M.P.H., Associate Professor
- Janet Berkseth, M.S., Assistant Professor
- Debra Froberg, Ph.D., Assistant Professor
- Nancy Leland, M.S.W., Ph.D., Assistant Professor
- Barbara J. Leonard, R.N., M.S., Ph.D., Assistant Professor
- Joan Patterson, Ph.D., Assistant Professor
- Mary Story, Ph.D., Assistant Professor
- Patricia Splett, R.D., M.P.H., Ph.D., Assistant Professor
- Betty Lia-Hoagberg, R.N., Ph.D., Public Health Specialist

Affiliated Personnel

- Maymie Eschwey, O.T., M.P.H., Lecturer
- Michael Resnick, Ph.D., Associate Professor, Health Services Administration
- Stan Shanedling, M.P.H., Clinical Instructor
- Homer Venters, M.D., M.P.H., Professor; Chief, Department of Pediatrics, Medical School; St. Paul-Ramsey Medical Center
- J. Pamela Weiner, M.P.H., Clinical Instructor

Public Health Administration

Major Chairperson: Lee D. Stauffer, M.P.H.

The public health administration major is designed to prepare individuals for planning and administrative positions in public and community health programs, agencies, and facilities. Graduates may work in health departments, disease prevention and health promotion programs, health systems agencies, managed care systems, community health centers, or ambulatory care or long-term care facilities.

This M.P.H. major focuses on the role of the health agency and the health administrator within the total health environment and their impact on the public's health. It concentrates on knowledge and skills in the basic public health disciplines as well as in planning, management, financial management, evaluation, public policy, management information systems, and public health law.

Additional Admission Requirements (see also Introduction)

1. Basic courses (3 credits or equivalent) in the principles of accounting and microeconomics. Candidates lacking essential coursework will be required to make up deficiencies before or during the course of study.
2. Basic courses in biology, economics, political science, psychology, sociology, and statistics are strongly recommended.
3. Experience relevant to the area of concentration is also needed. Candidates with doctoral level preparation or who have extensive experience may apply for a one-year program. Candidates lacking experience, but well-qualified in other respects, will be given individual consideration.

Dual Degrees—Joint degree programs are possible with the Humphrey Institute of Public Affairs leading to a Master of Arts/M.P.H. combination with concentrations in policy, management or planning, and with the Carlson School of Management leading to a joint M.B.A./M.P.H. combination with a concentration in management.

Application Deadline—Applicants are urged to complete application by April 15. Applications submitted after this date are considered on a space-available basis.

This major can accommodate students with a diversity of administrative career interests. Through individual counseling and planning, a program can be tailored to meet the student's career interests and objectives. Courses offered within the School of Public Health, the Humphrey Institute of Public Affairs and the Carlson School of Management provide the health administration content for public health administration students. Students without a graduate degree and/or extensive experience in public health typically follow the two-year curriculum outlined below.

Typical Course Schedule

First Year

Fall:
 PubH 5413 Vital Statistics (1 cr)
 PubH 5414 Biostatistical Methods I (3 cr)
 PubH 5790 Sociology of Medicine and Health (4 cr)
 PubH 5700 Public Health Administration I (3 cr)
 — Electives (3 cr)

Winter:
 PubH 5330 Epidemiology (4 cr)
 PubH 5701 Public Health Administration II (3 cr)
 PubH 5720 Management Communication (3 cr)
 PubH 5727 Health Leadership and Effecting Change (3 cr)

Spring:
 PubH 5152 Environmental Health (2 cr)
 PubH 5702 Public Health Administration III (3 cr)
 PubH 5722 Interpersonal Behavior in Health Organizations (4 cr)
 PubH 5771 Financial Management (4 cr)

Summer:
 PubH 5704 Field Experience: Public Health Administration (3-5 cr)

Second Year:

Fall:
 PubH 5707 Master's Project (4 cr)
 PubH 5793 Economic Aspects of Health Care (3 cr)
 — Electives (3 cr)

Winter:
 PubH 5794 Public Policy in Health Care (3 cr)
 — Electives (12 cr)

Spring:
 PubH 5711 Public Health Law (4 cr)
 PubH 5731 Administrative Aspects of Planning Disease Prevention and Health Promotion Programs (4 cr)
 PubH 5747 Human Resource Management (3 cr)
 — Electives (3 cr)

Students are expected to have a minimum of 200 hours of field experience in Public Health Administration. Most students will meet this requirement during summer sessions I and II following the first year.

The course schedule above is illustrative only.

The major requires a minimum of 82 credit hours and a master's project. Students accepted into the one-year program must take a minimum of 55 credits.

The elective courses may be used to develop concentrations in the areas of the student's interest or to broaden knowledge and skills. With the adviser's counsel and approval, students may augment their programs from a wide variety of courses across the University, including public affairs, business administration, industrial relations, social work, community health nursing, management information systems, and risk management and insurance.

Primary Personnel

Bright M. Dornblaser, M.H.A., Professor
 Theodor J. Litman, Ph.D., Professor
 Robert Veninga, Ph.D., Professor
 Vernon E. Weckwerth, Ph.D., Professor
 Mila A. Aroskar, Ed.D., R.N., Associate Professor
 Lester E. Block, D.D.S., M.P.H., Associate Professor
 G. Kenneth Gordon, Ed.D., Associate Professor
 George O. Johnson, Ph.D., Associate Professor
 Michael Resnick, Ph.D., Associate Professor
 Barbara Spradley, M.N., Associate Professor
 Lee D. Stauffer, M.P.H., Associate Professor
 Robert Connor, Ph.D., Assistant Professor
 James Goes, Ph.D., Assistant Professor
 Sharon Ostwald, Ph.D., R.N., Assistant Professor
 Sandra Potthoff, Ph.D., Assistant Professor

Degree Programs and Academic Majors

Affiliated Personnel

Pauline Bouchard, J.D., Clinical Assistant Professor;
Assistant Director, Public Health Laboratory
Division, Minnesota Department of Health

David Giese, M.P.H., Clinical Assistant Professor;
Assistant Director, Health Promotion and Health
Education Division, Minnesota Department of
Health

Paul Gunderson, Ph.D., Clinical Assistant Professor;
Director, Minnesota Center for Health Statistics,
Minnesota Department of Health

Brenda Johnson, M.P.H., R.D., Adjunct Instructor

David Lurie, M.B.A., Adjunct Assistant Professor;
Commissioner of Health, City of Minneapolis

Daniel J. McInerney, Jr., M.P.H., J.D., Adjunct
Assistant Professor; Deputy Commissioner,
Minnesota Department of Health

Michael Moen, M.P.H., Clinical Assistant Professor;
Director, Division of Disease Prevention and
Control, Minnesota Department of Health

Public Health Nursing

Liaison: Barbara A. Spradley, M.N.

The public health nursing major is being reorganized and will be moving to the School of Nursing. Students enrolled in the former program who are still completing their studies currently work with public health nursing faculty advisers in the School of Public Health. Nurses interested in pursuing graduate preparation in public health without a nursing emphasis may pursue another relevant major in the School of Public Health. Applicants interested in pursuing graduate preparation in public health nursing for leadership roles in community health should seek information from the School of Nursing.

Public Health Nutrition

Major Chairperson: Patricia L. Splett, Ph.D.

Coursework, student research projects, advising, and field placements in public health nutrition are designed to provide students with knowledge and skills needed for the practice in public health, for understanding the relationships between human nutrition and health, and for the effective translation of this knowledge into programs and services that improve and maintain the nutritional health of target populations.

Overall, 60% of graduates work in public health agencies, 20% in educational institutions, and the remainder in health promotion and education programs in health care, social service agencies, and private industry.

This major includes strong applied human nutrition, maternal, child, youth, and adult nutrition components. Students have the option of concentrating their academic, field, and research studies in an area of emphasis such as nutrition intervention, maternal and child nutrition, or administration.

Students complete an average of 65 credits of course, field, and master's research project work. Field placements are planned concurrently with coursework (minimum three credits) and in a six- to eight-week block placement (minimum six credits). Field experiences are completed in public and private health, education, social service, and other agencies. Students must successfully complete a master's research project.

Monitoring student achievement of major objectives begins with faculty advising in the selection of specific nutrition courses, fieldwork, and master's project research topics. Students are guided in following a curriculum that meets the School of Public Health's objectives, as well as the student's objectives. Educational objectives are evaluated by performance in courses; successful completion of the master's research projects; and a comprehensive examination, given near the end of the program, which covers applied human nutrition and public health concepts. Competencies in the application of nutrition science to the solution of public health nutrition problems are evaluated by field faculty advisers during field experiences.

Students begin the major in September with a special three-week session before the beginning of fall quarter, and generally complete the program in 16 months.

Many opportunities are available for student involvement with faculty in applied human nutrition research. Graduate assistantships and traineeships are available to qualified applicants.

Maternal and Child Nutrition

Track—The goals of this track are to improve and enhance the nutritional health of mothers, children, and adolescents and to develop, expand, and improve the delivery of nutrition services to these groups through leadership training of nutritionists who will have positions of responsibility within academic or public health settings. The educational program focuses on acquiring the relevant knowledge base, skill, and attitude to enable or facilitate leadership in the field of maternal and child nutrition. Two trainees are supported in this track.

Alternative Study Program in Nutrition Administration

—This two-year program is for nutritionists and dietitians who desire advanced study in administration and management while maintaining active positions in the profession. The goal is to build a national network of nutrition administrators who incorporate the principles of management and the latest nutrition knowledge in the design and implementation of effective nutrition programs and services. The program, which includes on-campus sessions in July, regional seminars, independent study, and monthly meetings with preceptors, leads to a credential of management studies in health services administration with an option to complete the M.P.H. in nutrition.

Additional Admission Requirements (see also Introduction)

1. Registered dietitian or eligible for dietetic registration. Must include a verification statement indicating completion of academic requirements or evidence of registration as a dietitian.

Requirement may be waived for individuals with previous health professional licensure.

2. Professional work experience desired.

Application deadline—April 1. Applications received after this date are considered on a space-available basis. Early applicants receive priority for available graduate assistantships.

Typical Course Schedule

Interim:

PubH 5900 Public Health Nutrition: Principles and Programs (3 cr)

Fall:

PubH 5413 Vital and Health Statistics (1 cr)

PubH 5450 Biostatistics I (4 cr)

PubH 5806 Principles of Public Health Research (3 cr)

PubH 5901 Seminar: Public Health Nutrition (1 cr)

PubH 5902 Maternal and Infant Nutrition (3 cr)

PubH 5906 Field Experience (1 cr)

— Elective Credits (3 cr)

Winter:

PubH 5330 Epidemiology I (4 cr)

PubH 5389 Nutritional Epidemiology (3 cr)

PubH 5901 Seminar: Public Health Nutrition (1 cr)

PubH 5906 Field Experience (1 cr)

PubH 5914 Nutrition Intervention (3 cr)

PubH 5935 Child and Adolescent Nutrition (3 cr)

Spring:

PubH 5152 Environmental Health (2 cr)

PubH 5392 Public Health Approaches to Health Behavior Change (3 cr)

PubH 5901 Seminar: Public Health Nutrition (1 cr)

PubH 5903 Nutrition Assessment (3 cr)

PubH 5906 Field Experience (1 cr)

PubH 5932 Nutrition: Adults and Elderly (3 cr)

PubH 5934 Administrative Skill Building (3 cr)

— Elective Credits (3 cr)

Summer I

PubH 5933 Nutrition: Health/Disease Relationships (3 cr)

Summer II

PubH 5906 Field Experience (6 cr)

PubH 5909 Topics: Public Health Nutrition (3 cr)

— Elective Credits (3-6 cr)

Primary Personnel

Judith Brown, Ph.D., Professor

John H. Himes, Ph.D., Associate Professor

I. Marilyn Buzzard, Ph.D., Assistant Professor

Lawrence H. Kushi, Sc.D., Assistant Professor

Patricia Splett, Ph.D., Assistant Professor

Mary Story, Ph.D., Assistant Professor

U. Beate Krinke, M.P.H., Instructor

Darlene Lansing, M.P.H., Coordinator

Degree Programs and Academic Majors

Affiliated Personnel

Irene Alton, R.D., M.S., Lecturer; Nutritionist, Health Start Inc./Associate
Katherine Cairns, R.D., M.P.H., Lecturer; Director, St. Paul Division of Health
Francis Doring, R.D., M.P.H., Lecturer; Nutrition Consultant, Minnesota Department of Health
Karen Owens, Adjunct Instructor; K. A. Owens and Associates, Inc., Food/Nutrition Public Relations Consultant
June Spencer, Lecturer; Continuing Education and Extension; Opinion Research Associates
Ruth Stief, M.P.H., Associate Professor Emeritus

Master of Healthcare Administration Program (M.H.A.)

This degree program includes the specialty area of the hospital and health care administration major. Students enrolled in the major must demonstrate knowledge and understanding of philosophy and general principles of public health as well as those in their area of specialization.

Hospital and Healthcare Administration

Program Director: George O. Johnson, Ph.D.

The objective of the hospital and health-care administration major is to prepare individuals for high-level administrative positions after the requisite years of practical experience in responsible managerial positions. Qualified graduates of the program may become chief executives or senior administrators in hospitals, long-term care, mental health, prepaid health insurance, health maintenance, ambulatory care, health planning, government, consulting, or multi-institutional hospital and health-care delivery organizations.

The M.H.A. degree may be earned through one of the following options:

1. Full-time academic study for 21 months including a summer administrative residency of three months, with successful completion of 82 quarter credits and an acceptable research thesis or management project. Students may

use electives to develop an emphasis in functional and contextual areas. Dual degrees in public affairs, business administration, and law are available for students who are accepted for admission to both units.

2. Alternative academic study in the Alternative Study Programs (ISP) for Hospital and Healthcare, Ambulatory Care, Patient Care and Nutrition Administration with tracks in long-term care and mental health. Following completion of the ISP, students admitted to the M.H.A. program complete 15 additional quarter credits of full-time study, with completion of an acceptable research thesis. A minimum of 9 credits must be completed in full-time study in residence at the University of Minnesota.

Additional Admission Requirements (see also Introduction)

1. At least 3 credits of college-level basic principles of accounting, statistics, and microeconomics.
2. An acceptable score on the Graduate Record Examination or the Graduate Management Admission Test. These tests must have been taken within the last five years.
3. A personal interview with faculty and alumni.

Application deadline—April 15 (early application recommended)

Typical Course Schedule

First Year

Fall:

- PubH 5404 Introduction to Biostatistics (4 cr)
PubH 5742 Management of Healthcare Organizations (3 cr)
PubH 5756 Financial Accounting in Health Organizations (4 cr)
PubH 5791 Public Health and Medical Care Organizations (3 cr)
PubH 5792 Health Services Organizations in the Community (1 cr)

Winter:

- PubH 5720 Management Communications (3 cr)
PubH 5744 Principles of Problem Solving (4 cr)
PubH 5757 Managerial Accounting in Health Organizations (4 cr)

PubH 5760 Operations Research and Control Systems (3 cr)

Spring:

PubH 5747 Human Resources Management (3 cr)

PubH 5759 Financial Management in Health Organizations (4 cr)

PubH 5761 Quantitative Methods (3 cr)

Summer:

PubH 5746 Clerkship (3 cr)

Second Year

Fall:

PubH 5793 Economic Aspects of Healthcare (3 cr)

Winter:

PubH 5753 Strategic Management (3 cr)

Spring:

PubH 5796 Legal Considerations (3 cr)

During their second year, students have bracket elective requirements in industry, management and policy, and environment and are encouraged to focus their other electives in areas relevant to their career goals. In addition, during their second year students must write a research thesis or conduct a management project.

Total Required Credits for Graduation = 82

Primary Personnel

Jon B. Christianson, Ph.D., Professor
Bright M. Dornblaser, M.H.A., Professor
Roger Feldman, Ph.D., Professor
John E. Kralewski, Ph.D., Professor
Theodor J. Litman, Ph.D., Professor
Ira Moscovice, Ph.D., Professor
Robert Veninga, Ph.D., Professor
Vernon E. Weckwerth, Ph.D., Professor
Mila A. Aroskar, Ed.D., R.N., Associate Professor
Lester E. Block, D.D.S., M.P.H., Associate Professor
Thomas Choi, Ph.D., Associate Professor
Bryan E. Dowd, Ph.D., Associate Professor
G. Kenneth Gordon, Ed.D., Associate Professor
George O. Johnson, Ph.D., Associate Professor
John Nyman, Ph.D., Associate Professor
Michael Resnick, Ph.D., Associate Professor
Barbara Spradley, M.N., Associate Professor
Lee D. Stauffer, M.P.H., Associate Professor
Robert A. Connor, Ph.D., Assistant Professor
James B. Goes, Ph.D., Assistant Professor
Mary Jane Madden, Ph.D., Assistant Professor
Sharon Ostwald, Ph.D., R.N., Assistant Professor
Sandra Potthoff, Ph.D., Assistant Professor

Affiliated Personnel

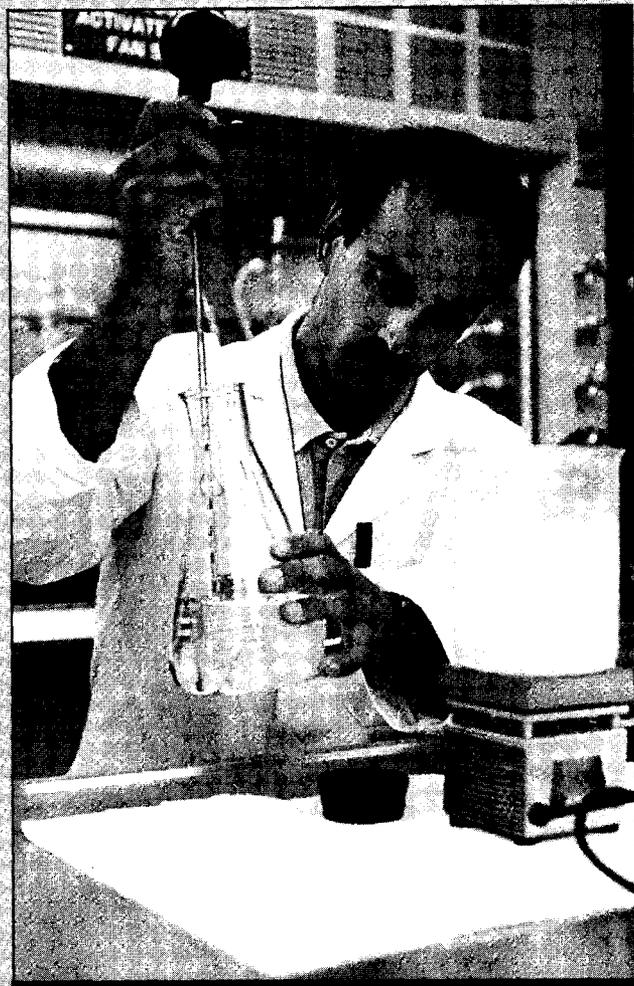
N. tor Dahl, M.B.A., Adjunct Associate Professor;
Private Consultant
Robert Dickler, M.H.A., Clinical Instructor; General
Director, University of Minnesota Hospital and
Clinic



Degree Programs and Academic Majors

- Susan B. Hann, M.H.S.A., Adjunct Assistant Professor; Principal, Hamilton/KSA Associates
- Gregory W. Hart, M.H.A., Clinical Assistant Professor; Senior Associate Director, University Hospital and Clinic
- William F. Henry, M.A., Instructor; Administrator, Diabetes Education Center, St. Louis Park Medical Center Research Foundation
- Steven G. Hillestad, M.A., Adjunct Instructor; Senior Vice President, Marketing, Lifespan
- Geoffrey L. Kaufmann, M.B.A., Adjunct Assistant Professor; Senior Associate Director, University Hospital and Clinic
- Daniel McInerney, J.D., M.P.H., Adjunct Assistant Professor; Deputy Commissioner, Minnesota Department of Health
- Bruce Miller, M.H.A., Adjunct Associate Professor; Principal, Hamilton/KSA Associates
- Richard Oszustowicz, B.A. Adjunct Associate Professor; Vice President for Finance, Abbott-Northwestern Hospital
- James Rice, Lecturer; Senior Vice President, HealthOne Corporation
- William Riley, Ph.D. Adjunct Instructor; Executive Vice President, Aspen Medical Group
- John Sweetland, M.H.A., Adjunct Assistant Professor; President, Sweetland Associates
- Terry Tranter, Ph.D., Adjunct Assistant Professor; Assistant Professor, Department of Accounting, Carlson School of Management
- Mary Ellen Wells, M.H.A., Adjunct Assistant Professor; Assistant Director, University Hospital and Clinic

Administrative Divisions



Administrative Divisions

The School of Public Health is organized into six administrative divisions for teaching, research, and service purposes: Biostatistics, Environmental and Occupational Health, Epidemiology, Health Services Administration, Health Services Research and Policy, and Human Development and Nutrition. The organizational structure for teaching purposes runs across divisional lines. Faculty are listed whose primary appointments are in the School of Public Health and who hold the academic rank of professor, associate professor, assistant professor, instructor, or who hold professional academic ranks such as senior research associate or research associate.

Division of Biostatistics

Division Head: Thomas A. Louis, Ph.D.

This division provides instruction in quantitative methods to biostatistics, public health, and other health sciences students. It offers consultative assistance to health sciences investigators through its Biostatistics Consulting Laboratory, conducts collaborative biostatistical research in clinical trials and field studies through its Coordinating Center for Biometric Research, and supports research by individual faculty members.

Faculty interests cover the spectrum of biostatistical research, with special emphasis on design of risk factor intervention studies, bioassay, techniques of statistical consultation, estimation problems in case control studies, meta analysis, management of large data bases (e.g., distributed data processing systems), analytic strategies for longitudinal data sets (e.g., relative risk regression methods), and stopping rules for clinical trials.

Division Personnel

James R. Boen, Ph.D., Professor
Anne I. Goldman, Ph.D., Professor
Marcus O. Kjelsberg, Ph.D., Professor
Chap T. Le, Ph.D., Professor
Thomas A. Louis, Ph.D. Professor
John E. Connett, Ph.D., Associate Professor

James Neaton, Ph.D., Associate Professor
Patricia M. Grambsch, Ph.D., Assistant Professor
William Thomas, Ph.D., Professor
Daniel Zelterman, Ph.D., Assistant Professor
Dorothy A. Jeffries, M.S., Public Health Specialist
Glenn E. Bartsch, Sc.D., Senior Research Associate
Dorothee Aepli, Ph.D., Research Associate
Sharon Rolnick, Ph.D., Research Associate
Sylvia Cheng, M.S., Research Fellow
Lisa Fosdick, M.S., Research Fellow
Gregory Grandits, M.S., Research Fellow
Joseph Grill, M.S., Research Fellow
Randall LaBounty, M.S., Research Fellow
John Lagus, M.S., Research Fellow
Cyndi Launer, M.S., Research Fellow
Wondra Lee, M.S., Research Fellow
Bruce Lindgren, M.S., Research Fellow
Bryan Randall, M.S., Research Fellow
Jessica Shaten, M.S., Research Fellow
Kenneth Svendsen, M.S., Research Fellow
Deborah Wentworth, M.P.H., Research Fellow
Marsha McDonald, M.S., Coordinator

Division of Environmental and Occupational Health

Division Head: Ian A. Greaves, M.D.

This division is concerned primarily with disease and injury prevention through the implementation of appropriate biological, chemical, engineering, and physical control measures. Focus is on agents responsible for acute and chronic diseases and physical trauma encountered in various environments and in products used and consumed by human beings. Studies include the behavior of environmental agents, the identification of populations at risk, and control measures effective in minimizing internal and external exposure.

Division Personnel

Donald E. Barber, Ph.D., Professor
Jack S. Mandel, Ph.D., Professor
Donald Vesley, Ph.D., Professor
James H. Vincent, Ph.D., Professor
Susan G. Gerberich, Ph.D., Associate Professor
Ian A. Greaves, M.D., Associate Professor
Rexford D. Singer, M.S., Associate Professor
William A. Toscano, Jr., Ph.D., Associate Professor
Lisa M. Brosseau, Sc.D., Assistant Professor
George S. Maldonado, Ph.D., Assistant Professor
Deborah L. Swackhamer, Ph.D., Assistant Professor
Patricia M. McGovern, M.P.H., Instructor
Debra K. Olson, M.P.H., Instructor
Timothy Church, Ph.D., Research Associate
Mourad Rahi, Ph.D., Research Associate
W. Peter Carr, M.S., Research Fellow

Division of Epidemiology

Interim Division Head: Robert Jeffery, Ph.D.

This division, dedicated to teaching, research, and community service in epidemiology, the control and prevention of diseases, includes programs and course offerings in epidemiology, and community health education. Its research activities embrace a diversity of epidemiological investigations directed toward causes of diseases, their prevention, and their control. The division also provides consultative services in epidemiology to the school, health sciences departments, the University at large, and community agencies.

Division Personnel

Henry Blackburn, M.D., Professor
 David R. Jacobs, Ph.D., Professor
 Robert W. Jeffery, Ph.D., Professor
 Arthur S. Leon, M.D., Professor
 Russell V. Luepker, M.D., Professor
 Richard S. Crow, M.D., Associate Professor
 Aaron R. Folsom, M.D., Associate Professor
 Richard H. Grimm, M.D., Ph.D., Associate Professor
 Harry A. Lando, Ph.D., Associate Professor
 David M. Murray, Ph.D., Associate Professor
 Cheryl L. Perry, Ph.D., Associate Professor
 Phyllis L. Pirie, Ph.D., Associate Professor
 John D. Potter, M.D., Ph.D., Associate Professor
 Robert W. Schwanke, M.P.H., Associate Professor
 Alexander C. Wagenaar, Ph.D., Associate Professor
 Carolyn Williams, Ph.D., Associate Professor
 John D. Belcher, Ph.D., Assistant Professor
 Patricia J. Elmer, Ph.D., Assistant Professor
 John R. Finnegan, Jr., Ph.D., Assistant Professor
 John M. Flack, M.D., Assistant Professor
 Jean L. Forster, Ph.D., Assistant Professor
 Myron D. Gross, Ph.D., Assistant Professor
 Paul D. McGovern, Ph.D., Assistant Professor
 Sandra L. Melnick, Dr.P.H., Assistant Professor
 Thomas A. Sellers, Ph.D., Assistant Professor
 Richard K. Severson, Ph.D., Assistant Professor
 J. Michael Sprafka, Ph.D., Assistant Professor
 Mark Wolfson, Ph.D., Assistant Professor
 James H. Rothenberger, M.P.H., Instructor
 James M. Schaefer, Ph.D., Professional Director
 Kathie Doliszny, Ph.D., Research Associate
 Peter J. Hannan, M. Stat., Research Associate

Division of Health Services Administration

Division Head: George O. Johnson, Ph.D.

The goals of this division are to prepare generalist and specialist administrators for the full range of health system organizations, prepare teachers and researchers, conduct health services research, and provide community service in order to improve health services in this state and nation. Faculty and student research is conducted under a cooperative relationship with the Division of Health Services Research and Policy.

Division Personnel

Bright M. Dornblaser, M.H.A., Professor
 Theodor J. Litman, Ph.D., Professor
 Robert L. Veninga, Ph.D., Professor
 Vernon E. Weckwerth, Ph.D., Professor
 Mila A. Aroskar, Ed.D., R.N., Associate Professor
 Lester E. Block, D.D.S., Associate Professor
 G. Kenneth Gordon, Ed.D., Associate Professor
 George O. Johnson, Ph.D., Associate Professor
 Michael Resnick, Ph.D., Associate Professor
 Barbara Spradley, M.N. R.N., Associate Professor
 Lee D. Stauffer, M.P.H., Associate Professor
 Robert A. Connor, Ph.D., Assistant Professor
 James B. Goes, Ph.D., Assistant Professor
 Mary J. Madden, Ph.D., Assistant Professor
 Sharon Ostwald, Ph.D. R.N., Assistant Professor
 Sandra Potthoff, Ph.D., Assistant Professor
 Dean McWilliams, M.S., Associate Continuing Education Specialist

Division of Health Services Research and Policy

Division Head: John E. Krlewski, Ph.D.

The purpose of this division is to conduct policy research and teach graduate-level coursework focused on the organization, financing, and management of health services. The research program emphasizes work related to long-term care of the aged, the structure of health insurance programs, alternate payment systems (e.g., HMOs, PPOs), and rural health care. The faculty offer graduate coursework through several academic programs in the School of Public Health and co-sponsor a Ph.D. program in Health Services Research, Policy, and Administration. The division has research linkages with the Hubert H. Humphrey Institute, Department of Economics, Carlson School of Management, School of Social Work, Medical School, School of Dentistry, and College of Pharmacy.

Division Personnel

Jon Christianson, Ph.D., Professor
Roger D. Feldman, Ph.D., Professor
Judith Garrard, Ph.D., Professor
Robert L. Kane, M.D., Professor
Rosalie A. Kane, D.S.W., Professor
John E. Krlewski, Ph.D., Professor
Ira S. Moscovice, Ph.D., Professor
Thomas Choi, Ph.D., Associate Professor
Bryan E. Dowd, Ph.D., Associate Professor
John Nyman, Ph.D., Associate Professor
Michael D. Finch, M.A., Assistant Professor
Steven Hillson, M.D., Assistant Professor, Medical School
Ed Ratner, M.D., Assistant Professor, Medical School
Nicole Lurie, M.D., Assistant Professor, Medical School

Division of Human Development and Nutrition

Division Head: John H. Himes, Ph.D., M.P.H.

The mission of the division is to preserve and enhance the health of the public through the discovery and transmission of knowledge specifically related to health throughout the life cycle and to health applications of human nutrition. Two themes characterize substantive strengths of the faculty and comprise chief emphases of research and training: the developmental perspective and intervention. The developmental perspective recognizes the processes of growth, maturation, and other developmental changes as fundamental to understanding health and nutrition needs and services. Emphasis on intervention provides paradigms for initiating preventive activities and includes rigorous designs for evaluation of services and for research.

Division Personnel

Judith Brown, R.D., M.P.H., Ph.D., Professor
Robert ten Bensel, M.D., M.P.H., Professor
Greg R. Alexander, M.P.H., Sc.D., Associate Professor
John H. Himes, Ph.D., M.P.H., Associate Professor
Janet Berkseth, M.S., Assistant Professor
I. Marilyn Buzzard, Ph.D., Assistant Professor
Debra G. Froberg, Ph.D., Assistant Professor
Lawrence H. Kushi, Sc.D., Assistant Professor
Nancy L. Leland, M.P.H., Ph.D., Assistant Professor
Barbara J. Leonard, R.N., M.S., Ph.D., Assistant Professor
Betty Lia-Hoagberg, R.N., M.S., Ph.D., Public Health Specialist
Joan Patterson, Ph.D., Assistant Professor
Patricia Splet, R.D., M.P.H., Assistant Professor
Mary Story, R.D., Ph.D., Assistant Professor
U. Beate Krinke, M.P.H., Instructor

Health Care Finance Administration Research Center

Director: Roger D. Feldman, Ph.D.

This research center studies issues and policies for improving the financing and delivery of federal health care programs. The Division of Health Services Research and Policy in the School of Public Health, in association with the Leonard Davis Institute of Health Economics at the University of Pennsylvania and Mathematica Policy Research, Inc. in Princeton, New Jersey, form the research consortium. The center is funded by the Health Care Financing Administration of the U.S. Department of Health and Human Services.

Center Personnel

Jon Christianson, Ph.D., Professor
Bryan E. Dowd, Ph.D., Associate Professor
Roger D. Feldman, Ph.D., Professor
Michael D. Finch, Ph.D., Assistant Professor
Judith Garrard, Ph.D., Professor
Steve H. Hillson, M.D., Assistant Professor, Medical School
Robert L. Kane, M.D., Professor
Rosalie A. Kane, D.S.W., Professor, School of Social Work
John E. Kralewski, Ph.D., Professor
Nicole Lurie, M.D., Assistant Professor
Ira S. Moscovice, Professor
John Nyman, Ph.D., Associate Professor
Mark Pauly, Ph.D. Associate Director: Executive Director, Leonard Davis Institute of Health Economics, University of Pennsylvania
Barbara Phillips, Ph.D., Associate Director; Senior Economist, Mathematica Policy Research, Princeton, New Jersey
Ed Ratner, M.D., Assistant Professor, Medical School

Midwest AIDS Training and Education Center

Director: James Rothenberger, M.P.H.

The Midwest AIDS Training and Education Center (MATEC) is one of 13 regional centers funded by the Health Resources and Services Administration and dedicated to AIDS training and education for health professionals. MATEC is a consortium of academic, professional, and public organizations in six states. The primary charge is to help providers deliver competent and effective care to the increasing number of people with HIV infection or AIDS.

The goals of MATEC are to educate health professionals with strategies for HIV prevention, train AIDS educators, assist primary care providers in clinical management of HIV-infected individuals, and assist health professional schools develop AIDS material for their curricula.

Center Personnel

Henry Blackburn, M.D., Professor
James Rothenberger, M.P.H., Instructor

Midwest Center for Occupational Health and Safety

Director: Ian A. Greaves, M.D.

The center is one of several national Educational Resource Centers funded by the National Institute for Occupational Safety and Health. It is a consortium of training programs offered through the School of Public Health and the Department of Internal Medicine, St. Paul-Ramsey Medical Center, St. Paul. The center offers graduate training at the master's and doctoral levels in the areas of industrial hygiene, injury prevention and safety, occupational health nursing, and occupational medicine. Traineeships are available to support students.

Center Program Directors

Jeanne F. Ayers, M.P.H., Program Director,
Continuing Education
Susan G. Gerberich, Ph.D., Program Director, Safety/
Injury Prevention
Ian A. Greaves, M.D., Center Director
Jeffrey Mandel, M.D., Program Director, Occupa-
tional Medicine
Patricia M. McGovern, M.P.H., Program Director,
Occupational Health Nursing
Rexford D. Singer, M.S., Deputy Center Director
James H. Vincent, Ph.D., Program Director,
Industrial Hygiene

Course Descriptions



Course Descriptions (PubH)

Symbols—The following symbols are used throughout the descriptions:

† 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 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.

3001. PERSONAL AND COMMUNITY HEALTH. (3 cr, §3004, §GC 3114, §5022, §5023) O'Brien, Rothenberger
Fundamental 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 the scientific, sociocultural, and attitudinal aspects of alcohol and other drug abuse problems, with special emphasis on incidence, high risk populations, prevention, and intervention.

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

3034. TOPICS IN ALCOHOL AND DRUG ABUSE. (Cr ar; prereq #) Staff
Selected readings in alcohol and drug use and problems, and evaluation of student's mastery of the assigned study.

3151. INTRODUCTION TO ENVIRONMENTAL HEALTH. (3 cr) Thompson, staff
The role of environmental factors in injury and disease control.

3301. PERSPECTIVES: INTERRELATIONSHIPS OF PEOPLE AND ANIMALS IN SOCIETY TODAY. (2 cr, §CVM 5100, §5303, §5304)

Social and economic consequences of pets and people sharing urban environments; concerns of animal rights; differences in cultures and their influence on animal/human relationships.

5001. PHILOSOPHICAL AND CONCEPTUAL BASES OF PUBLIC HEALTH PRACTICE. (3 cr; prereq grad or public health grad or #) Schwanke
Socialization to public health. Multidisciplinary analysis of philosophical, conceptual bases and action components of problems, issues. Emphasis on legal, ethical, scientific, historical, economic, and social bases of public health principles, concepts, values, beliefs, and methods.

5002. PUBLIC HEALTH ISSUES IN HISTORICAL PERSPECTIVE. (4 cr, §HMed 5002) Eyer
The evolution of major recurring problems and issues in public health including the environment and health, food customs and nutrition, control of alcohol and drugs, venereal diseases and public policy, human resources regulation, and relationship of science to promotion of health.

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

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

5005. TOPICS IN PUBLIC HEALTH. (Cr ar; prereq advance proposal, #) Staff
Individualized, directed instruction. Selected readings in public health with discussion based on these readings.

5007. PRINCIPLES OF PUBLIC HEALTH. (2 cr) Staff
Overview of the strategies, barriers, and policy choices implied by a variety of public health goals and activities. Historical and contemporary public health issues. Overall course goal: derive a set of principles that identify public health efforts.

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

5012. FUNDAMENTALS OF HEALTH BEHAVIOR CHANGE. (3 cr, \$5804; prereq grad or public health grad or #) Hung
Principles, applications, and translation of early and existing paradigms and theories of learning into principles of health behavior change. Role of motivation, specific behavior change approaches (e.g., self-reinforcement, contingency contracting, modeling, biofeedback, self-regulation).

5013. INTERDISCIPLINARY TEAM TRAINING IN HEALTH SERVICES DELIVERY. (3 cr, \$HSU 5001, \$HSU 5003, \$SW 5013) Cohn, Schwanke
Interdisciplinary team development with application to public health, human service projects. Didactic content, experiential methods, activities to develop attitudes, skills essential for effective team goal setting, decision making, problem solving, and task accomplishment.

5014. BEHAVIORAL MEDICINE I: THEORY, RESEARCH, AND PRACTICE. (3 cr, \$5853; prereq psych grad or health sciences grad professional in health-related discipline) Hung
Survey of the history of, and current issues in, behavioral medicine and health psychology. Stress and its management, lifestyle intervention, preventive measures for public health, psychology of health and illness behaviors, self-management and health education.

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

5017. CROSS-CULTURAL PERSPECTIVES ON HEALTH BEHAVIORS. (3 cr, \$5807) Williams
Cross-cultural issues (both international and sub-cultural) that influence people's health behaviors. Consideration of what constitutes culture and how cross-cultural factors are studied.

5018. PREVENTION OF MENTAL DISORDERS. (3 cr, \$5803; prereq public health or health sciences or behavioral sciences or social sciences grad)
Descriptions of methods of preventing specific mental disorders, based on epidemiological research, as well as ways likely to promote and enhance competency and mental health. Emphasis on primary prevention (including health promotion) rather than secondary or tertiary preventions.

5020. PUBLIC HEALTH SOCIAL WORK INTERGRATIVE SEMINAR. (3 cr, \$SW 5020; prereq dual MSW-MPH or other grad public health or social work student) Schwanke, Williams
Socializes students to an integrated, synthesized PHSW philosophy, roles, functions, knowledge, skills for practical application to major contemporary social health problems. Emphasizes an expansionistic, social epidemiological, conceptual problem analysis and community intervention.

5022. PERSONAL AND COMMUNITY HEALTH. (3 cr, \$3001, \$3004, \$5023, \$GC 3114) Rothenberger
Fundamental principles of health conservation and disease prevention.

5023. BASIC CONCEPTS IN PERSONAL AND COMMUNITY HEALTH. (5 cr, \$3001, \$3003, \$3004, \$5003, 5022, \$GC 3114) Rothenberger
Introduction to scientific, socio-cultural, and attitudinal aspects of communicable and degenerative diseases, environmental and occupational health hazards, and alcohol and drug problems. Emphasis on role of education in health conservation, disease control, and drug abuse.

5040. DYING AND DEATH IN CONTEMPORARY SOCIETY. (3 cr, \$Mort 5040, \$HSU 5040, Hlth 5402; prereq health sciences major or public health grad or education sr or mortuary science major or #) Rothenberger, Burger
Background information on 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.

5043. ANALYSIS OF ALCOHOL/DRUG PROBLEMS. (3 cr, \$HSU 5033; prereq public health or grad student or sr) Staff
Lectures and readings examine the scientific, sociocultural, and attitudinal aspects of alcohol and other drug problems focusing on nature, extent, high-risk factors, prevention, and intervention.

5044. TOPICS IN ALCOHOL AND DRUG PROBLEMS. (1-4 cr; prereq advance proposal, #)
Individualized, directed instruction. Selected readings in alcohol and drug problems with discussion based on these readings.

5045. ADOLESCENT DEVELOPMENT AND PREVENTION OF DRUG ABUSE. (3 cr) Meland
Adolescent development and etiology of drug abuse and prevention. Review of models of community prevention and program evaluation.

5047. INTERVENTION/SECONDARY PREVENTION OF DRUG ABUSE IN ADULTS. (3 cr, \$HSU 5037; prereq PubH 5043, HSU 5033 or #) Schaefer
Lectures, discussions, readings, and small group projects examine the cost effectiveness of various public health strategies designed to reduce health-compromising behavior such as excessive alcohol, nicotine, or other drug self-administration.

5054. FOUNDATIONS OF PUBLIC HEALTH EDUCATION. (3 cr; prereq health education or community health education student or #) Forster, Perry
Social, behavioral, and educational aspects of disease. Theoretical bases of health education. History of health education. Ethical issues related to planned change.

Course Descriptions

5056. HEALTH EDUCATIONAL APPROACHES TO CHANGE THROUGH PLANNING. (3 cr;

health sciences grad or #) Schwanke
Elements of comprehensive health/health education planning; theory, process, models for educational planning and components in evaluating health services and their educational components.

5057. HEALTH EDUCATION ISSUES ARISING FROM PLANNED AND UNPLANNED SOCIETAL CHANGE. (3 cr; prereq health sciences grad or #)

Rothenberger
Analysis of major processes of change in society. Planned and unplanned change. Health education implications for individuals and communities.

5064. THE TEACHING-LEARNING PROCESS IN THE HEALTH CARE SETTING. (3 cr, §HSU 5011)

Garloff, staff
Learning activities include lectures, discussions, written assignments, and projects. Activities designed to meet the professional needs of the student.

5084, 5085. INTERNSHIP IN HEALTH EDUCATION PRACTICE I, II. (Cr ar; prereq health education or community health education student or #) Staff

Supervised health education internship in a health or public health setting under academic and professional supervision. Emphasis on application of acquired health education knowledge and skills to relevant health issues and problems.

5086. SEMINAR: COMMUNITY HEALTH EDUCATION. (2 cr; prereq health education or community health education student or #)

Luepker
In-depth analysis of current intervention and evaluation methods and future directions of community health education designed to improve health behavior.

5090. RESEARCH TOPICS IN HEALTH EDUCATION. (4-8 cr; prereq health education or community health education student or #)

Scholarly review of health education research and experience in a selected area for a MPH project.

5095. RESEARCH AND PRACTICE IN HEALTH EDUCATION—ADVANCED SEMINAR. (2 cr;

prereq health education or community health education student or #) Staff
Current research in health and education related to the profession of health education. Site visits and data analysis where applicable.

5096. TOPICS—RESEARCH. (Cr ar; prereq health education or community health education student or #) Staff

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

5097. TOPICS—SELECTED READINGS. (Cr ar; prereq health sciences grad) Staff

Study of a topic in health education 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.

5152. ENVIRONMENTAL HEALTH. (2 cr) Vesley

General principles of environmental health relating to macro and micro environments and products consumed or used by people.

5153. CASE STUDIES IN ENVIRONMENTAL HEALTH. (2 cr; prereq environmental health student, ¶PubH 5152 or #) Greaves, staff

Current applications of environmental health principles and practices. Relates didactic work to real-life problems encountered by environmental health professionals.

5154. PRACTICUM EXPERIENCE IN ENVIRONMENTAL AND OCCUPATIONAL HEALTH.

(1-6 cr; prereq environmental health major) Staff
Assignments to work with organizations with environmental and occupational health concerns under the joint supervision of a faculty adviser and staff of the organization.

5158. HEALTH RISK EVALUATION. (3 cr; prereq environmental health student or #) Greaves

General principles of health risk assessment and management; environmental pollutants; public domain and workplace, legislation and regulations.

5159. SEMINAR: ENVIRONMENTAL HEALTH. (1 cr; prereq environmental health student) Staff

5161. ADMINISTRATION OF ENVIRONMENTAL HEALTH PROGRAMS. (3 cr; prereq environmental health student or #) Stauffer
Administrative organization of environmental health activities.

5165. THE POLITICAL PROCESS IN PUBLIC HEALTH. (3 cr; prereq public health student or grad or #)

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

5166. EMPLOYEE HEALTH SERVICES AND COST CONTAINMENT. (3 cr; prereq occupational health nursing student)

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

5167. THEORY AND PRACTICE OF OCCUPATIONAL HEALTH NURSING. (1-4 cr; prereq RN with baccalaureate degree or health science grad) Introduction to application of public health principles and the nursing process as related to prevention of injury and disease, health promotion of adults, and protection of worker populations. Includes correlated field experiences.

5171. ENVIRONMENTAL MICROBIOLOGY. (4 cr; prereq MicB 3103 or #) Ruschmeyer, Vesley Survival, dissemination, transportation, and significance of microorganisms in the environment; application of principles to environmental health problems.

5181. AIR POLLUTION. (4 cr; prereq 2 yrs of chemistry, calculus, general physics or #) Swackhamer Overview of current air pollution problems, sources of pollution, gas phase and aerosols phase chemistry, fate of pollutants, and human health and materials effects.

5184. AIR ANALYSIS. (3 cr; prereq 5211 or #) McJilton Laboratory and field exercises involving air flow calibration, dynamic calibration of field equipment for analysis of air contaminants, respirable mass sampling, dust counting and sizing, and instrumentation for measuring physical environmental stresses.

5186. ENVIRONMENTAL CHEMISTRY. (3 cr; prereq 2 yrs chemistry or #) Swackhamer Overview of air, water, and soil chemistry with emphasis on pollution; transport and behavior of pollutants; current topics.

5191. INTRODUCTION TO OCCUPATIONAL SAFETY. (2 cr) Olmstead Development of occupational safety programs essential to health and safety of worker and integral to public health.

5192. OCCUPATIONAL SAFETY. (3 cr) Olmstead Development of occupational safety programs essential to health and safety of worker and integral to public health.

5194. INJURY PREVENTION IN THE WORKPLACE, COMMUNITY, AND HOME. (3 cr) Gerberich Analysis of injury problems in the workplace, community, and home; strategies for prevention and control—an epidemiologic approach.

5195. SEMINAR: SAFETY IN THE WORKPLACE. (1 cr) Gerberich Safety problems in the workplace; hazard analysis and prevention and control of injuries to workers.

5196. PROBLEMS: SAFETY IN THE WORKPLACE. (2 cr; prereq occupational health or MPH students or grad or #) Gerberich Interdisciplinary approach to systematize and analyze data relevant to hazards in the workplace. Forum format allows students to further synthesize and evaluate their findings.

5197. TOPICS: INJURY PREVENTION IN THE WORKPLACE, COMMUNITY, AND HOME. (1-3 cr; prereq #) Gerberich Selected projects: Students pursue projects relevant to injury problems.

5201. RADIATION PROTECTION AND MEASUREMENT. (2 cr; lect) Barber Ionizing radiation sources, detection and measurement, protection principles, health implications.

5202. RADIATION LABORATORY. (1 cr; prereq PubH 5201 or concurrent with 5201) Barber Radiation laboratory for PubH 5201.

5211. INDUSTRIAL HYGIENE ENGINEERING. (3 cr) Staff Concepts and techniques used in occupational health; emphasis on evaluation of potential hazards and preventive techniques.

5213. ERGONOMICS IN OCCUPATIONAL HEALTH. (2 cr) Jetzer Provides a basis for understanding the injury risk of lifting, material handling, and repetitive motion activity as it occurs in the occupational environment. Biomechanics, strength testing, back and wrist injury, and strategies for reducing the risk of injury.

5215. APPLIED OCCUPATIONAL TOXICOLOGY. (3 cr; prereq 5261 or #; offered alt yrs) Willard Understanding and mitigating the toxic or harmful effects of chemicals on humans in the workplace. Provides insight into mechanisms for determining chemical toxicity and communicating this information so others become aware of the hazards involved. Emphasizes ethical, legal, and regulatory responsibilities involved in manufacture and distribution of chemicals and products.

5218. FIELD PROBLEMS IN OCCUPATIONAL HEALTH. (3 cr; prereq 5211 or #) Olson Guided evaluation of potential occupational health problems; recommendations and design criteria for correction if indicated.

5233. BIOLOGICAL SAFETY. (2 cr; prereq #) Vesley Assessment of risk; primary barriers; laboratory design criteria; safety devices and equipment; personnel practices; sterilization and decontamination; laboratory animals; and 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 GROUNDWATER SYSTEMS. (2 cr) Singer Introduction to groundwater geology, quality, and treatment; well design, construction, and maintenance; special references to public and environmental health problems.

Course Descriptions

5243. WATER AND HEALTH. (3 cr) Singer
Occurrences, health effects, and treatment of the physical, chemical, and biological agents in the transmission of waterborne diseases.

5253. INTRODUCTION TO HAZARDOUS WASTE MANAGEMENT. (3 cr) Thompson
Review of roles of public and private sectors as generators, disposers, and regulators of hazardous wastes. Includes definitions, sources, transportation, handling, treatment, recovery, disposal, and public health implications.

5261. GENERAL ENVIRONMENTAL TOXICOLOGY. (3 cr) Toscano
Application of basic biochemical and physiological principles, assessment of potential health hazards, approaches to solving toxicological problems.

5262. METABOLISM AND DISTRIBUTION OF XENOBIOTICS. (3 cr; prereq 5261 or #) Toscano
In-depth examination of mechanisms and regulation of xenobiotic metabolism; kinetic models for distribution of toxicants and metabolites; receptor-mediated toxicity.

5268. SEMINAR: TOXICOLOGY AND HUMAN POPULATIONS. (1 cr) Mandel, Toscano
Students present data from literature pertaining to scientific evaluation of epidemiological studies dealing with human exposure to toxic agents.

5271. OCCUPATIONAL EPIDEMIOLOGY. (3 cr; prereq basic course in epidemiology and biostatistics) Mandel
Basic principles and concepts in the ascertainment of health effects in the workplace; a review and discussion of strategies for identifying excess risk, evaluating strengths and weaknesses of research techniques, assessing bias and confounding.

5300. PUBLIC HEALTH AND HUMAN-ANIMAL ENVIRONMENTAL RELATIONSHIPS. (2 cr)
Survey of comparative medicine in human relationship to biologic environment: interrelationships between animal and human health; sources of animal diseases; ecology of zoonoses; food production and hygiene; laboratory animal medicine.

5301. PERSPECTIVES: INTERRELATIONSHIPS OF PEOPLE AND ANIMALS IN SOCIETY TODAY. (2 cr, §PubH 3301, 3100, §CVM 5100, §5303, §5304)
Social and economic consequences of pets and people sharing urban environments; concerns of animal rights; differences in cultures and their influence on animal/human relationships.

5308. COMPARATIVE MEDICINE AND PUBLIC HEALTH. (2 cr; prereq VPH, epidemiology major or #)
Comparative studies dealing with sources of animal diseases, world food supplies, food protection, environmental pollution, population control, animal models of disease, and relation to the biological environment. How these factors affect public health and public policy.

5310. DISEASES TRANSMITTED BETWEEN ANIMALS AND PEOPLE. (4 cr; prereq VPH, epidemiology major or #)
Selected diseases transmitted between animals and human beings with emphasis on diagnostic problems, epidemiology, prevention, control, and evaluation.

5315. PROBLEMS IN DISEASE CONTROL AND ERADICATION. (4 cr; prereq VPH, epidemiology major or #)
Evaluation of selected past and present disease control and eradication programs and factors influencing degree of success and failure. Students develop models for proposed disease control and eradication programs in the United States or a foreign country for group evaluation and analysis.

5326. RESEARCH IN ANIMAL/HUMAN HEALTH. (Cr ar; prereq VPH, epidemiology major or #)
Research in the relationship of animal health to human health.

5330. EPIDEMIOLOGY I. (4 cr; prereq basic course in microbiology and statistics, preferably biostatistics) Sellers, Sprafka
Basic epidemiologic principles applicable to infectious and noninfectious disease; host-agent-environment complex; factors underlying spread of infectious disease; laboratory applications of statistical and epidemiologic methods.

5335. EPIDEMIOLOGY OF INFECTIONS AND COMMUNICABLE DISEASE. (3 cr; prereq health sciences grad or #) Melnick
Epidemiologic evaluation of host-agent-environmental factors in planning and implementing methods for surveillance, investigation, control, and eradication of infections and communicable diseases with public health significance.

5340. EPIDEMIOLOGY II: STRATEGIES AND METHODS. (4 cr; prereq 5330 or #) Folsom, Melnick
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.

5361. HOSPITAL INFECTION CONTROL. (2 cr; prereq # or current hospital employment) 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 laboratory, and isolation techniques. Emphasis on applied aspects. Course enhanced by hospital experience, but basic clinical background required.

5380. APPLIED HUMAN NUTRITION. (4 cr; prereq biochemistry or equiv) Leon
Bioenergetics, physical activity and health; assessment of nutritional intake, clinical and biochemical assessment; food composition and requirements; food additives; food-drug interactions; physiological effects of starvation and dieting; anorexia nervosa; relationship of blood lipids and diet to coronary heart disease, cancer.

5382. CLINICAL TRIALS II. (3 cr; prereq epidemiology or biostatistics major or #) Elmer, Grimm
Complement to PubH 5462. History of trials, forming major and subgroup hypothesis, participant selection, clinical center issues, and 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 biol 1009 or equivalent undergrad biol course or #) Belcher
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 basic biology or anatomy) 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. (1) Consistency of the internal environment—the need for homeostasis; (2) adaptation to change, including chronic disease; (3) energy use; (4) integrated control systems; and (5) age and physiologic function.

5386. THE PUBLIC HEALTH ASPECTS OF CARDIOVASCULAR DISEASES. (3 cr; prereq basic epidemiology and biostatistics) Grimm
Evaluation of population studies and trials on cardiovascular diseases; modifiable risk factors for coronary heart disease; prevention of other types of heart disease.

5387. CANCER EPIDEMIOLOGY. (3 cr; prereq health sciences grad or #) Potter, Robison
Epidemiologic aspects of cancer including theories of carcinogenesis, incidence, site-specific risk factors, and issues of cancer control and prevention.

5388. EPIDEMIOLOGY OF MENTAL DISORDERS. (3 cr; prereq PubH 5330 or other basic epidemiology course or #) Williams
Application of epidemiological research methods to mental disorders. Overview of the three generations of epidemiological research, focusing on methodological variations in the studies leading to different rates. Description of incidence/prevalence rates for major mental disorders.

5389. NUTRITIONAL EPIDEMIOLOGY. (3 cr; prereq PubH 5330 or #) Elmer
Methodologic issues of exposure to nutrient intakes, biological basis for nutrition and disease relationships, studies of specific chronic diseases and nutritional intake and analytic issues related to design and interpretation of studies using nutritional measures.

5390. SMOKING INTERVENTION. (3cr; prereq Epi or CHE major)
Overview of the 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 public health or health sciences student or professional in health-related discipline or social or behavioral sciences grad or #) Lando, Pirie
Theoretical, measurement, and research issues in behavioral epidemiology. Lifespan patterns in the development, change, and maintenance of behaviors related to major chronic diseases. Examines risk-related behaviors from an epidemiological perspective using the concepts of prevalence, incidence, risk, and trends.

5392. PUBLIC HEALTH APPROACHES TO HEALTH BEHAVIOR CHANGE. (3 cr; prereq public health or health sciences grad or #) Finnegan
Introduction to public health approaches to health behavior change. Includes overview of major conceptual models and methods for promoting positive health practices or preventing the adoption of health-compromising behaviors.

5393. EVALUATION OF COMMUNITY HEALTH BEHAVIOR INTERVENTIONS. (3 cr; prereq PubH 5330, 5340, coursework in regression and analysis of variance or #) Murray
Introduction to evaluating community-based health behavior intervention programs. Outcome and process evaluation methodology, measurement of health behaviors, and design issues for evaluating field studies.

5394. MASS COMMUNICATION AND PUBLIC HEALTH. (3 cr, §Jour 5541; prereq credits in social or behavioral sciences, public health or grad student in journalism) 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 the public health.

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

Course Descriptions

5397. SOCIAL ENVIRONMENT AND HEALTH BEHAVIOR CHANGE. (3 cr; prereq public health or health sciences student or grad or #) Wagenaar
How groups, institutions and social structures encourage healthy or unhealthy behavior. Interventions to improve health behavior through changes in social environment. Economic, social and political barriers to effective interventions. Environmental characteristics affecting alcohol and tobacco use, diet, risk of injury.

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

5404. INTRODUCTION TO BIostatISTICS AND STATISTICAL DECISION. (4 cr; hospital and health care students only) Weckwerth
Variation; frequency distribution; probability; significance tests; estimation; trends; data handling; simple operations research applications. Statistical approach to rational administrative decision making. Lectures and laboratory exercises.

5409. BIostatISTICS IN CLINICAL STUDIES. (3 cr; prereq DDS or MD or DVM or PharmD or clinical nursing student) Keenan
Introduction to 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. Interpretation of statistical analyses in clinical literature.

5413. VITAL AND HEALTH STATISTICS. (1 cr) Kjelsberg
Morbidity, mortality, fertility, health personnel and facilities data sources; demographic characteristics and projections; rates; adjustment of rates; federal-state-local statistical programs.

5414. BIostatISTICAL METHODS I. (3 cr) Boen, Kjelsberg
Basic quantitative methods for public health students including descriptive statistics; graphic methods; measures of variation; estimation concepts and procedures; random sampling; confidence intervals for means and proportions; t and chi-square tests of significance.

5415. BIostatISTICAL METHODS II. (3 cr; prereq grade B in 5414 or 5409 or #) Jeffries
Continuation of basic statistical methods including correlation, regression, analysis of variance and non-parametric tests. Introduction to use of computer packages for data analysis.

5420. STATISTICAL COMPUTING I—USING STATISTICAL PACKAGES. (3 cr; prereq PubH 5450 or ¶5450 or #) Jeffries
Use of the statistical computer package SAS (also some SPSSX) for analyzing biomedical data. File management, data manipulation, and basic statistical analyses.

5450. BIostatISTICS I. (4 cr; prereq Math 1111 or 1201 [college algebra]) Connett, Jeffries, Kjelsberg
Probability models, with applications in the biological and health sciences; point and interval estimation for means and proportions; hypothesis testing including t-tests and Chi-square tests; use of statistical packages for analysis.

5452. BIostatISTICS II. (4 cr; prereq 5450, familiarity with basic concepts of calculus) Zelterman
Inference for binomial and Poisson probability models, with health sciences applications; one-way and two-way ANOVA including non-parametric methods; simple linear regression and correlation techniques with applications in bioassay; use of statistical packages for analysis.

5454. BIostatISTICS III. (4 cr; prereq 5452 or #) Grambsch
Multiple regression techniques for biological and health science data; estimation, testing, and prediction; model selection; applications in bioassays among others; logistic regression; repeated measurements; use of statistical packages for analysis.

5456. BIostatISTICAL CONSULTING SEMINAR. (Cr ar; prereq biostatistics student) Boen
Consultant and client interaction; communication and formulation of the biostatistical problem. Role and responsibilities of the biostatistician. Robustness and relevance of frequently used analytical techniques. Internship experiences.

5459. INTRODUCTION TO THE MATHEMATICAL FOUNDATION OF BIostatISTICS. (3 cr; prereq 2 qtrs calculus, 5452) Le
Probability models, large-sample maximum likelihood theory; maximum likelihood ratio and score statistics; illustrations from epidemiology, clinical trials, and other biomedical and health sciences.

5460. DEMOGRAPHIC METHODS IN PUBLIC HEALTH. (2 cr, §Soc 5561; prereq biostatistics or epidemiology major or #) Grimm, Kjelsberg
Demographic parameters of mortality, natality, morbidity, and migration. Sources of demographic data in censuses, surveys, and registration systems. Refinement and adjustment of parameters by factor specification and standardization. Measurement of population change. Generation and current life tables. Stationary and stable population models. Population estimation.

5461. BIostatISTICAL TOPICS IN EPIDEMIOLOGY. (3 cr; prereq PubH 5452) Connett
Design and analysis of case-control studies, including topics on misclassification, confounding factors, Mantel-Haenszel procedure, matching designs and sample size estimation. Cohort analysis in epidemiology including topics on Poisson regression models for use with person—years of observation.

5462. CLINICAL TRIALS I. (3 cr; prereq biostatistics, epidemiology students or #, PubH 5452) Neaton
Introduction to the 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.

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

5471. BIOSTATISTICS LITERATURE SEMINAR. (2 cr; biostatistics major or #; offered alt yrs) Staff
Basic journals and references of biostatistics. Orientation to current biostatistical research problems. Use of online literature retrieval methods and bibliographic references such as Index Medicus. Preparation and delivery of technical presentations.

5605. PERINATAL HEALTH AND FAMILY PLANNING. (3 cr; prereq MCH student or #) Lia-Hoagberg
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 5610 or #) Berkseth
Study of major causes of mortality and morbidity, public health interventions, and public policies that prevent disease/injury and enhance health in infants and young children. Emphasis on American populations at risk. For students already well grounded in a health-related discipline.

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

5610. PRINCIPLES IN MATERNAL AND CHILD HEALTH. (3 cr) ten Bensel, MCH staff
Introduction to current issues related to the health needs of families, mothers, and children with emphasis on principles of primary care, health maintenance, preventive care, organization, and evaluation.

5613. CHRONIC AND HANDICAPPING CONDITIONS OF CHILDREN. (3 cr) Leonard, Nelson
In-depth look at the epidemiology, identification, management, follow-up, and prevention of chronic and handicapping conditions of children. Community programs related to emotional, physical, and intellectual handicaps.

5614. FIELD EXPERIENCE IN MATERNAL AND CHILD HEALTH. (Cr ar; prereq MCH grad) MCH staff
Field experiences are selected by the student to meet his or her career goals.

5615. HEALTH OF THE SCHOOL-AGE CHILD. (3 cr; prereq 5610, grad or #) Berkseth
Review of major health problems among school-age children; methods of providing and evaluating school health services.

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

5619. SOCIAL WORK ASPECTS OF MCH. (2 cr) Staff
Discussion of different MCH programs with on-site presentations of social work aspects of these programs.

5620. CHRONIC AND HANDICAPPING CONDITIONS OF CHILDREN: PREDICTION AND INTERVENTION WITH HIGH RISK INFANTS AND YOUNG CHILDREN. (3 cr; prereq 5613 or #) Leonard, staff
Focus on children who are handicapped, chronically ill, or at risk from the prenatal period through age 4, and their families. Problems in identifying the infant at risk; various regional and state programs for screening, assessment, and diagnosis; selected early intervention strategies; relationships between parents, health care providers, and educators; relevant legislation; needs and concerns of this particular age group. Organization of medical care for the chronically ill child.

5621. MCH STUDENT/FACULTY SEMINAR. (3 cr; prereq MCH grad) Staff
Weekly discussion group allowing interaction between MCH students and faculty. MCH faculty members act as resource persons.

5624. INTERNATIONAL HEALTH. (Cr ar, \$Ped 5525; prereq #) Venters
Major health care problems in developing countries, political and economic constraints involved, and realistic possibilities for solution. Nutritional disturbances, tropical diseases, socioeconomic factors of family health, the role of folk medicine as a health resource, the use of health auxiliaries and the role of the physician in training them, factors that play a crucial role in patient acceptance.

Course Descriptions

5629. PSYCHOSOCIAL ASPECTS OF CHRONIC ILLNESS AND HANDICAPPING CONDITIONS IN SCHOOL-AGE CHILDREN AND ADOLESCENTS. (3 cr; prereq 5613, 5620 or #) Leonard, staff
Impact of disease or handicap, including cognitive, sexual, social, educational, and vocational development. Current legislation, policies, and programs. Relationships of educational personnel, family, and child or adolescent. Special needs of terminally ill individual and family.

5630. REPRODUCTIVE HEALTH. (3 cr)
Lia-Hoagberg
Family planning and related issues and their relationship to maternal and child health. Family decision making and problem solving. Students have opportunity to analyze issues and determine policy.

5638. HUMAN GROWTH AND DEVELOPMENT: HEALTH IMPLICATIONS. (3 cr, §PubH 5500)
Overview of the stages of human growth and development and their implications for physical and psychosocial health throughout the life span.

5641. HEALTH OF CHILDREN IN DAY CARE. (3 cr, §PubH 5544) Berkseth
Discussion of physical and psychosocial health risks of young children in day care; current and potential health promotion and disease prevention strategies for this population.

5645. FAMILIES AND HEALTH. (3 cr; prereq public health or health sciences student or professional in health-related discipline or grad in social or behavioral sciences or #) Patterson
Relationship between family and health. Examination of family theory and research on the family's impact on health. Addresses implications for primary and secondary prevention in public health educational programs, clinical practice, and public policy.

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

5649. MATERNAL AND CHILD HEALTH RESEARCH. (Cr ar; prereq #) MCH staff
Selected readings in maternal and child health with each student completing paper or other scholarly product.

5650. TEENAGE PREGNANCY AND PARENTING: MODELS FOR INTERVENTION. (1 cr)
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 student 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.

5652. RESEARCH IN ADOLESCENT HEALTH CARE. (1 cr; prereq #) Resnick
Writing grant proposals for public and private fund sources.

5653. WORKING WITH ADOLESCENTS. (1 cr)
Resnick
For teachers, school administrators, school nurses, and others dealing with teenagers. Presentation of major problems of youth from perspectives of professionals and teens. Focus on drug use, teen sexuality, juvenile delinquency, normal adolescent problems and concerns.

5700. PUBLIC HEALTH ADMINISTRATION I. (3 cr; prereq public health administration student or #) Block
Focus on planning, organization, and administration of public health agencies at the state level and how these agencies function in relation to public health at federal and local levels. Students have opportunity to interact with practicing public health administrators and specialists.

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

5702. PUBLIC HEALTH ADMINISTRATION III. (3 cr; prereq public health administration student or #) Block
Issues, problems, structure, administration, and activities of community and public agencies that are engaged in administration of public health programs or have impact on the public's health, and of related organizations which provide support services to these agencies.

5703. PUBLIC HEALTH ADMINISTRATION CLERKSHIP. (Cr ar; prereq public health administration student or #)
Assignment to the Minnesota Department of Health or other health agency for supervised work on a project of limited scope, and preparation of a formal report.

5704. FIELD EXPERIENCE: PUBLIC HEALTH ADMINISTRATION. (Cr ar; prereq public health administration student or #)
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 public health administration 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 public health student or #) McInerney
Introductory course. 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, the regulatory role of government in the health services system.

5712. HMOs AND ALTERNATIVE DELIVERY SYSTEM MANAGEMENT I. (3 cr; prereq public health administration student or #) Staff
HMOs, prepaid group practices and ambulatory care centers; concepts, history, organizational structure, administration, legislation, and providers and consumers; national, state, and local perspectives.

5713. HMOs AND ALTERNATIVE DELIVERY SYSTEM MANAGEMENT II. (3 cr; prereq public health administration or hospital administration student or #) Christianson
Management of HMOs, PPOs and other new delivery systems. Topics include: quality assurance, legal and ethical concerns, financial aspects, marketing, and provider relations.

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

5722. INTERPERSONAL BEHAVIOR IN HEALTH ORGANIZATIONS. (4 cr, §5059) Veninga
How to improve productivity and morale in health services organizations. Leadership behavior, motivation, conflict resolution strategies, small group process, organizational change.

5723. ADMINISTRATIVE RESIDENCY. (Cr ar; prereq public health administration student or #) Staff
Ten months of field work in approved health care planning or operating organization, rotation through departments, solution of management problems, special projects. Preparation of thesis and formal report.

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

5728. PROGRAM PLANNING AND DEVELOPMENT IN PUBLIC HEALTH. (3 cr, §5502; prereq public health or grad student or #) Spradley
Analysis of the planning, development, and evaluation of health programs in the context of community health needs assessment. Application of organizational development and planned change theories to program planning.

5730. MULTIDISCIPLINARY ASPECTS OF HEALTH PROMOTION/DISEASE PREVENTION. (2 cr; prereq public health administration student or #) Staff

Concepts and issues surrounding disease prevention and health promotion. Medical administrative, economic, public policy, and behavioral factors considered in emphasizing the history, controversies, current issues, legislation, cost/benefit, and "state of the art."

5731. ADMINISTRATIVE ASPECTS OF PLANNING DISEASE PREVENTION/HEALTH PROMOTION PROGRAMS. (4 cr; prereq public health administration student or #) Gunderson
Knowledge and skills for planning of disease prevention and health promotion programs; determining prioritized health risks and problems from use and analysis of available data; planning process for setting up prevention/promotion programs; management skills required for implementing, conducting and evaluating these programs.

5732. COMPETITION AND REGULATION IN THE DELIVERY OF HEALTH SERVICES. (3 cr; prereq public health or grad student or health-related professional or #) Block
Impact of competition and regulation on the delivery of health services from the perspective of the patient, community, provider, and purchaser. Issues of quality, alternative delivery systems, behavior of providers, role of government and the courts, ethics and utilization are among those discussed.

5734. ETHICAL DIMENSIONS OF PUBLIC HEALTH. (1 cr, §5516; prereq public health or grad student or #) Aroskar
Examination of ethical issues and dilemmas that confront public health professionals and agencies. Discussion of how ethical/value aspects interface with political, legal, economic and cultural considerations.

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

5736. THE ELDERLY: A HIGH RISK POPULATION. (3 cr, §5517) Ostwald
Focus on characteristics of the over 65 age group which place them at high risk for disability institutionalization and death. Attention directed toward health maintenance, rehabilitation, and alternatives to institutionalization.

5737. TOPICS: MULTIDISCIPLINARY PERSPECTIVES ON AGING. (4 cr, §PubH 5520, PR 5671, SW 5024, HSU 5009, CPsy 5310, Educ 5440, Soc 5960) Ostwald
Sociological, biological, psychological aspects of aging; theories of aging; death and bereavement; issues and problems of older adults in America; human services and their delivery systems (health, nutrition, long-term care, education); public policy and legislation; environment and housing; retirement.

Course Descriptions

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

5739. TOPICS: PUBLIC HEALTH ADMINISTRATION. (Cr ar; prereq public health administration student or #) Staff
Selected readings in public health administration with discussion based on these readings.

5740. ORGANIZATIONAL BEHAVIOR. (3 cr; prereq ¶5742, hospital administration student or #) Gordon
Human behavior in organizations; motivation, leadership, influence of organizational structure, informal group behavior, interpersonal relations, supervision. Preventing and solving problems of individuals and groups in organizations.

5741. ORGANIZATIONAL THEORY. (3 cr; prereq hospital administration student or #) Choi
Application of organizational theory and methods of interorganizational relationships using the multihospital system as a focus.

5742. MANAGEMENT OF HEALTH CARE ORGANIZATIONS. (3 cr; prereq hospital administration student or #) Johnson, staff
Role of the hospital in health services delivery and relationships with other elements of the health care system. Problems of achieving results with emphasis on governance, medical staff, and role of administrator.

5744. PRINCIPLES OF PROBLEM SOLVING IN HEALTH SERVICES ORGANIZATIONS. (4 cr; prereq hospital administration or grad-level student, #) Aroskar, Dornblaser, staff
Lectures, seminars, and demonstrations on problem solving theory and technique. Management problem solving of cases. Solution of a management problem within a health services organization and presentation of report.

5745. ADVANCED PROBLEM SOLVING IN HEALTH SERVICES ORGANIZATION. (5 cr; prereq 5744) Dornblaser, staff
Solution of specific administrative case problems.

5746. CLERKSHIP. (3 cr; prereq 5744 hospital administration 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 hospital administration student or #) Staff
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, and union-management relations.

5749. LONG-TERM CARE ADMINISTRATION. (3 cr; prereq hospital administration or public health administration student or #) Gordon
Overview of administrative issues in long-term care; public policy, client needs, institutional, and noninstitutional settings.

5751. PRINCIPLES OF MANAGEMENT IN HEALTH SERVICES ORGANIZATIONS. (3 cr; prereq grad) Riley
Lectures on and case studies in the role of health care services administrators, principles of management, and the administrative process.

5752. STRATEGIC AND FACILITIES PLANNING. (3 cr; prereq hospital administration student or #) Miller, staff
Aspects of institutional planning with emphasis on role of program and physical facilities planning.

5753. STRATEGIC MANAGEMENT IN THE HEALTHCARE INDUSTRY. (3 cr; prereq hospital administration student or #) Goes
Seminar in strategic management to evaluate the application of organizational theory, organizational analysis, organizational behavior, and competitive analysis to providers, suppliers, and insurers in the health care industry.

5754. MARKETING HEALTH SERVICES. (3 cr; prereq hospital administration student or #) Hillestad
Managing the marketing function; marketing planning, strategy and management concepts. Identification of marketing problems and opportunities; construction, evaluation and management of a marketing plan.

5756. FINANCIAL ACCOUNTING IN HEALTH ORGANIZATIONS. (4 cr; prereq hospital administration student or #) Staff
Accounting principles and practices applicable to health care organizations, 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, hospital administration student or #) Staff
Budgeting for operational, capital, and cash flow requirements of hospitals and other health care organizations.

5758. HOSPITAL AND OTHER HEALTH CARE ORGANIZATION FINANCIAL STATEMENT ANALYSIS. (4 cr; prereq 5757, hospital administration student or #) Oszustowicz
Case studies and readings involving the review and analysis of actual hospital financial statements, third-party payor cost reports, and other documents. Applying key financial ratios to financial statement analysis; developing familiarity with basic financial statement documents.

5759. HEALTH CARE FINANCIAL MANAGEMENT. (4 cr; prereq 5756, 5757 or #) Connor
Basic principles of corporate finance and their application to health care organizations. Includes methods for evaluating operating decisions using tools of financial analysis and methods for evaluating alternative financing sources. Course includes case studies and computer applications.

5760. OPERATIONS RESEARCH AND CONTROL SYSTEMS FOR HOSPITALS. (3 cr; prereq 5404 or #) Potthoff
Framework for decision making 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. (4 cr; prereq basic statistics) Weckwerth
Application of quantitative methods including analysis of cyclicities, PERT, data handling systems, simple ANOVA, linear programming, cost benefit analysis, and inventory control in the solution of health problems at administrative levels.

5762. EVALUATION CONCEPTS AND METHODS. (3 cr; prereq hospital administration student or #) Moscovice
Study of theory, practice, and politics of evaluation. All types of evaluative activities from simple feedback mechanisms to the evaluation of large-scale programs.

5763. QUALITY OF HEALTH CARE: EVALUATION AND ASSURANCE. (3 cr; prereq hospital administration student or #) Staff
Characteristics of health organizations and current standards in health care field; implications for hospital and health care management, relationship of standards to health care evaluation.

5766. APPLIED FIELD RESEARCH I. (2 cr; prereq hospital administration student or #) Resnick, Weckwerth
Under faculty supervision, students select a topic of importance in health care administration and formulate a research problem and approach for field study.

5767. APPLIED FIELD RESEARCH II. (2 cr; prereq 5766) 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 HEALTH CARE ADMINISTRATION. (Cr ar; prereq hospital administration student or #) Staff
Selected readings in hospital and health care with discussion based on these readings.

5771. FINANCIAL MANAGEMENT IN HEALTH SERVICES ORGANIZATIONS. (4 cr; prereq one prior college-level [3 cr] accounting course) Riley
Presentation of total financial requirements to meet legislative, employer, and/or community demand for health care services. Understanding the total financial requirements associated with such demand will prepare course participants for operational, capital, and cash flow budget management. Seminars to reinforce course lectures will be given when appropriate.

5772. MULTIHOSPITAL SYSTEMS AND ACADEMIC HEALTH CENTERS. (3 cr; hospital administration student or #) Johnson
Analysis of the behavior of complex organizations with emphasis on multi-institutional systems and academic health centers.

5790. SOCIOLOGY OF MEDICINE AND HEALTH CARE: AN INTRODUCTION TO MEDICAL SOCIOLOGY. (4 cr, §Soc 5855) Litman
Social and psychological components of health and medical care. Organization and delivery of health care services, their problems and perspectives; focus on the patient, care provider, and environment where health care services are dispensed.

5791. PUBLIC HEALTH AND MEDICAL CARE ORGANIZATIONS. (3 cr; prereq public health or grad student) Resnick
Sociopolitical, economic, and moral/ethical issues confronting the public health and medical care system in the United States. Trends and future directions in service provision, manpower, financing and health services organization, and implications for the public's health.

5792. HEALTH SERVICES ORGANIZATIONS IN THE COMMUNITY. (1 cr; prereq hospital administration student) Staff
Lectures about and on-site visits to health services organizations; emphasis on role of organization and administrator.

5793. ECONOMIC ASPECTS OF HEALTH CARE. (3 cr; prereq hospital administration or health services research, policy and administration student or #) Nyman
Economic analysis of American health care sector; problems of pricing, production, and distribution. Evaluating health care services as one factor contributing to nation's health.

5794. PUBLIC POLICY IN HEALTH CARE. (3 cr; prereq hospital administration 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.

Course Descriptions

5796. LEGAL CONSIDERATIONS IN HEALTH SERVICES ORGANIZATIONS. (3 cr; prereq hospital administration student or #) McInerney
Laws affecting administration of hospitals and other health care organizations; administrative law, corporate and business law, labor law, civil liability and tax-related issues. Focus on legal issues relevant to administration, decision making and planning process.

5806. PRINCIPLES OF PUBLIC HEALTH RESEARCH. (3 cr; prereq grad status or enrollment in School of Public Health) 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 and data analysis techniques.

5852. PROGRAM EVALUATION IN HEALTH AND MENTAL HEALTH SETTINGS. (4 cr, \$HSU 5026; prereq public health or grad student only, 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. Topics include an overview of evaluation, models, of evaluation, objectives of an evaluative study, sampling of subjects, methods of data collection, methodological designs, interpretation of data, preparation of final report, and ethical and political considerations in conducting an evaluative study.

5861. HEALTH INSURANCE. (3 cr; prereq intro course in microeconomic theory, or #) Nyman
Current topics in financing personal health care: 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.

5900. PUBLIC HEALTH NUTRITION: PRINCIPLES & PROGRAMS. (3 cr; prereq public health nutrition student or #) Splett
Public health nutrition, roles and functions of public health nutritionists, programs and delivery mechanisms for promoting nutritional status of population. Students explore their belief and competencies in relation to principles and philosophy of public health nutrition.

5901. SEMINAR: PUBLIC HEALTH NUTRITION. (1-6 cr; prereq public health nutrition student) Staff
Student/faculty seminar explores research and practice issues of current relevance to the field of public health and the role of public health nutritionists.

5902. MATERNAL AND INFANT NUTRITION. (3 cr; prereq 3000-level nutrition course or equiv or #) Brown
Nutrient functions and requirements throughout pregnancy, lactation, infancy, and childhood through adolescence.

5903. NUTRITIONAL ASSESSMENT. (3 cr; prereq 3000-level nutrition course or equiv or #) Buzzard, Himes
Methods used to assess nutritional status of populations and individuals. (This course is for one credit only when offered in workshop format, three credits when on campus day school).

5906. FIELD EXPERIENCE: PUBLIC HEALTH NUTRITION. (1-8 cr; prereq public health nutrition student) Krinke
Placement in an approved agency with opportunity for experience in nutritional aspects of public health programs.

5909. TOPICS: PUBLIC HEALTH NUTRITION. (1-12 cr; prereq public health nutrition student or #) Staff
Independent study in research topic related to public health nutrition.

5914. NUTRITION INTERVENTION. (3 cr; prereq one nutrition course or #) Lansing
Various nutrition intervention strategies now used in health programs. The 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 3000-level nutrition course or equiv or #) Krinke
Review of 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 nutrition—normal and clinical, fundamentals of epidemiology, statistics, biochemistry) Kushi
For individuals with background knowledge in nutrition and epidemiology. On-going and emerging controversies in nutrition; nutrition as a factor in the development of the leading causes of morbidity and mortality in the United States; relationships among nutrition and infant mortality, heart disease, cancer, hypertension, diabetes, obesity, and other diseases. An emphasis on current nutrition research.

5934. ADMINISTRATIVE SKILL BUILDING. (1-3 cr) Splett
Enables nutrition and other health services administrators to: 1) assess the processes that lead to administrative effectiveness; 2) understand and apply planning, financial management, marketing, networking, and decision-making skills; and 3) implement and evaluate management systems.

5935. CHILD AND ADOLESCENT NUTRITION. (3 cr; prereq basic nutrition course or #) Story
For students and professionals in nutrition and related disciplines who want to explore current issues and literature in adolescent nutrition. Emphasis on the psychological, social, and cultural factors influencing food behavior and the nutrient intake of adolescents and how these factors affect nutritional needs.

8150. RESEARCH: ENVIRONMENTAL AND OCCUPATIONAL HEALTH. (1-6 cr; prereq #) Staff
Opportunities for qualified students to pursue research in the importance of environmental stresses on human health.

8185. ANALYSIS OF TOXICANTS. (3 cr; prereq #; offered alt yrs) Swackhamer
Application of principles of analytical chemistry to the analysis of toxic chemicals in environmental samples including air, soil, water and tissue; survey of instrumental methods (gas and liquid chromatography, mass spectrometry, and atomic and molecular spectroscopy); interpretation of results; analytical quality control. Includes both lecture and laboratory instruction.

8191. RESEARCH: INJURY PREVENTION IN THE WORKPLACE, COMMUNITY, AND HOME. (3-6 cr; prereq #) Gerberich
Students develop independent and comprehensive research efforts relevant to injury prevention.

8261. MOLECULAR TOXICOLOGY. (3 cr; prereq 5262, Biol 5001, #) Toscano
Toxic actions and mechanisms of environmental chemicals at molecular level; emphasis on current research in selective toxicity.

8269. SEMINARS IN TOXICOLOGY. (1 cr; prereq 5262, 8261, #) Toscano
Evaluation of toxicological studies. Students present data from the literature or their own research.

8330. RESEARCH IN EPIDEMIOLOGY. (1-8 cr; prereq epidemiology major) Staff
Opportunities for qualified students to pursue research through the School of Public Health and various cooperating organizations.

8331. FIELD PRACTICE IN EPIDEMIOLOGIC INVESTIGATIONS. (1-8 cr; prereq epidemiology major) Staff
Supervised participation in epidemiologic investigations in the field under the auspices of health agencies or faculty of the school.

8332. READINGS IN EPIDEMIOLOGY. (1-4 cr; epidemiology major, #) Staff
Readings in current research articles in epidemiology.

8378. ADVANCED SEMINAR IN EPIDEMIOLOGY. (2 cr; prereq epidemiology major) Staff
Discussion of one or more major research areas of current epidemiology interest.

8379. SEMINAR IN EPIDEMIOLOGY. (2 cr; prereq epidemiology or physiological hygiene major) Staff
Discussion of selected current epidemiologic problems.

8389. SEMINAR: BIOLOGY OF HUMAN IMMUNO-DEFICIENCY VIRUS (HIV). (3 cr; prereq Epi or CHE major or #) Rhame
Retrovirus replication. Pathophysiology of HIV-caused immune and nervous system damage. Interaction of HIV with other viruses. Detection of HIV infection. Animal models of HIV infection. Therapy of HIV infection, including nucleoside analogs and biologic response modifiers.

8400. SEMINAR IN BIostatISTICS. (Cr ar)

8420. SURVIVAL ANALYSIS. (3 cr; prereq 5454 or equiv, 5459 or equiv, knowledge of FORTRAN) Le
Theory and applications of the statistical methodologies in survival analysis, from actuarial life table to Cox's proportional hazards multiple regression model, will be introduced and discussed. Parametric and non-parametric techniques used, and, if necessary and feasible, compared by Monte Carlo investigations.

8421. CATEGORICAL DATA ANALYSIS. (3 cr; prereq 5454 or equiv, PubH 5459 or equiv, knowledge of FORTRAN) Zelterman
Analysis of 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 Monte Carlo investigations.

8422. SAMPLING THEORY. (3 cr; prereq 5454, 5459 or equiv) Boen
Mathematical and statistical aspects of sampling human populations with different plans and methods, including ratio and regression estimation. Optimal design of analytical surveys and variance estimation. Longitudinal estimation.

8430. SEQUENTIAL ANALYSIS. (3 cr; prereq 8420, Stat 5133, FORTRAN, biostatistics student or #) Goldman
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 theory; specific problems with testing binomial proportions and normal means.

8431. BAYES AND EMPIRICAL BAYES METHODS. (3 cr; prereq theoretical statistics or #) Louis
Overview of Bayesian approaches to statistical inference and Empirical Bayes methods for estimation and testing problems. Bootstrap resampling. The EM algorithm. Applications include estimation of disease rates in small areas, subgroups analysis in clinical trials, and historical controls in bioassay.

8432. BIOASSAY AND SCREENING. (3 cr; prereq theoretical statistics or #) Thomas
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 cancer and cervical cancer.

Course Descriptions

8443. ADVANCED BIOSTATISTICAL METHODS IN EPIDEMIOLOGY. (3 cr; prereq 5330 or 5333, 5340, 5461) Le

Advanced biostatistical topics in epidemiology and environmental and occupational health. Methods and applications of survival analysis including Cox's proportional hazards multiple regression model. Analysis of categorical data with emphasis on log-linear model and inferences from observational data.

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

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

8750. SEMINAR: ALTERNATIVE PATTERNS OF HEALTH CARE. (4 cr; prereq grad or hospital administration student or #) Litman, Resnick
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 health.

8752. SEMINAR: COMPARATIVE HEALTH CARE SYSTEMS. (3 cr; prereq #; offered alt yrs) Litman

Examination and comparison of the origin and development of various national systems of health care and their relationship to the social, political, economic, and cultural characteristics of the countries involved.

8760. TOPICS IN HOSPITAL AND HEALTH CARE ADMINISTRATION. (3 cr; prereq hospital administration PhD student) Staff

Independent study under tutorial guidance of selected problems and current issues in health and health care.

8761. READINGS IN THEORY AND PRINCIPLES OF HOSPITAL AND HEALTH CARE ADMINISTRATION. (3 cr; prereq hospital administration or health services research, policy, and administration PhD student or #) Staff

8762. CONTEMPORARY PROBLEMS OF HOSPITAL AND RELATED HEALTH SERVICES. (3 cr) Weckwerth

Current concepts, problems, principles, and future developments in the fields of health and health care.

8763. EXTERNAL FORCES AFFECTING HEALTH SERVICES DELIVERY. (3 cr; prereq hospital administration or health services research, policy, and administration PhD student or #) Weckwerth

Development of concepts, models, and principles of financing, social policymaking, organizing, and human resource development for health service delivery, including written papers, oral presentation, and cross examination.

8764. RESEARCH APPLICATIONS TO HEALTH SERVICES DELIVERY. (3 cr; prereq 8763) Weckwerth

Tutorial guidance and supervised course development covering research design, application, analysis, and presentation in health services delivery.

8770. SEMINAR: HEALTH AND HUMAN BEHAVIOR. (3 cr; prereq 5790 or Soc 5855 or #; offered alt yrs) Litman

The sociology of health and health care; social and personal components of behavior in sickness and in health; community health; relationship of social and cultural factors in the organization and delivery of health care services.

8780. ADVANCED STATISTICAL METHODS IN HEALTH CARE RESEARCH. (3 cr; prereq one qtr each of applied and theoretical statistics) Weckwerth
Survey and analysis of the application of nonparametric statistics to health care research.

8782. RESEARCH PRACTICUM. (3 cr per qtr [max 6 cr]; prereq hospital administration or health services research, policy, and administration PhD student or #) Litman, Weckwerth, staff

Field experience in health care research. Supervised independent and team research on selected topics and problems in the field of health care.

8790. SEMINAR: POLITICAL ASPECTS OF HEALTH CARE. (3 cr; prereq hospital administration PhD student or #; offered alt yrs) Litman
Interrelationships between government, politics, and health care; the 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 hospital administration 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 PhD student in health services research, policy, and administration or #) Kralewski, Moscovice
Overview of policy science. Examines evolution of health services policy in the United States; analyzes alternative policy-making models and study of substantive policy areas.

8803. SEMINAR: LONG-TERM CARE POLICY. (3 cr; prereq grad-level course in health policy or #) R A Kane, R L Kane

Long-term care policy for functionally impaired persons, particularly the elderly. Team-taught from a health care and social services perspective and grounded in research literature on evidence of program effects. Emphasis on innovative programs addressing current disconnections.

8810. SEMINAR: RESEARCH STUDIES IN HEALTH CARE. (3 cr; prereq PhD student in health services research, policy, and administration, Stat 5121, 5122, 5302 or #) Dowd, Finch
Review and appraisal of design, measurement, analysis, and findings of contemporary studies. Development and articulation of a research proposal.

8811. SEMINAR: RESEARCH STUDIES IN HEALTH CARE. (3 cr; prereq PubH 8810 or #) Dowd, Finch
Review and appraisal of design, measurement, analysis, and findings of contemporary studies. Development and articulation of a research proposal.

8812. SEMINAR: RESEARCH STUDIES IN HEALTH CARE. (3 cr; prereq PubH 8811 or #) Dowd, Finch
Review and appraisal of design, measurement, analysis, and findings of contemporary studies. Development and articulation of a 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 between theory concepts, variables, and data.

8820. MICROECONOMICS OF HEALTH CARE. (3 cr; prereq 8761, 1 qtr calculus, 1 qtr linear algebra or #)
Application of microeconomic theory to health care decisions of consumers and producers under different assumptions about market structure and behavior.

8821. SEMINAR: ADVANCED HEALTH ECONOMICS. (3 cr; prereq 5793 or equiv or #)
Examines application of microeconomic theory to health services research through selected reading from published and unpublished health economics literature.

Special Courses

The following courses are sponsored by the School of Public Health through Continuing Education and Extension and Summer Session. Examples include courses offered through the Occupational Health and Safety Institute, Independent Study Programs, Television Independent Study, as well as evening courses and one-day seminars. Approval from your adviser and the dean is required before you may receive credit for these courses in a program of study in the School of Public Health.

5151. ENVIRONMENTAL HEALTH. (3 cr; prereq #) Singer, staff
Methods for promoting human health and comfort by controlling environment.

5185. FIELD INSTRUMENTATION. (1 cr; prereq 5211) McJilton
Laboratory course providing experience with the instruments used by industrial hygienists in the performance of field evaluations of occupational exposures to toxic agents.
Summer—Graduate Occupational Health and Safety Institute

5211. INDUSTRIAL HYGIENE ENGINEERING. (3 cr) McJilton
Concepts and techniques used in occupational health; emphasis on evaluation of potential hazards and preventive techniques.
Summer—Graduate Occupational Health and Safety Institute

5213. ERGONOMICS IN OCCUPATIONAL HEALTH. (2 cr) Jetzer
Provides the basis for understanding the injury risk of lifting, materials handling, and repetitive motion activity as it occurs in the occupational environment. Topics include biomechanics, strength testing, back and wrist injury, and strategies for reducing the risk of injury.
Summer—Graduate Occupational Health and Safety Institute

5219. SEMINAR: OCCUPATIONAL HEALTH. (1 cr) Staff
Interdisciplinary discussions of current occupational health issues.
Summer—Graduate Occupational Health and Safety Institute

5254. HAZARDOUS WASTE MANAGEMENT. (1 cr) Thompson
Overview of problems and possible solutions relating to the management of hazardous waste. Technical, political, social, economic and regulatory factors are included.
Summer—Graduate Occupational Health and Safety Institute.

5266. RISK ASSESSMENT AND MANAGEMENT. (1 cr) Toscano
The general principles and practices of risk assessment and management, including data extrapolation techniques, model selection, public preference analysis, contextual analysis and equity analysis.
Summer—Graduate Occupational Health and Safety Institute

Course Descriptions

5267. ENVIRONMENTAL AND OCCUPATIONAL TOXICOLOGY. (3 cr) Toscano

Basic principles of toxicology (absorption, distribution, metabolism, excretion, and site of action); tissue specificity of chemical injury; risk assessment. (Not open to students with subspecialty in toxicology.) Summer—Graduate Occupational Health and Safety Institute

5274. PRINCIPLES IN OCCUPATIONAL EPIDEMIOLOGY. (2 cr) Mandel

Includes both basic concepts in epidemiology and principles and methods related to the evaluation of health effects of occupational exposures. Includes morbidity and mortality rates, direct and indirect standardization, hypothesis formulation, descriptive epidemiology, screening case control, cohort experimental study designs, bias and confounding. Includes specific methodological issues relate to occupational epidemiology. Summer—Graduate Occupational Health and Safety Institute

5275. EPIDEMIOLOGY AND THE LAWS. (1 cr)

Mandel, Shindell

Basic principles and methods of epidemiology and the use of epidemiologic studies in legal proceedings. Summer—Graduate Occupational Health and Safety Institute

5608. ALCOHOL AND THE FAMILY: EFFECTS ON THE FETUS AND THE CHILD. (1 cr)

ten Bensel

One-day workshop reviews data on "Fetal Alcohol Syndrome," alcohol misuse by family members, and consequences for children, including the child's emotional development. Intervention/prevention strategies presented with stress on role of community resources including school and health professionals.

5609. TOWARD AN UNDERSTANDING OF CHILD SEXUAL ABUSE. (4 cr) ten Bensel

Historical understanding of child sexual abuse, including definitions, dynamics, effects upon the victim, how society intervenes, and prevention methods. For the professional in public health, health sciences, social work, education, and law.

5622. WOMEN'S HEALTH: ISSUES AND CONTROVERSIES. (4 cr) Weiner

Issues and controversies affecting women's health care from an historical perspective and public health vantage point. Contrasts methods of health care delivery, professional and consumer education, and addresses current literature. Includes specific health needs of under served women in the population.

5639. PREVENTION: THEORY, PRACTICE, AND APPLICATION IN PUBLIC HEALTH SERVICE. (4 cr) Shandeling

Current issues and controversies centered around the idea of prevention and how it relates to the health services explored. History, prevention as an idea, terminology, lifestyle intervention, programs and legislative issues, education; roles and the implications for societal action emphasized.

5640. CHILD ABUSE AND NEGLECT SEMINAR. (1 cr) ten Bensel

Causes, symptoms, and prevention of child abuse and neglect. Includes historical overview, terminology, dynamics, and the role of the community and the school.

5642. CHILD ABUSE AND NEGLECT. (3 cr) ten Bensel

Survey of the basic concepts and knowledge of child abuse and neglect. Historical overview and 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. Independent study, TV course.

5643. SEXUAL ABUSE OF CHILDREN. (1 cr) ten Bensel

Issues surrounding sexual abuse of children. Historical overview, definitions, dynamics, outcomes, treatment, and function of the school and community in the prevention of sexual abuse of children.

5644. THE CHALLENGE OF PREVENTION/HEALTH PROMOTION FOR CHILDREN AND YOUTH. (1 cr) Shanedding, ten Bensel

Prevention and health promotion for the younger population. Emphasis on maternal and child health history, school health, legislative issues, evaluation, and models of prevention programs.

5710. REGULATION AND HEALTH. (3 cr; prereq public health grad or health-related professional with BA or #) McNerney

Process of regulation in public health context. Perspectives of major disciplines on regulation, movement toward regulatory reform, and use of nontraditional forms of regulation. Principles of administrative law; case studies in a variety of health-related areas.

5773. MANAGEMENT AND ORGANIZATION WITHIN THE AMBULATORY CARE FACILITY.

(15 cr; [ISP] prereq current employment as ambulatory care administrator, #) Weckwerth, staff A 12-month program of on-campus residential (2 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, and efficiency.

5774. ADMINISTRATIVE AND PROFESSIONAL RELATIONSHIPS WITHIN THE AMBULATORY CARE FACILITY. (15 cr; [ISP] prereq 5773)

Weckwerth, staff

A 12-month program of on-campus residential (2 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 HEALTH CARE FACILITIES.

(15 cr; prereq current employment as health care facility administrator or #) Weckwerth, staff

A 12-month program consisting of on-campus residential (2 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, and patient care services.

5776. ADMINISTRATIVE AND PROFESSIONAL RELATIONSHIPS WITHIN THE HEALTH CARE FACILITY. (15 cr; prereq 5775) Weckwerth, staff

A 12-month program consisting of on-campus residential (2 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 HEALTH CARE DELIVERY. (25 cr; prereq 5774, 5776, 5786, 5788 or #) Weckwerth, staff

A 10-month program consisting of on-campus residential (2 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 HEALTH CARE ORGANIZATION. (15 cr; prereq present employment as administrator of patient care [director of nursing or equiv] or #) Madden

A 12-month program of on-campus residential sessions (3 weeks), independent study, monthly meetings with clinical preceptors, and one required seminar. Principles of management, organizational behavior, hospital development and organization, personnel management, administrative and professional relationships within the hospital, role of the patient care administrator, legal aspects, budget, policy development, continuing education.

5779. MANAGING MULTIPLE FORCES: INTERNAL AND EXTERNAL ASPECTS OF PATIENT CARE ADMINISTRATION. (15 cr;

prereq present employment as administrator of patient care [director of nursing or equiv], 5778 or #) Madden

A 12-month program of on-campus (3 weeks) and independent study that begins each July. Seminars on planning, organizing and staffing, and directing and controlling are scheduled during initial phase of course. Students return to campus the following summer to share and demonstrate their research projects with their peers.

5780. ADMINISTRATION AND LAW IN LONG-TERM CARE. (2-6 cr) Gordon, staff

A 12-week course combining 5 days of on-campus seminars with independent study. General principles of management, human resources management, and legal aspects of management.

5781. GERONTOLOGY AND SERVICES FOR LONG-TERM CARE PATIENTS. (2-6 cr) Gordon, staff

A 12-week course combining 5 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 or #) Gordon, staff

A 300-hour practicum in a nursing home setting under the guidance of a preceptor. Includes a four-day seminar on campus.

5783. FINANCIAL MANAGEMENT AND PLANNING FOR LONG-TERM CARE. (6 cr) Gordon, 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 HEALTH CARE. (2 cr) Aroskar, staff

A reading course in topics affecting long-term health care; changing delivery of acute care services, right-to-die issues, patient rights, patient responsibilities, and public financing dilemmas. Three written assignments and a final exam are required.

5785. MANAGEMENT AND ORGANIZATION WITHIN MENTAL HEALTH RELATED ORGANIZATIONS. (15 cr; prereq current employment as mental health administrator or #)

Weckwerth, staff
A 12-month program beginning with an on-campus residential session (2 weeks) and involving off-campus study that includes periodic seminars and monthly dialogue with program preceptors. Principles of management, organizational behavior, personnel, problem solving and decision making, financial management, mental health professionals and paraprofessionals, and mental health programs and services.

Course Descriptions

5786. ADMINISTRATIVE AND PROFESSIONAL RELATIONSHIPS WITHIN MENTAL HEALTH RELATED ORGANIZATIONS. (15 cr; prereq 5785)

Weckwerth, staff

A 12-month program beginning with an on-campus session (2 weeks) and involving off-campus study that includes periodic seminars and monthly dialogue with 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 and the legislative process.

5936. MANAGEMENT AND ORGANIZATION OF NUTRITION PROGRAMS. (15 cr; present

employment in management of nutrition program or #) Splett

A 12-month program consisting of on-campus residential (two weeks) and off-campus independent study that includes a seminar and monthly classes under program preceptors. Theoretical and conceptual basis for management and its application to nutrition program delivery. Topics include management process, organizational behavior, nutrition executive, problem solving, computers, financial management, human resource management, quality assurance, nutrition service delivery and communications.

5937. FORCES AFFECTING NUTRITION PROGRAM ADMINISTRATION. (15 cr; prereq

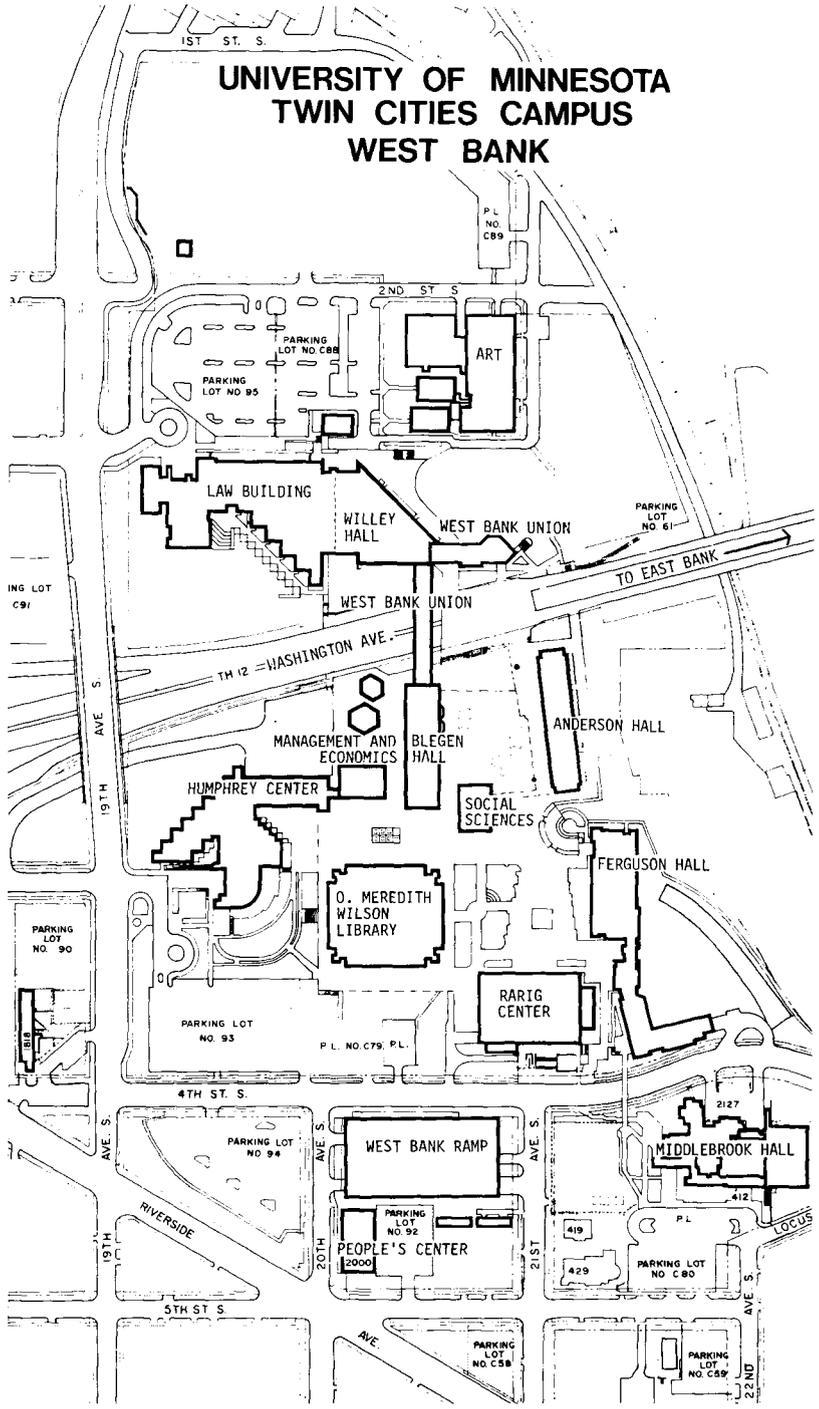
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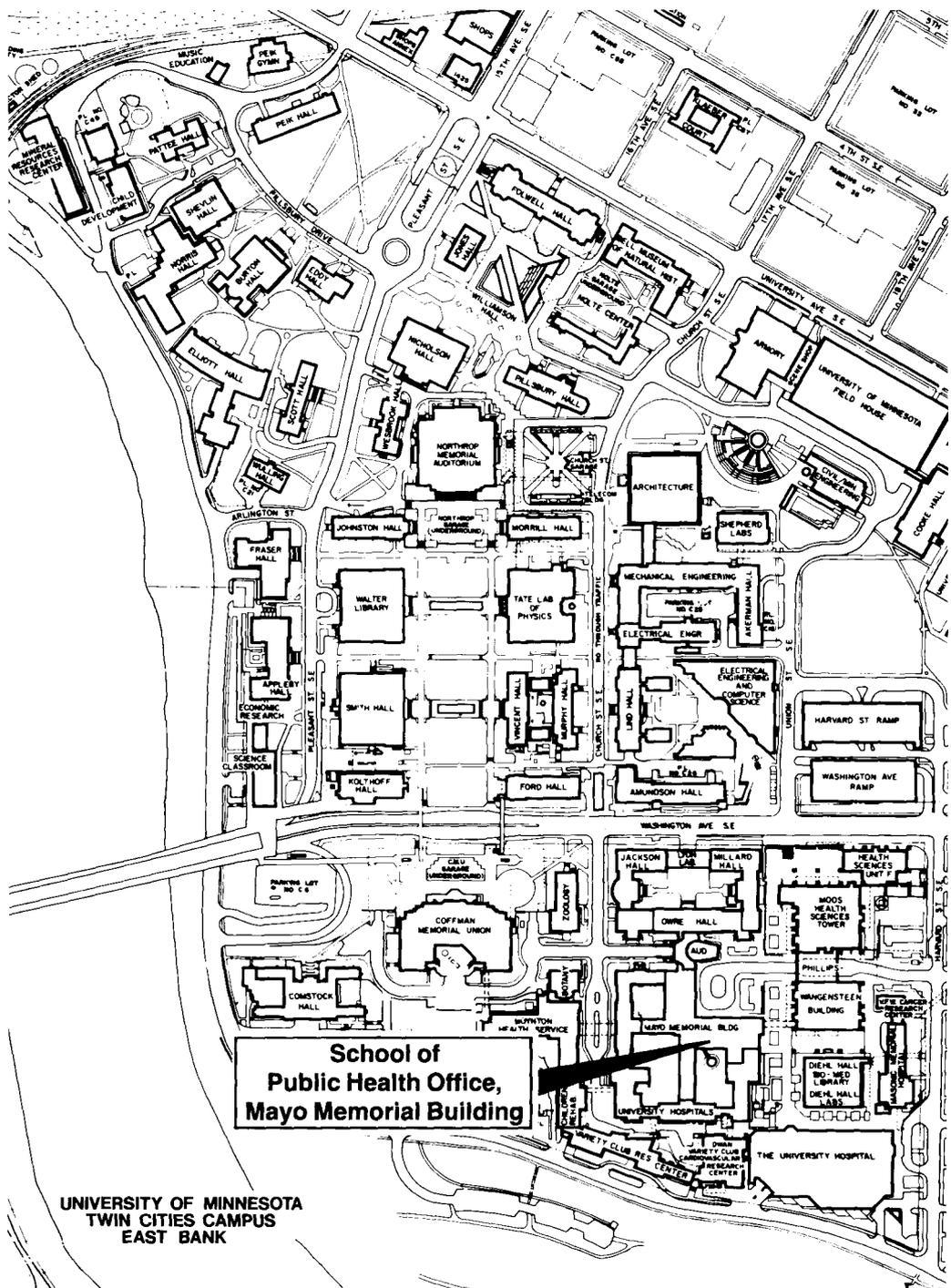
A 12-month program consisting of on-campus residential (2 weeks) and off-campus independent study that includes a seminar and monthly classes under program preceptors. Examines nutrition programs as a part of the health care system. Food and nutrition policy, legislation, management of change, marketing, evaluation, finance, strategic planning, grantsmanship, public relations and applied nutrition research are addressed.

Campus Maps



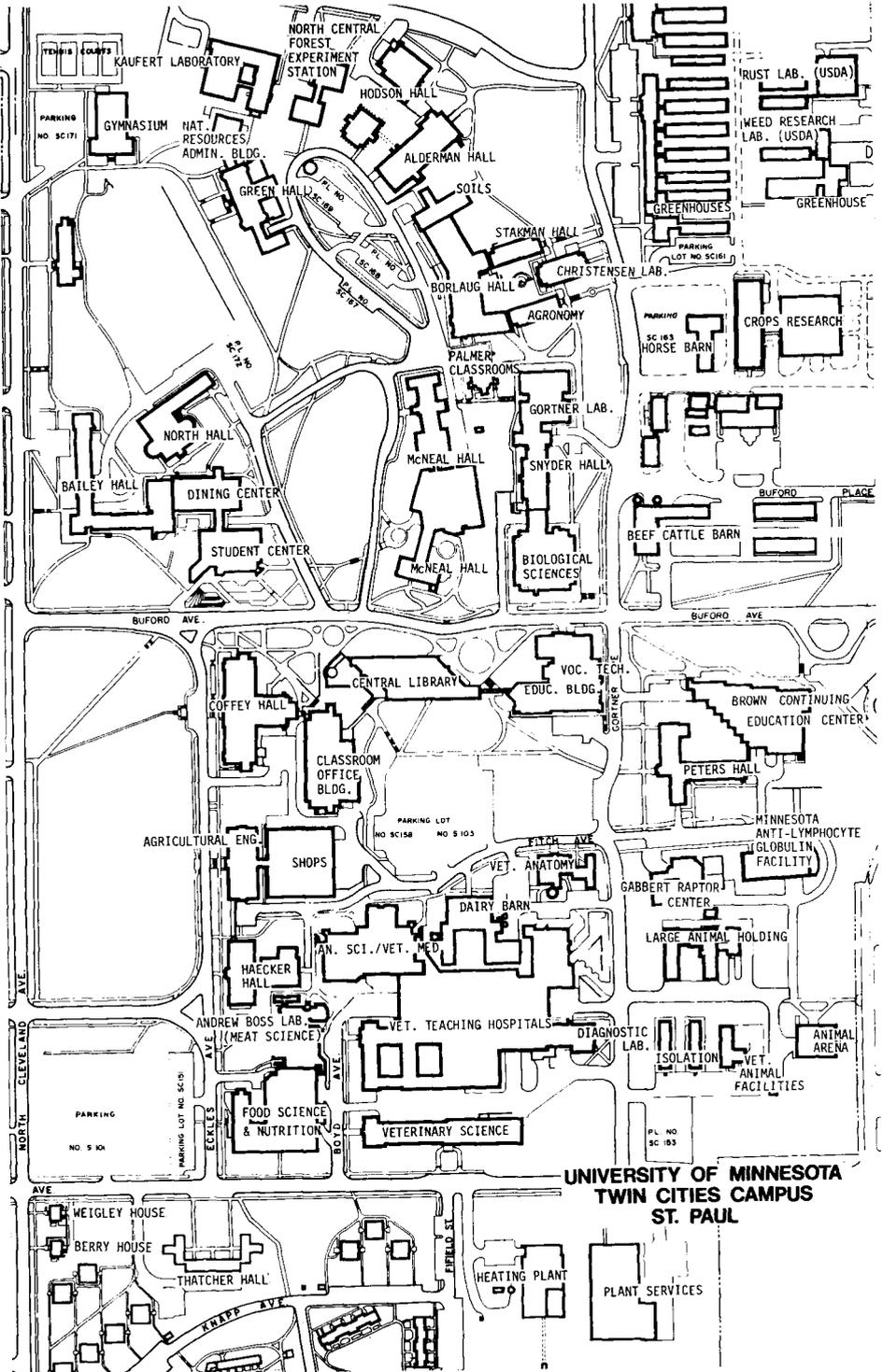
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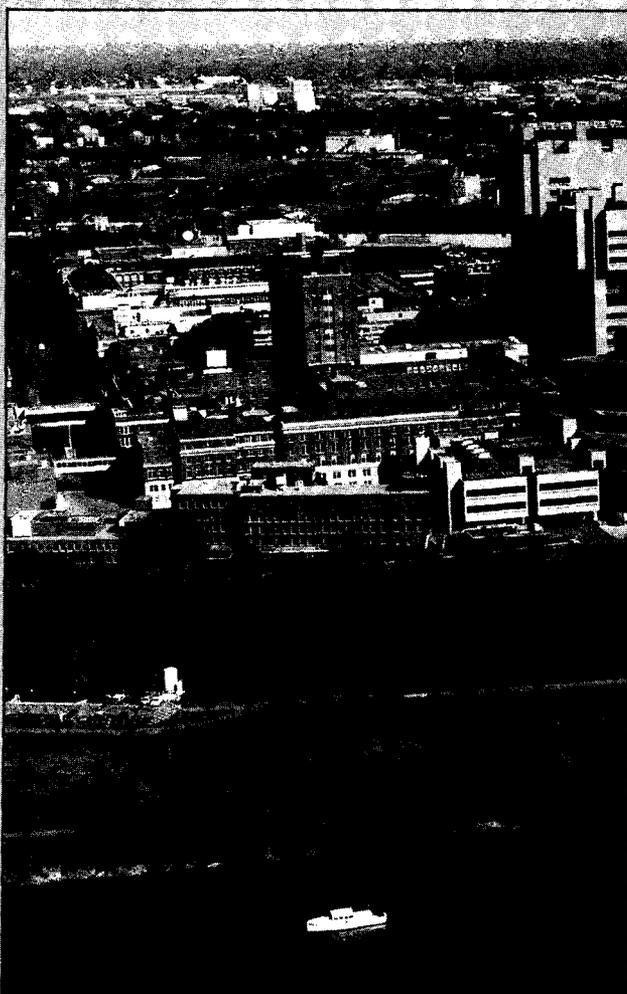
**School of
Public Health Office,
Mayo Memorial Building**

**UNIVERSITY OF MINNESOTA
TWIN CITIES CAMPUS
EAST BANK**



**UNIVERSITY OF MINNESOTA
TWIN CITIES CAMPUS
ST. PAUL**

Index



Index

- Academic Policies 11
 - Grading Systems 11
 - Probationary Status 11
 - Course Evaluations 11
 - Human Subjects in Research 11
 - Grievances 11
- Accreditation 7
- Administrative Divisions 30
 - Biostatistics 30
 - Environmental and Occupational Health 30
 - Epidemiology 31
 - Health Services Administration 31
 - Health Services Research and Policy 32
 - Human Development and Nutrition 32
- Alumni Society 14
- Applicant Information 6
- Course Descriptions 36
 - Special Courses 51
- Degree Choices 7
- Degree Programs and Academic Majors 16
 - Admission Requirements and Procedures 11
 - Biostatistics 16
 - Community Health Education 17
 - Environmental Health 18
 - Epidemiology 19
 - Health Services Administration 21
 - Hospital and Healthcare Administration 26
 - Maternal and Child Health 21
 - Public Health Administration 22
 - Public Health Nursing 24
 - Public Health Nutrition 24
- Directory 2
- Doctor of Philosophy 9
- Educational, Research, and Service Centers 33
 - Health Care Finance Administration Research Center 33
 - Midwest AIDS Training and Education Center 33
 - Midwest Center for Occupational Health and Safety 34
- Equal Opportunity 3
- Expenses 13
 - Tuition and Fees 13
 - Financial Aid 14
- History 6
- Immunization 3
- International Students 12
 - Assurance of Financial Support 13
 - Proficiency in English 13
 - Application Procedure 13
- Maps, Campus 55
- Master of Healthcare Administration 9
- Master of Public Health 8
 - Adult Special Status 8
 - Degree Requirements 8
- Master of Science 9
- Mission 7
- Nondegree and Continuing Education Programs 10
 - Annual Occupational Health and Safety Institute 11
 - Evening Classes and Independent Study 10
 - Summer Session 11
- Preventative Medicine Residency 10
- Personnel
 - Biostatistics, Major in 17
 - Community Health Education, Major in 17
 - Environmental Health, Major in 19
 - Epidemiology, Major in 20
 - Health Care Finance Administration Research Center 33
 - Health Services Administration, Major in 21
 - Hospital and Healthcare Administration 27
 - Maternal and Child Health, Major in 22
 - Midwest AIDS Training and Education Center 33
 - Occupational Health and Safety, Midwest Center for 34
 - Public Health Administration, Major in 23
 - Public Health Nutrition, Major in 25
- Records, Access to 14
- Student Organizations 14
- Undergraduate Education 9

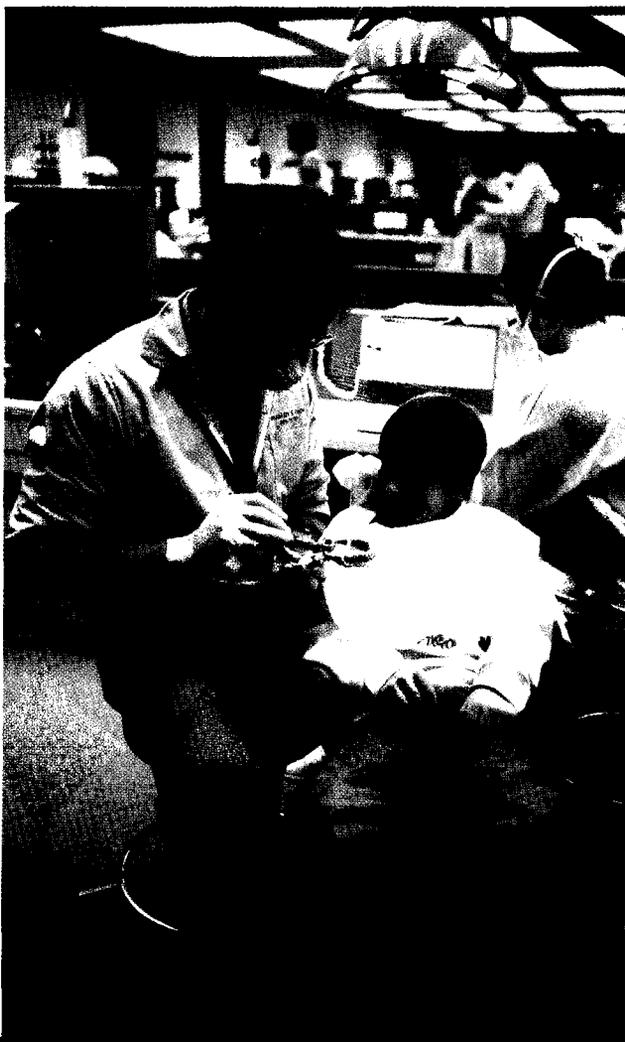
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Dentistry
University of Minnesota Bulletin
1990-92



Dentistry

| | |
|---|----|
| General Information | 5 |
| Bachelor of Science in Dental Hygiene Program | 9 |
| Doctor of Dental Surgery Program | 15 |
| Campus Map | 29 |
| Index | 31 |

Introduction

The Campus and Community

The Twin Cities campus, the biggest and oldest in the University system, is technically two separate campuses: one just east of the Hubert H. Humphrey Metrodome on the edge of downtown Minneapolis, the other just north of the State Fairgrounds two miles from downtown St. Paul.

The Mississippi River divides the Minneapolis campus into two banks connected by the double-decker Washington Avenue Bridge. The School of Dentistry, including the Program in Dental Hygiene, is located in the modern health sciences area of the East Bank. Coffman Memorial Union is practically next door, on the south end of the traditional tree-studded mall.

Urban Diversity—The nearby Stadium Village, Dinkytown, and Cedar-Riverside neighborhoods all feature stores and restaurants tailored to students' interests and budgets.

Minneapolis (the largest city in Minnesota) and St. Paul (the state capital) are both flourishing centers of commerce and industry, boasting grandiose historic buildings along with bold new-fashioned structures.

Arts and Entertainment—The Twin Cities are renowned for innovative and varied cultural attractions, such as the Guthrie Theater, Ordway Music Theater, Orchestra Hall, Science Museum and Omnitheater, Minneapolis Institute of Arts, and Dudley Riggs' Brave New Workshop. Northrop Auditorium, the campus centerpiece, hosts performances by popular musical and dance artists and outstanding University bands and ensembles.

Recreation—Students can balance their academic work with a wide variety of recreational activities. Outdoor enthusiasts can explore the 150 nearby parks and 200 lakes, ideal for picnicking, hiking, biking, swimming, canoeing, sailing, fishing, roller or ice skating, cross-country or downhill skiing, or simply sitting and relaxing.

Sports—The Rec Sports program, the largest of its kind on any campus in the country, offers curling, cycling, racquetball, crew, ballroom dance, juggling, and 100 other teams, clubs, and fitness activities. Big-league sports fans can watch Golden Gopher or Viking football and Twins baseball at the Dome, North Stars hockey at the Met Sports Center, and professional horse racing at Canterbury Downs. Many women's and men's intercollegiate athletic events also take place right on campus.

The School of Dentistry

Outstanding Reputation—The University of Minnesota School of Dentistry, which celebrated its 100th anniversary in 1988, has a proud and productive history. It has gained a national and international reputation for the quality of its educational, clinical, research, and service programs and has earned long-standing recognition for the excellence of its patient-care educational programs. Its faculty have wide-ranging educational and research experience in many institutions throughout the nation and the world. Because the School of Dentistry is located in a large, highly populated metropolitan center, students are able to treat patients who have a wide array of dental health problems.

Rich Curriculum—The professional D.D.S. program features diversified course offerings in the preclinical and clinical disciplines; basic medical sciences; professional, interpersonal, and ecological aspects of dental care; and practice management. Career planning and placement are integrated into the core of the curriculum so students are prepared for the transition to practice or advanced education.

The curriculum addresses students' needs and teaches the latest scientific and technical knowledge. Scientific and scholarly skills are emphasized to ensure graduates are prepared to deal with a continually developing and changing profession. Interpersonal and communication skills are emphasized

because dentistry is practiced in an interpersonal environment.

The school has excellent programs for graduated dentists; it offers high quality, accredited programs in seven of the dental specialties. These programs lead to the Master of Science degree in the Graduate School. A Master of Science degree program is also available in Oral Health Services for Older Adults, and Ph.D. degree programs are available in Oral Biology and in the basic medical sciences. In addition to these, the school offers two post-D.D.S. residency and training programs in general dentistry. The school also offers advanced research training programs in several areas and provides generous financial support through federally funded research traineeships.

The professional dental hygiene program, established in 1919, has an illustrious record of accomplishment and innovation and is one of the country's premiere programs. Today's graduates complete a baccalaureate degree program that blends a solid dental hygiene clinical education with the biological, behavioral, and social sciences as well as the liberal arts.

Important Research—Vital clinical and basic research, conducted by the faculty in superb research facilities, includes work in areas such as oral microbiology; fluoride chemistry; bone substitutes; genetic study of viruses; dental restorative materials in a simulated, computerized artificial mouth; and microcirculation. Dental and dental hygiene students benefit from this research through new information provided by the faculty as well as opportunities to work as summer research fellows under the guidance of faculty mentors.

Special Clinics—Special services and teaching clinics are in operation: (1) a cleft palate and maxillofacial clinic, focusing on patients with congenital defects and acquired defects resulting from disease and trauma, and (2) a head and facial pain clinic, providing broad evaluation and treatment services for

patients with complicated pain problems. Both clinics have extensive consulting and in-house staffs of dental and medical specialists.

Global Influence—The School of Dentistry has been involved in international activities for many years. Dental students participate in exchange programs with Denmark, Norway, Germany, and Peru. Faculty and students have gone to 75 different countries to study or provide educational services, and faculty and students from 49 countries have come to the school as visiting or appointed professors and exchange students.

Excellent External Support—The School of Dentistry enjoys strong support from its large, active alumni society, which has the highest percentage of membership of any major school at the University of Minnesota. A large pool of friends, including our alumni, are generous with their monetary support for endowments, current gifts, and educational programs. We are constantly expanding the use of endowments to include private support for research activities among our faculty and students.

The Dental Profession

New knowledge, concepts, and techniques have made dental and dental hygiene care more beneficial for patients and more challenging, interesting, and comprehensive for practitioners. American dentists, particularly general practitioners and dental hygienists, will be expected to provide a greater range of dental and personal health services in the future.

Today's dentist can reorganize crowded teeth; replace missing teeth with implants; seal enamel defects; remove dental decay with lasers; and whiten, laminate, or cap discolored or cracked teeth. In 1990, it is estimated that the United States will have only 44.8 dentists per hundred thousand population, the fewest since World War I. Yet by the year 2000, it is estimated there will be 30 million more Americans for the profession to serve.

Introduction

There are about 126,000 active dentists in the United States today and roughly half of these are over the age of 45. About 90% are in solo or group practices, with the rest working in a variety of other settings: city, state, and federal agencies such as public health departments; community and nonprofit agencies; dental educational institutions; research programs sponsored by universities, foundations, and corporations; and armed forces programs. Of those dentists in private practice, approximately 95% are owners or part-owners. Fewer dentists are now going into solo practice (approximately 57%); more are forming partnerships and other group practices. Of practicing dentists, 87% are in general dentistry while 13% are in a dental specialty.

Location

The School of Dentistry, including the Program in Dental Hygiene, is headquartered on the East Bank of the University of Minnesota's Twin Cities campus. The school's main administrative office is in 15-209 Malcolm Moos Health Sciences Tower, 515 Delaware Street S.E., Minneapolis, MN 55455. Dental Hygiene offices are in 9-436 Malcolm Moos Health Sciences Tower.

Publication

A School of Dentistry newsletter, *Contact Points*, is distributed during the academic year.

Policies

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

Equal Opportunity—The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employ-

ment without regard to race, religion, color, sex, national origin, handicap, age, 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. 20000e; and by the requirements of Title IX of the Education Amendments of 1972; by Sections 503 and 504 of the Rehabilitation Act of 1973; by Executive Order 11246, as amended; 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 addressed to Patricia A. Mullen, Director, Office of Equal Opportunity and Affirmative Action, 419 Morrill Hall, University of Minnesota, 100 Church Street S.E., Minneapolis, MN 55455 (612/624-9547); or to the Director of the Office of Civil Rights, Department of Education, Washington, DC 20202; or to the Director of the Office of Federal Contract Compliance Programs, Department of Labor, Washington, DC 20210.

Postal Statement

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General Information



General Information

Mission

In 1888, the University of Minnesota took over the Minnesota College Hospital and established its own Department of Medicine. Dentistry, one of three colleges in the new department, became a separate unit in 1892. Its name was changed to the School of Dentistry in 1932. Today, as part of a large metropolitan university with a strong commitment to the health sciences, the School of Dentistry offers its students a variety of academic and cultural opportunities. It is a full member of the American Association of Dental Schools, and the undergraduate programs in dentistry and dental hygiene are approved by the Commission on Dental Accreditation.

The mission of the School of Dentistry is the acquisition and application of knowledge of the oral environment and its transfer to the human need by: graduating high quality clinical dentists, dental hygienists, dental specialists, and dental scientists; discovering new knowledge, technology, and skills applicable to maintaining optimal oral and systemic health; and transferring newly acquired knowledge, skills, and technology to the profession and community it serves.

The goal of the D.D.S. curriculum is to educate dental professionals whose scholarly capabilities, scientific acumen, and interpersonal skills are commensurate with their clinical mastery.

Facilities

The School of Dentistry offices are located in the Malcolm Moos Health Sciences Tower. Constructed with state and federal funds, the building provides a flexible, innovative environment for teaching and practicing dentistry and dental hygiene and conducting research. All the basic science teaching laboratories are in the Malcolm Moos Health Sciences Tower, except for the adjacent anatomy laboratories. Reference books and periodicals for dental and dental hygiene students are in the Reading

Room on the ninth floor, and nonprint materials are in the Learning Resources Room on the eighth floor.

The Biomedical Library in Diehl Hall, one block south of the Malcolm Moos Health Sciences Tower, features an extensive selection of reference materials in the fundamental and clinical health sciences. The large Twin Cities campus library system is headquartered in Wilson Library on the West Bank.

Degrees Offered

Doctor of Dental Surgery—The professional doctor of dental surgery (D.D.S.) program involves a four-year curriculum. Requirements are explained in the second and third sections of this bulletin.

Bachelor of Science—The bachelor of science (B.S.) degree is no longer offered through the University of Minnesota School of Dentistry. However, a B.S. degree can still be earned while completing the dental curriculum if the institution at which the individual undertook preprofessional coursework offers such a program recognizing the basic science coursework taken at the School of Dentistry and awards the degree independently.

Dental Hygiene—The bachelor of science (B.S.) degree in dental hygiene is offered through the Program in Dental Hygiene. Requirements are explained in the Dental Hygiene section of this bulletin.

Graduate Programs—Graduate programs are designed to meet the needs of members of the dental profession in preparation for careers in education, research, and specialty practice. The master of science (M.S.) degree is offered through the Graduate School in the various dental specialties: endodontics, oral health services for older adults, oral pathology, oral radiology, oral and maxillofacial surgery, orthodontics, pediatric dentistry, periodontics, and prosthodontics. The doctor of philosophy

(Ph.D.) degree in oral biology is also offered through the Graduate School, and a one-year General Practice Residency Program is offered through the School of Dentistry. These programs are approved by the Commission on Dental Accreditation. For details, consult the *Graduate School Bulletin*.

A series of short courses is regularly offered to keep members of the dental profession informed of new developments in clinical and research procedures. Special brochures listing courses, dates, and costs are available through the Continuing Dental Education Program, 6-406 Malcolm Moos Health Sciences Tower.

University Regents

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 Wendell R. Anderson, Wayzata
 M. Elizabeth Craig, Minnetonka
 Jack P. Grahek, Ely
 Jean B. Keffeler, Minneapolis
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 William P. Donohue, Acting Vice President and General Counsel
 Richard B. Heydinger, Vice President for External Affairs
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 Director of Student/Alumni Affairs and Public Relations
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 Nicholas N. Molitor, M.B.A., M.P.A.,
 Director of Finance and Personnel
 Charles F. Schachtele, M.S.D., M.S.,
 Ph.D., Director of Dental Research Institute

Student Activities

Each year, undergraduate dental and dental hygiene students elect the School of Dentistry Council of Students, which discusses matters of mutual interest with faculty advisers and promotes many projects and activities. Undergraduates also have representatives with voting privileges on School of Dentistry committees pertaining to student admission, educational policy, student affairs, and clinical systems. The Student Affairs Committee, composed of both dental and dental hygiene students and faculty members, is responsible for such student concerns as membership in local and national organizations, ethics, counseling, tutorial assistance, questions on the educational programs, financial aid, publications, housing, and alumni relations. Students have representatives on the Board of Directors of the School of Dentistry Alumni Society and on the Executive Council of the School of Dentistry Century Club. They also serve as student delegates for the House of Delegates of the Minnesota Dental Association and Minnesota Dental Hygienists' Association.

General Information

Four dental societies—Alpha Omega, Delta Sigma Delta, Psi Omega, and Xi Psi Phi—are active on campus. Fourth-year dental students may be elected by the faculty to the Beta Beta chapter of the national dental honor society, Omicron Kappa Upsilon. Graduating dental hygiene students may be elected to Eta Chapter of the National Dental Hygiene Honor Society, Sigma Phi Alpha.

Undergraduate dental students are encouraged to become members of the American Student Dental Association, Minnesota Dental Association, and American Association of Dental Schools (AADS). For a nominal fee, students receive the *Journal of the American Dental Association* and can participate in certain insurance programs. Dental hygiene students are encouraged to become members of the American Dental Hygienists' Association, Minnesota Dental Hygienists' Association, and American Association of Dental Schools. Dental hygiene students receive the *Journal of Dental Hygiene* and can participate in certain insurance programs. Some Minnesota students are active in the Council of Students of the AADS.

Bachelor of Science in Dental Hygiene Program



Bachelor of Science in Dental Hygiene Program

General Information

The Dental Hygiene program was established at the University of Minnesota in 1919 and is fully accredited by the Commission on Dental Accreditation. It is the only dental hygiene program in Minnesota that grants a bachelor of science degree and is affiliated with a school of dentistry.

The program offers qualified individuals the opportunity to fulfill both professional and personal goals while developing competence in the dental hygiene field. The program prepares graduates with professional and theoretical knowledge, skills, and attitudes to serve them in both career and life.

The dental hygienist is a licensed preventive oral health professional who provides educational, clinical, and therapeutic services supporting total health through the promotion of optimal oral health. A dental hygienist is that member of the dental team responsible for providing treatment that helps prevent oral diseases such as dental caries (cavities) and periodontal (gum) disease and for educating the patient to maintain optimal oral health.

The education of the dental hygienist blends a solid dental hygiene clinical education with the biological, behavioral, and social sciences as well as the liberal arts.

Dental hygienists practice in settings such as private dental offices and clinics; federal, state, and local health departments or associated institutions; hospitals and nursing homes; school districts or departments of education; educational programs for dental, dental hygiene, and dental assisting students; private business/industry; correctional facilities; private and public centers for pediatric, geriatric, and other groups/individuals with special needs; and health maintenance organizations.

The curriculum in dental hygiene consists of the preprofessional program in the College of Liberal Arts or its equivalent at some other regionally accredited institution and the professional program in the School of Dentistry Division of Dental Hygiene.

Admission Requirements

Admission to the program is competitive and occurs once a year for fall quarter. Applications are accepted from January of the desired year of entry until April 15. Applications received after the deadline are considered on a space-available basis.

Requirements for application include: high school graduate or equivalent; high school or college chemistry; ACT, PSAT, or SAT scores; Dental Hygiene Candidate Admissions Test (DHCAT); transcripts of all high school and college courses; 2.00 grade point average (GPA) minimum (cumulative and preprofessional coursework); and evidence of plans for completion of preprofessional coursework before proposed entry.

Application Procedures

Students in residence at the University of Minnesota apply by submitting a Request for Change of College Within the University form to the Office of Admissions. Students attending other colleges and universities apply by submitting the Application for Admission, an official transcript from each institution previously attended, and an application fee to the Office of Admissions.

Application forms are available from the Office of Admissions, 240 Williamson Hall, University of Minnesota, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-2006).

Access to Student 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. See the Doctor of Dental Surgery section of this bulletin for more information.

Advising

The Division of Dental Hygiene provides counseling and advising to students. Counseling is also available through the School of Dentistry counselor, University Counseling Services, and faculty members of the student's own choice.

Tuition and Fees

For information on current tuition, fees, and estimated total expenses, consult the quarterly *Class Schedule* or the estimated expense information provided by the Division of Dental Hygiene. The School of Dentistry provides virtually all dental instruments and supplies needed by students. Students pay an instrument usage fee quarterly to maintain this system.

Residency and Reciprocity

To qualify for resident tuition rates, students fulfill all residency requirements. To request consideration of a change in your residency status, contact the residency counselor in the Office of Admissions, 240 Williamson Hall. All reclassification requests must be made in writing.

If you are a resident of Wisconsin, North Dakota, or South Dakota, you may qualify for reciprocity privileges, in which case you will not pay the considerably higher tuition rates that nonresidents generally do. You must apply for reciprocity at the beginning of each academic year. For information and application forms, check with your home state reciprocity office.

Financial Aid

The Office of Student Financial Aid offers students financial assistance, including student employment and financial advising. Applications should be filed as soon after January 1 as possible. Students should apply for financial aid at the time they are applying for admission. Most aid is awarded on the basis of financial need and the availability of funds. For more information, contact the Office of Student Financial Aid, 210 Fraser Hall, University of Minnesota, 106 Pleasant St. S.E., Minneapolis, MN 55455 (612/624-1665).

The Office of Student Financial Aid Student Employment Center posts job vacancies and refers qualified students for interviews in a variety of jobs on and off campus. The center is located in 120 Fraser Hall, Minneapolis campus (612/624-8070).

Awards and Honors

The following awards are presented annually by the program faculty to dental hygiene students.

Louise C. Ball Scholarship—For selected graduating students who are in good academic standing and have established financial need.

Ione M. Jackson Scholarship—Established to honor Ione M. Jackson, former program director; awarded to a qualified student who wishes to become a dental hygiene educator.

Shirley Burgan Lichtwardt Memorial Scholarship—For selected graduating students who are in good academic standing with established financial need.

Sigma Phi Alpha, Eta Chapter—National Dental Hygiene Honor Society established to recognize and honor excellence in scholarship, service, and character among graduating dental hygiene students. A maximum of 10% of each graduating class is selected for membership.

Sigma Phi Alpha Award—Awarded to the first-year dental hygiene student who maintains the highest GPA.

Student Activities

Students in the professional program are represented by the Student Dental Hygiene Organization. In addition, members from each class are elected to serve on the School of Dentistry Student Council. Students are also eligible for membership in the Student American Dental Hygienists' Association. Participation in activities of the Council for Health Interdisciplinary Participation (CHIP) is also encouraged.

Graduation

The minimum requirements for graduation are completion of the curricular requirements and a minimum of 180 credits with at least a 2.00 cumulative GPA.

Licensure and Placement

The graduate is eligible for licensure upon successful completion of both a written National Board Dental Hygiene Examination and a clinical examination. The licensed dental hygienist practices in accordance with the requirements of individual state dental practice acts. In many states, a dental hygienist must participate in continuing education courses for license renewal.

Bachelor of Science in Dental Hygiene Program

Preprofessional Program

Admission

Students entering the preprofessional program (one year) must meet the admission criteria of the College of Liberal Arts or their equivalent at some other regionally accredited institution. Consult the *College of Liberal Arts Bulletin* for complete information.

Admission to the preprofessional program does not ensure admission to the professional program.

Curriculum

The following courses or their equivalents must be completed before entry into the professional program (quarter credits follow in parentheses).

High school or college chemistry (one course)
Biology 1009 General Biology (5)
Comp 1011 Writing Practice I (5)
FSeN 1612 Principles of Nutrition (4)*
MdBc 1030 Physiological Chemistry (4)**
Psy 1001 General Psychology (5)
Soc 1001 Introduction to Sociology (4)
Spch 1101 Fundamentals of Speech Communication (4)

Stat 1001 Introduction to Ideas of Statistics (4)
Liberal Education Electives (8+)

*May be taken through Extension or Independent Study prior to fall quarter of junior year if unavailability of nutrition course is documented.

**Organic chemistry can be substituted if unavailability of biochemistry is documented or may be taken fall quarter of sophomore year if anatomy has been completed before entry.

Liberal Education Requirements

Liberal education communications and group distribution requirements are also completed during the preprofessional and professional program.

Professional Program

Curriculum

Students register in the Division of Dental Hygiene for the professional program. The following courses must be completed to satisfy graduation requirements (quarter credits follow in parentheses).

Sophomore Year

Fall Quarter
CBN 3001 Elementary Anatomy (4)
MicB 5235 Microorganisms and Disease (4)

DH 1001 Dental Anatomy (3)
DH 1002 Head and Neck Anatomy (1)
DH 1190 The Dental Hygiene Care Process (6)

Winter Quarter

DH 1092: Introduction to Dental Hygienist-Patient Relationships (3)
DH 1191 The Dental Hygiene Care Process: Clinical Application I (3)
DH 3171 Patient Assessment (3)
DH 3175 Oral Histology and Embryology (3)
Phsl 3051 Human Physiology (5)

Spring Quarter

DH 1093 Cariology (3)
DH 1094 Periodontology (3)
DH 1192 The Dental Hygiene Care Process: Clinical Application II (3)
DH 3176 General and Oral Pathology (3)
DH 3275 Oral Radiology I (2)
HSU 5011 The Teaching-Learning Process in the Health Care Setting (3)

Junior Year

Fall Quarter

DH 1203 Dental Specialties (2)
DH 3030 Applied Nutrition in Dental Hygiene Care (2)
DH 3193 The Dental Hygiene Care Process: Clinical Application III (4)
DH 3202 Dental Hygiene Care of the Pediatric Patient (2)
DH 3277 Oral Radiology II (2)
Phcl 5100 Pharmacology (2)

Winter Quarter

DH 1202 Introduction to Biomaterials (3)
DH 3194 The Dental Hygiene Care Process: Clinical Application IV (4)
DH 3203 Dental Hygiene Care of the Geriatric Patient (2)
DH 3278 Radiographic Analysis (1)
Dent 5451 Periodontology I (3)

Spring Quarter

DH 3050 Research Methods in Dental Hygiene (3)
DH 3095 Adjunct Clinical Procedures (2)
DH 3195 The Dental Hygiene Care Process: Clinical Application V (4)
DH 3204 Dental Hygiene Care of the Handicapped Patient (2)
Dent 5452 Periodontology II (3)
PH 3001 Personal and Community Health (3)

Senior Year

Fall Quarter

Comp 3033 Writing in the Health Sciences (4)
DH 1204 Dental Specialties Practicum (3)
DH 3196 The Dental Hygiene Care Process: Clinical Application VI (5)

Winter Quarter

DH 3061 Community Outreach (2)
DH 3096 Social, Economic, and Practice Factors in Oral Health (3)
DH 3197 The Dental Hygiene Care Process: Clinical Application VII (5)
Dent 5027 Epidemiology, Prevention, and Dental Public Health (3)

Spring Quarter

DH 3097 Ethics, Jurisprudence, and Principles of Practice (3)

DH 3198 The Dental Hygiene Care Process: Clinical Application VIII (5)
 DH 3276 Clinical Radiology (2)
 Liberal Education Elective(s) (4)

Dental Hygiene Courses (DH)

1001. DENTAL ANATOMY. (3 cr)

Comparative study of all deciduous and permanent teeth including tooth form, function, and relationship to oral health; calcification, eruption, and exfoliation patterns; introduction to ideal static occlusion; dental terminology and tooth annotation systems. Laboratory experiences include identification and annotation of teeth and restoration, in wax, of portions of selected typodont teeth.

1002. HEAD AND NECK ANATOMY. (1 cr)

The anatomical structures of the head and neck as they relate to dental treatment with emphasis on application to oral inspection, radiology, cranial nerves and muscles, and local anesthesia.

1092. INTRODUCTION TO DENTAL HYGIENIST-PATIENT RELATIONSHIPS. (3 cr)

Focus on oral hygiene techniques implemented through communication between patient and oral health provider. Co-therapeutic problem solving.

1093. CARIOLOGY. (3 cr)

The study of dental caries; etiology, pathology, and prevention.

1094. PERIODONTOLOGY. (3 cr)

The study of periodontal disease; etiology, assessment, and treatment options. Clinical experience in root planing and placement of periodontal dressings.

1190. THE DENTAL HYGIENE CARE PROCESS. (6 cr)

Introduction to the dental hygiene care process, normal oral structures, assessment of oral health and clinical instrumentation skills. Lecture, laboratory, and clinical experiences.

1191. THE DENTAL HYGIENE CARE PROCESS: CLINICAL APPLICATION I. (3 cr)

Clinical experience in dental hygiene patient care. Introduces students to the School of Dentistry Comprehensive Dental Clinics and assessment in dental hygiene care.

1192. THE DENTAL HYGIENE CARE PROCESS: CLINICAL APPLICATION II. (3 cr)

Clinical experience in dental hygiene patient care. Focus on dental hygiene care for the prevention and control of dental caries and periodontal diseases; skill development in ultrasonic scaling and hypertension screening; evaluation of products used in the treatment of dental caries and periodontal diseases.

1202. INTRODUCTION TO BIOMATERIALS. (3 cr)

Lectures on the physical, chemical, and mechanical properties of materials used in dentistry with accompanying laboratory exercises.

1203. DENTAL SPECIALTIES. (2 cr)

Introduction to various dental specialties and the dental hygienist's role in services provided.

1204. DENTAL SPECIALTIES PRACTICUM. (3 cr)

Clinical rotation through various dental disciplines.

3030. APPLIED NUTRITION IN DENTAL HYGIENE CARE. (2 cr)

Principles of diet and nutrition applied to dental hygiene patient care; skills for dental caries counseling.

3050. RESEARCH METHODS IN DENTAL HYGIENE. (3 cr)

Skills in the scientific method and critical analysis of research findings; emphasis on types of research, problem selection, hypothesis writing, research planning and design, data collection and measuring techniques, analysis and interpretation of data, and writing the research proposal.

3061. COMMUNITY OUTREACH. (2 cr)

Dental hygiene care in a variety of community settings.

3095. ADJUNCT CLINICAL PROCEDURES. (2 cr)

Laboratory and clinical experiences in the principles and techniques of impression making; finishing and polishing restorations; margination; monitoring nitrous oxide sedation; placement and removal of rubber dam; and placement of temporary restorations and pit and fissure sealants.

3096. SOCIAL, ECONOMIC, AND PRACTICE FACTORS IN ORAL HEALTH. (3 cr)

Factors and issues related to health care promotion, regulation, and delivery as well as the political/legislative process as related to current status and trends in dentistry.

3097. ETHICS, JURISPRUDENCE, AND PRINCIPLES OF PRACTICE. (3 cr)

Emphasis on employment, economic, and business management aspects of dental practice with discussion of current and extended roles for dental hygienists.

3171. PATIENT ASSESSMENT. (3 cr)

Overview of a systematic approach to evaluating the dental patient. Interviewing and taking a case history, common medical problems, examination procedures, recording data and terminology.

3175. ORAL HISTOLOGY AND EMBRYOLOGY. (3 cr)

Lectures on the embryology and histology of human oral structures as well as other parts of the head and neck. Histology and embryology of teeth, mandible, maxilla, palate, tongue, and salivary glands emphasized and correlated with development abnormalities.

3176. GENERAL AND ORAL PATHOLOGY. (3 cr)

Circulatory disturbances, inflammation, and tremors with emphasis on diseases affecting the oral cavity, dental caries, periodontal diseases, oral neoplasias, and similar problems.

3193. THE DENTAL HYGIENE CARE PROCESS: CLINICAL APPLICATION III. (4 cr)

Clinical experience in dental hygiene patient care. Focus on treatment planning in dental hygiene care.

Bachelor of Science in Dental Hygiene Program

3194. THE DENTAL HYGIENE CARE PROCESS: CLINICAL APPLICATION IV. (4 cr)

Clinical experience in dental hygiene patient care. Focus on treatment planning in dental hygiene care.

3195. THE DENTAL HYGIENE CARE PROCESS: CLINICAL APPLICATION V. (4 cr)

Clinical experience in dental hygiene patient care. Focus on treatment planning in dental hygiene care.

3196-3197-3198. THE DENTAL HYGIENE CARE PROCESS: CLINICAL APPLICATION VI, VII, VIII. (15 cr total)

Clinical experience in dental hygiene patient care. Orientation to outreach experiences. Adaptation of dental hygiene care to meet preventive and treatment needs of patient populations in particular outreach assignments. Analysis of patient preventive and treatment needs through case studies/presentations. Students participate in Comprehensive Dental Clinics and outreach assignments.

3202. DENTAL HYGIENE CARE FOR THE PEDIATRIC PATIENT. (2 cr)

Focus on the knowledge, skills, and attitudes required for dental hygiene care for the pediatric patient.

3203. DENTAL HYGIENE CARE FOR THE OLDER ADULT PATIENT. (2 cr)

Focus on the knowledge, skills, and attitudes required for dental hygiene care for the older adult in various states of change associated with aging, with or without concomitant disease.

3204. DENTAL HYGIENE CARE FOR THE INDIVIDUAL WITH HANDICAPPING CONDITIONS. (2 cr)

Focus on the knowledge, skills, and attitudes required for dental hygiene care for individuals with mental, physical, and social/emotional handicaps.

3275. ORAL RADIOLOGY I. (2 cr)

Intraoral and extraoral films and radiographs used in dentistry; descriptions and identification of individual radiographs and intraoral radiographic surveys; intraoral radiograph mounting and viewing; radiographic density and contrast; geometry of image formation; nature and characteristics of radiographic film, chemistry of processing darkroom techniques. Introduction to intraoral radiographic technique, quality evaluation, and radiographic anatomy.

3276. CLINICAL RADIOLOGY. (2 cr)

Students observe and participate in demonstrations of various radiographic procedures (intraoral and extraoral, including panoramic radiography) to develop the ability to produce acceptable complete periapical-bitewing radiographic surveys on mounted skulls and patients, process exposed films, qualitatively evaluate their results, mount and interpret their radiographs, and discuss topics relevant to oral radiology.

3277. ORAL RADIOLOGY II. (2 cr)

The nature of particulate and electromagnetic radiations; production and control of X-rays; characteristics of radiographic film and image; mathematics of exposure; intensifying screens, cassettes, and grids; stain removal and radiographic density reduction; and a general survey of radiation biology, dosimetry, law, and controversy.

3278. RADIOGRAPHIC ANALYSIS. (1 cr)

Intensive study of discrepancies and technical errors responsible for observed discrepancies in intraoral radiographs produced by angle-bisector and paralleling techniques, radiographic anatomy, and radiographic evidence of deviations from the spectrum of normal anatomic variations.

5027. EPIDEMIOLOGY, PREVENTION, AND DENTAL PUBLIC HEALTH. (3 cr)

Epidemiological patterns of oral diseases and methods of investigation, the conduct and content of effective community oral health programs, and key public policy issues in dental public health practice.

5451. PERIODONTOLOGY I. (3 cr)

Ecological impact of periodontal disease on oral health.

5452. PERIODONTOLOGY II. (3 cr)

Clinical procedures associated with surgical phase of periodontal therapy.

Required Courses Offered by Other Units

CBN 3001. ELEMENTARY ANATOMY. (4 cr)

General survey of human anatomy including histology, embryology, gross anatomy, and neuroanatomy, with some clinical and physiological correlations.

Comp 3033. WRITING IN THE HEALTH SCIENCES. (4 cr)

Thoughts, forms, and modes of expression common to health sciences writing.

HSU 5011. THE TEACHING-LEARNING PROCESS IN THE HEALTH CARE SETTING.

(3 cr)

Teaching skills to effectively transmit knowledge, attitudes, and skills to patients, the public, and other health workers.

MicB 5235. MICROORGANISMS AND DISEASE.

(4 cr)

Nature of microorganisms, immunology, medical bacteriology, virology, mycology, parasitology, and principles of disease control.

PH 3001. PERSONAL AND COMMUNITY HEALTH. (3 cr)

Fundamental principles of health conservation and disease prevention.

Phel 5100. PHARMACOLOGY. (2 cr)

Phsl 3051. HUMAN PHYSIOLOGY. (5 cr)

Faculty

Associate Professor

Lynda J. Young, R.D.H., M.A., Director, Continuing Dental Education

Assistant Professor

Susan Kyle Dittmar, R.D.H., B.S., Assistant Clinical Specialist

Kathleen J. Newell, R.D.H., Ph.D., Director, Division of Dental Hygiene

Joy B. Osborn, R.D.H., M.A.

Jill L. Stoltenberg, R.D.H., M.A., Clinic Director

Doctor of Dental Surgery Program



Doctor of Dental Surgery Program

Calendar

The professional program in the School of Dentistry involves a four-year curriculum. The fall quarter starts after Labor Day and runs 14 weeks. The winter and spring quarters of 10 weeks each coincide with the University calendar. Clinical activity is required of students during the summer after their third year.

Admission

The School of Dentistry is committed to the policy that all persons shall have equal access to its Doctor of Dental Surgery Program without regard to race, creed, color, sex, national origin, religion, handicap, age, veteran status, or sexual orientation. It is committed to improving educational and professional dental career opportunities for underrepresented minorities. As part of pursuing this goal, the School of Dentistry publicizes dental career opportunities for prospective students, actively recruits qualified individuals, and provides a broad range of supportive services for currently enrolled minority students.

General Requirements—A first-year class is admitted to the program in dentistry once a year in the fall, although students planning to enter dental school can begin their pre dental studies at any time.

While high school credentials are not examined as part of the admission evaluation, students anticipating dental careers are urged to take a sound academic program in high school to properly prepare for the pre dental and dental programs. Coursework should include mathematics, chemistry, physics, biology, foreign languages, English, and social studies.

A minimum of 130 quarter credits or 87 semester credits of liberal arts courses from an officially accredited U.S. or Canadian college or university is required. A limit of 96 quarter credits from community or junior colleges will be applied to the 135 required quarter

credits, or to the 180 quarter credits of a four-year college program. A minimum of 170 quarter credits is accepted for a four-year classification. (One semester credit is equivalent to 1½ quarter credits.) While acceptance is based primarily on performance quality, applicants are encouraged to have a broad liberal education.

To help achieve the goals of a liberal education, the School of Dentistry prefers that all students distribute some part of their pre dental college coursework in areas of study other than those related to the biological and physical sciences. Pre dental students are urged to plan their coursework to satisfy the University's liberal education distribution requirements.

The minimum scholastic average that will be considered is C, but acceptance is on a competitive basis and an average well above C is usually necessary to achieve admission.

Courses and minimum credits required for admission are listed below. Required courses must be completed by the end of the regular academic year (spring quarter) for enrollment the following fall. Completing required courses the summer before the fall of enrollment is discouraged.

Science coursework must include both lecture and laboratory instruction. Exemptions and advanced courses with fewer credits will be recognized, but transcripts or other academic records must clearly identify them, and individual evaluations will be made. Courses in biology, chemistry, and physics may be considered outdated if taken more than five years before the time of application. Only under unusual circumstances will satisfactory credits graded on a satisfactory-no credit evaluation system be accepted for required courses. Applicants may submit a maximum of the following percentage of S credits in elective courses: 10% of the minimum total credits for three-year students, and 15% of the minimum total credits for four-year students. Incomplete grades are looked upon with disfavor by the Admissions Committee. Any incomplete

and withdrawal grades in excess of one per academic year must be explained in the application.

Required Courses

1. English—12 quarter credits in composition, literature, speech, humanities (with emphasis on literature), or etymology.

2. General Biology or Zoology—10 quarter credits. General zoology alone is acceptable but not preferred. Basic courses such as developmental biology are also acceptable.

3. Physics—10 to 12 quarter credits. Complete basic course required.

4. General Principles of Chemistry—12 quarter credits. Should include a course in qualitative analysis or quantitative analysis.

5. Organic Chemistry—8 to 10 quarter credits. Course content must include study of both the aliphatic and aromatic series. One-semester courses do not generally carry sufficient credits and are not sufficiently in-depth.

6. A minimum of 3 quarter credits in one of the following courses: college algebra or precalculus by college credit or college validation, computer science, or statistics.

7. Applied Human Psychology—At least 4 quarter credits in general human psychology, child and adolescent human psychology, or abnormal human psychology.

Recommended Elective Courses

Elective courses should be selected to achieve as broad and liberal an education as possible. Students are expected to select the following preferred electives if feasible: speech, art (e.g., basic drawing and sculpturing), cell biology, genetics, and applied human psychology. Additional electives can be chosen from among the following subjects: analytical chemistry, accounting, anthropology, biochemistry, business (practical courses), classics, comparative anatomy, economics, etymology, history, humanities, logic, higher mathematics, microbiology, microscopic anatomy, political science, sociology, and a foreign language.

Individuals considering dental careers are urged to gain information about dentistry through discussions with professionals in the field and through observation of or participation in patient care and laboratory procedures in dental offices, dental laboratories, and dental school clinics and laboratories. Other expected orientations to dentistry include experiences involving fine manual dexterity, knowledge of health fields, and direct personal services to people on a one-to-one basis.

Required Entrance Tests—All applicants are required to take the Dental Admission Test prepared by the American Dental Association. It is given two times a year, usually in October and April, in many testing centers throughout the United States and in several foreign countries. It is administered on the Minneapolis campus of the University of Minnesota. Many applicants take the test as soon as they have completed the required courses in biology, general chemistry, and organic chemistry.

It is recommended that candidates take the test by October of the preceding academic year for enrollment the following fall. Although the test generally measures aptitudes rather than special knowledge, some specific questions are asked in the areas of biology, general chemistry, and organic chemistry; thus a review of these subjects before taking the test is urged. Applicants are encouraged to study test preparation materials such as those provided free of charge by the American Dental Association's Division of Educational Measurements. An application form and a brochure describing the test, testing centers, and dates are available from the Office of Admissions, 240 Williamson Hall, University of Minnesota, 231 Pillsbury Drive S.E., Minneapolis, MN 55455, and from the School of Dentistry. These materials can also be obtained by writing to the Division of Educational Measurements, American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611.

Doctor of Dental Surgery Program

The School of Dentistry requires that all applicants who are not native speakers of English submit written evidence of either a TOEFL score of at least 550 with a minimum score of 55 in Part 1, Aural Comprehension, or a MELAB score of at least 85 with a minimum score of 85 in Part II, Listening. The test(s) must have been administered within the last two years before the date of application to the School of Dentistry.

Residence Requirements—First priority for admission is given to Minnesota residents, second to residents of neighboring states with which the University of Minnesota has special admission arrangements, and third to other nonresidents who have acceptable reasons for attending the University of Minnesota School of Dentistry.

Personal Interview—Although candidates are not required to appear for an interview as part of the admission process, it is highly recommended that they make a personal visit to the School of Dentistry to tour our state-of-the-art facilities and meet with our Office of Enrollment Management professionals. Contact the Office of Enrollment Management, 15-106 Malcolm Moos Health Sciences Tower, University of Minnesota, 515 Delaware Street S.E., Minneapolis, MN 55455 (612/625-7149).

Application Procedures

The University of Minnesota School of Dentistry participates in the American Association of Dental Schools Application Service (AADSAS), a national agency that coordinates dental application services. All students seeking admission to the school must apply through this service, whether they are new applicants or reapplicants. AADSAS application materials may be obtained from AADSAS through an application request card, which is available from the School of Dentistry, 15-106 Malcolm Moos Health Sciences Tower, University of Minnesota, 515 Delaware Street S.E., Minneapolis, MN 55455, or from the

Office of Admissions, 240 Williamson Hall, University of Minnesota, 231 Pillsbury Drive S.E., Minneapolis, MN 55455. The AADSAS application materials can also be obtained directly from the School of Dentistry while supplies are available or from the Pre-Health Sciences Advising Office, 30 Johnston Hall, University of Minnesota, Minneapolis, MN 55455. After the application materials are completed, they should be mailed to AADSAS, P.O. Box 4000, Iowa City, IA 52240.

After the University of Minnesota has received the AADSAS application, each applicant will be sent a University of Minnesota School of Dentistry application form to complete and a request for the following additional materials:

1. One *official* transcript from each college attended. The transcripts must be submitted to the School of Dentistry at the time of application and after each quarter or semester of subsequent work until a decision is made on the application. They are in addition to those submitted to AADSAS. Transcripts marked "student copy" or with a similar reference are not acceptable. Appearance on one college/university transcript of courses and credits transferred from other institutions is not sufficient. Accepted students must continue to submit a transcript after each quarter or semester of study until completion of all coursework.

2. Three written recommendations, submitted on special recommendation forms sent to the applicant with the request for supplemental information. These recommendations should come from persons who have been very familiar with the applicant and the applicant's work within the last four years. At least one recommendation should come from an employer if possible. The rest may come from peers, college teachers, college recommendation committees, college counselors, and other appropriate individuals. All recommendations must be accompanied by a letter of reference in addition to the

completed form. Applicants are requested to limit their recommendations to three. The recommendations must be submitted directly from the recommender to the School of Dentistry.

3. A \$20 application processing fee.

Applications should be filed between June 1 and April 1 of the preceding academic year for entry the following fall. The AADSAS application must be received by AADSAS before April 1. Early filing is encouraged.

Tuition and Fees

The figures below were charged for the 1989-90 academic year. Increases are possible in the future.

Tuition

| | |
|--|------------|
| Full-time students (per quarter) | |
| Residents | \$2,093.00 |
| Nonresidents | 3,139.00 |
| Students carrying fewer than 12 credits (per credit) | |
| Residents | 174.38 |
| Nonresidents | 261.57 |

| | |
|---|--------|
| Student Services Fee (per quarter) | 111.46 |
|---|--------|

| | |
|---|--------|
| Instrument Usage Fee (per quarter) | 325.00 |
|---|--------|

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|--|--------|
| Precious Metals Second year—fall | 750.00 |
|--|--------|

| | |
|--------------------------------|--------|
| Typodonts First year | 300.00 |
|--------------------------------|--------|

| | |
|----------------------------|--------|
| Books First year | 831.00 |
| Second year | 710.00 |
| Third year | 402.00 |
| Fourth year | 77.00 |

Other Fees—See the current *Class Schedule* or contact the Office of Enrollment Management for information on late registration, late payment, installment payment, or other miscellaneous fees, and current information on the fees listed above.

Instrument Usage Fee (listed above)

—The School of Dentistry provides virtually all the dental instruments and supplies needed by students. This reduces costs for students, provides a convenient and efficient system, and permits the school to maintain control over the sterility and maintenance of the instruments and supplies used in the clinics. As part of the financial support of this system, students pay a usage fee. The usage fee per quarter was \$325 for the 1989-90 academic year. Increases will depend on cost factors.

Financial Aid

Special loans, scholarships, fellowships, awards, and honors for qualified School of Dentistry students are sponsored by a variety of individuals, graduating classes, foundations, philanthropic groups, societies, and commercial firms. For more information, contact the Office of Student Affairs, 15-106 Malcolm Moos Health Sciences Tower (612/625-7149) or the University's Office of Student Financial Aid, 210 Fraser Hall (612/624-5260).

The Office of Student Employment, 120 Fraser Hall (612/624-8070), posts part-time and summer job openings, but the demands of the dentistry program make it difficult for students to devote much time to outside employment. A number of summer research fellowships are available to students during the summer at the School of Dentistry.

Counseling

The class committee chair serves as the major adviser for each class. Counseling is also available through the Office of Enrollment Management, University Counseling Services, and faculty members of the student's own choice.

A special counseling program assigns faculty members to provide personal guidance to first- and second-year dental students.

Doctor of Dental Surgery Program

Graduation Requirements

Candidates for the degree of doctor of dental surgery (D.D.S.) must have:

1. complied with the rules and regulations of the School of Dentistry and of the University of Minnesota;
2. demonstrated sound moral character;
3. received a passing grade in all required courses;
4. completed all department clinical requirements;
5. completed treatment of all clinical patients;
6. completed at least seven quarters in residence as a full-time clinical student, as defined by clinic utilization and productivity;
7. returned all equipment and supplies assigned for their use;
8. earned a minimum GPA of 2.00 (C);
9. discharged all financial obligations to the University; and
10. been recommended by the faculty of the School of Dentistry for the degree.

National Board Dental Examinations

The National Board Dental Examinations are held on the Minneapolis campus. Virtually all students elect to take these written examinations, which are recognized by 52 of the 53 licensing jurisdictions in the United States.

Evaluation of Student Performance

Student progress and achievement are evaluated through a variety of means including written and oral examinations, practical examinations, observation of clinical performance, and course assignments. Students must attain a minimum GPA of 2.00 before graduation and they also must complete many experiential requirements in a variety of disciplines. The University's grading systems of A-B-C-D-F and S-N are used.

Faculty class committees review grades and course progress and make quarterly evaluations of each student's

achievement and personal conduct. Recommendations on a student's status and promotion are made by these committees and are given to the Committee on Educational Policy. In general, a 2.00 GPA is required for promotion between academic years and required prerequisite coursework must be completed with a passing grade before students are permitted to begin patient care.

Students are expected to learn professional behaviors in addition to achieving academically, and a student conduct code stipulates guidelines for this. Students can be dismissed from school for disciplinary as well as scholastic reasons.

Students must exercise their clinical responsibilities with discretion and must display concern for the dignity and importance of patients.

Program in Dentistry (D.D.S.)

First Year

| <i>Fall Quarter</i> | Credits |
|--|----------|
| CBN 5100—Gross Human Anatomy | 12 |
| CBN 5103—Human Histology | 7 |
| Dent 5092—Professional Problem Solving | 0 |
| Dent 5648—Oral Anatomy | 2 |
| Dent 5670—Introduction to Oral Biology | 1 |
| MdBe 5201—Biochemistry for Dental Students | 4 |
| | <hr/> 26 |

Winter Quarter

| | |
|--|----------|
| Dent 5026—Introduction to Dental Care Delivery | 2 |
| Dent 5093—Professional Problem Solving | 0 |
| Dent 5200—Current Literature Seminars | 2 |
| Dent 5210—Introduction to Clinics | 1 |
| Dent 5600—Introduction to Biomaterials I | 1 |
| Dent 5649—Oral Anatomy | 4 |
| Dent 5725—Oral Histology and Embryology | 3 |
| Dent 5810—Physical Evaluation I | 1 |
| MdBe 5202—Biochemistry | 3 |
| Phsl 5100—System Physiology | 5 |
| | <hr/> 22 |

Spring Quarter

| | |
|--|----------|
| Dent 5094—Professional Problem Solving | 1 |
| Dent 5150—Operative Dentistry I | 2 |
| Dent 5153—Operative Dentistry Laboratory | 2 |
| Dent 5201—Current Literature Seminars | 2 |
| Dent 5211—Introduction to Clinics | 1 |
| Dent 5401—Pediatric Dentistry I | 1 |
| Dent 5601—Introduction to Biomaterials II | 3 |
| Dent 5775—Oral Radiology I | 3 |
| CBN 5110—Neuroscience for Dental Students | 2 |
| Phsl 5101—Neuroscience for Dental Students | 2 |
| | <hr/> 19 |

Second Year

Fall Quarter

| | |
|---|----------|
| Dent 5000—Fixed Prosthodontics Technique | |
| Lectures | 2 |
| Dent 5003—Fixed Prosthodontics Laboratories | 2 |
| Dent 5151—Operative Dentistry I | 2 |
| Dent 5154—Operative Dentistry Laboratory | 3 |
| Dent 5317—Anesthesia | 2 |
| Dent 5463—Periodontology Technique | 0 |
| Dent 5623—Endodontic Technique | 0 |
| Dent 5776—Oral Radiology II | 2 |
| MdBc 5203—Topics: Dental Biochemistry | 3 |
| MicB 5201—Microbiology for Dental Students | 7 |
| | <hr/> 23 |

Winter Quarter

| | |
|---|----------|
| Dent 5001—Fixed Prosthodontics Technique | |
| Lectures | 1 |
| Dent 5004—Fixed Prosthodontics Laboratories | 2 |
| Dent 5100—Introduction to Genetics | 1 |
| Dent 5152—Operative Dentistry I | 1 |
| Dent 5155—Operative Dentistry Laboratory | 2 |
| Dent 5451—Periodontology I | 3 |
| Dent 5464—Periodontology Technique | 1 |
| Dent 5550—Removable Prosthodontics I | |
| Lectures | 1 |
| Dent 5554—Removable Prosthodontics I | |
| Laboratories | 4 |
| Dent 5624—Endodontic Technique | 2 |
| Dent 5811—Physical Evaluation II | 3 |
| LaMP 5099—General Pathology | 2 |
| | <hr/> 23 |

Spring Quarter

| | |
|---|----------|
| Dent 5002—Fixed Prosthodontics Technique | |
| Lectures | 1 |
| Dent 5005—Fixed Prosthodontics Laboratories | 2 |
| Dent 5050—Dental Ergonomics and Auxiliary Utilization | 1 |
| Dent 5156—Introduction to Operative Dentistry Clinic | 1 |
| Dent 5401—Pediatric Dentistry I | 1 |
| Dent 5452—Periodontology II | 3 |
| Dent 5465—Periodontology Clinic | 1 |
| Dent 5551—Removable Prosthodontics II | |
| Lecture | 2 |
| Dent 5555—Removable Prosthodontics II | |
| Laboratory | 2 |
| Dent 5751—Occlusion II | 3 |
| Dent 5809—Patient Management II | 3 |
| LaMP 5100—Pathology for Dental Students | 3 |
| | <hr/> 23 |

Third Year

Fall Quarter

| | |
|--|----------|
| Dent 5010—Fixed Prosthodontics Clinic | 3 |
| Dent 5036—Organization and Management of Dental Practice I | 3 |
| Dent 5161—Operative Dentistry Clinic | 3 |
| Dent 5251—Oral Pathology | 3 |
| Dent 5310—Oral Surgery I | 1 |
| Dent 5409—Pediatric Dentistry Clinic | 0 |
| Dent 5560—Removable Prosthodontics III | 1 |
| Dent 5562—Removable Prosthodontics Clinic | 3 |
| Dent 5625—Endodontics | 2 |
| Dent 5778—Oral Radiology Clinic | 0 |
| Dent 5800—Initial Examination Clinic II | 0 |
| Phcl 5103—Pharmacology for Dental Students | 5 |
| | <hr/> 24 |

Winter Quarter

| | |
|---|----------|
| Dent 5006—Fixed Prosthodontics I | 1 |
| Dent 5011—Fixed Prosthodontics Clinic | 3 |
| Dent 5027—Epidemiology, Prevention, and Public Health | 3 |
| Dent 5043—Organization and Management of Dental Practice II | 0 |
| Dent 5052—Dental Auxiliary Utilization Clinic (DAU I, II) | 0 |
| Dent 5162—Operative Dentistry Clinic | 3 |
| Dent 5311—Oral Surgery II | 1 |
| Dent 5371—Orthodontics I | 3 |
| Dent 5402—Pediatric Dentistry II | 1 |
| Dent 5410—Pediatric Dentistry Clinic | 1 |
| Dent 5563—Removable Prosthodontics Clinic | 3 |
| Dent 5753—TMJ Diagnosis and Treatment | 1 |
| Dent 5777—Oral Radiology III | 1 |
| Dent 5779—Oral Radiology Clinic | 1 |
| Dent 5801—Initial Examination Clinic II | 1 |
| | <hr/> 20 |

Spring Quarter

| | |
|---|----------|
| Dent 5007—Fixed Prosthodontics II | 1 |
| Dent 5012—Fixed Prosthodontics Clinic | 3 |
| Dent 5030—Health Ecology: Update | 2 |
| Dent 5044—Organization and Management of Dental Practice II | 1 |
| Dent 5053—Dental Auxiliary Utilization Clinic (DAU I, II) | 0 |
| Dent 5163—Operative Dentistry Clinic | 3 |
| Dent 5252—Oral Pathology | 3 |
| Dent 5315—Oral Surgery III | 1 |
| Dent 5372—Orthodontics II | 2 |
| Dent 5376—Orthodontics Laboratory | 1 |
| Dent 5411—Pediatric Dentistry Clinic | 1 |
| Dent 5564—Removable Prosthodontics Clinic | 3 |
| Dent 5780—Oral Radiology Clinic | 2 |
| Dent 5802—Initial Examination Clinic II | 1 |
| | <hr/> 24 |

Fourth Year

Fall Quarter

| | |
|---|----------|
| Dent 5015—Fixed Prosthodontics Clinic | 3 |
| Dent 5054—Dental Auxiliary Utilization Clinic (DAU I, II) | 2 |
| Dent 5090—The Business and Legal Aspects of Dental Practice | 5 |
| Dent 5095—Professional Problem Solving | 0 |
| Dent 5160—Operative Dentistry II | 2 |
| Dent 5165—Operative Dentistry Clinic | 3 |
| Dent 5316—Oral Surgery Clinic | 1 |
| Dent 5326—Medical and Dental Office | |
| Dent 5413—Pediatric Dentistry Clinic | 0 |
| Dent 5469—Periodontology Clinic | 1 |
| Dent 5565—Removable Prosthodontics Clinic | 2 |
| Dent 5626—Endodontics Clinic | 1 |
| Dent 5642—Hospital Dentistry | 0 |
| Dent 5804—Emergency Clinic II | 1 |
| Dent 5811—Physical Evaluation III | 2 |
| | <hr/> 23 |

Winter Quarter

| | |
|--|---|
| Dent 5016—Fixed Prosthodontics Clinic | 3 |
| Dent 5096—Professional Problem Solving | 0 |
| Dent 5166—Operative Dentistry Clinic | 3 |
| Dent 5318—Oral Surgery Clinic | 1 |
| Dent 5328—Medical Emergencies | 1 |
| Dent 5404—Pediatric Dentistry III | 1 |
| Dent 5414—Pediatric Dentistry Clinic | 1 |
| Dent 5470—Periodontology Clinic | 1 |

Doctor of Dental Surgery Program

| | |
|---|----|
| Dent 5566—Removable Prosthodontics Clinic | 2 |
| Dent 5627—Endodontics Clinic | 1 |
| Dent 5643—Hospital Dentistry | 0 |
| Dent 5675—Oral Biology: Fundamental and Applied | 2 |
| Dent 5805—Emergency Clinic II | 1 |
| | 17 |
| <i>Spring Quarter</i> | |
| Dent 5017—Fixed Prosthodontics Clinic | 3 |
| Dent 5097—Professional Problem Solving | 1 |
| Dent 5167—Operative Dentistry Clinic | 3 |
| Dent 5319—Oral Surgery Clinic | 1 |
| Dent 5415—Pediatric Dentistry Clinic | 1 |
| Dent 5471—Periodontology Clinic | 1 |
| Dent 5567—Removable Prosthodontics Clinic | 2 |
| Dent 5628—Endodontics Clinic | 1 |
| Dent 5644—Hospital Dentistry | 1 |
| Dent 5806—Emergency Clinic II | 2 |
| | 16 |

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. The policy also permits students to review their educational records and to challenge the contents of those records.

Some student information—name, address, telephone number, dates of enrollment and enrollment termination, college and class, major, adviser, academic awards and honors received, and degrees earned—is considered public or directory information. To prevent release of such information outside the University while in attendance at the University, students must notify the records office on their campus.

Students are notified annually of their right to review their educational records. The regents' policy, including a directory of student records, is available for review at the Williamson Hall Information Center, 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).

Dentistry (Dent) Course Descriptions

5200-5201-5202. CURRENT LITERATURE SEMINARS. (2 cr per qtr)

Reading and discussion of current literature that relates basic sciences to clinical topics.

5210-5211-5212. INTRODUCTION TO CLINICS. (1 cr per qtr)

Introduction to clinical protocols, observation of patient care, assisting and preventive care.

5642-5643-5644. HOSPITAL DENTISTRY. (1 cr total)

Management of hospitalized patients, operating room protocol, admission and discharge of patients, and ambulatory patients.

Department of Diagnostic/Surgical Sciences

William Liljemark, D.D.S., Ph.D., chair

Division of Oral Diagnosis/Radiology

Professor

James W. Little, D.M.D., M.S.D., director
Ramesh K. Kuba, B.D.S., D.D.S., M.S.D.

Assistant Professor

Gene Nystrom, D.D.S., M.P.H./M.S.
Nelson L. Rhodus, B.S., D.M.D.

Assistant Clinical Specialist

Jean W. Merry, D.D.S.

5775. ORAL RADIOLOGY I. (3 cr)

Films, roentgenograms, cassettes, and grids used in dentistry.

5776. ORAL RADIOLOGY II. (2 cr)

Roentgenographic anatomy, application of image shift principles in localization, nature and characteristics of atomic radiations, production and control of X-rays, mathematics of roentgenographic exposure, biological effects of ionizing radiations, radiation dosimetry, radiation protection, and radiation regulations.

5777. ORAL RADIOLOGY III. (1 cr)

Interpretation of intraoral and extraoral roentgenograms.

5778-5779-5780. ORAL RADIOLOGY CLINIC. (Cr ar)

Roentgenographic procedures (intraoral and extraoral, including panoramic techniques).

5781. ADVANCED ORAL RADIOLOGY CLINIC. (Cr and hrs ar; elective)

5784. TMJ PATHOLOGY AND FACIAL PAIN. (1 cr; elective)

5785. ORAL RADIOLOGY: INDEPENDENT STUDY. (Cr and hrs ar)

5800-5801-5802. INITIAL EXAMINATION CLINIC I. (2 cr total)

Patient evaluation, treatment planning, and providing emergency dental care.

5804-5805-5806. EMERGENCY CLINIC II. (4 cr total)

Treatment planning and providing emergency dental care.

5807. TREATMENT PLANNING: INDEPENDENT STUDY. (Cr and hrs ar)

5809. PATIENT MANAGEMENT II. (3 cr)

Patient admission, use of dental record, phase I treatment planning, billing and accounting, patient assignment.

5810. PHYSICAL EVALUATION I. (1 cr)

Basics of oral diagnosis, case history, diagnostic process, physical signs and symptoms of disease, oral diagnosis.

5811. PHYSICAL EVALUATION II. (3 cr)

Principles of disease and oral pathology, normal versus abnormal oral tissues, introduction to management of medically compromised dental patient.

5812. PHYSICAL EVALUATION III. (2 cr)

Oral medicine; management of dental patients with systemic disease; recognition, prevention, and management of medical problems and emergencies in dental practice.

Division of Oral and Maxillofacial Surgery

Professor

Mellor R. Holland, D.D.S., M.S.D.

Associate Professor

Mohamed ElDeeb, B.D.S., D.O.S., M.S.D.

Mark T. Jaspers, D.D.S., M.S.D.

Assistant Professor

James O. Swift, D.D.S., acting director

Clinical Dental Specialist

Harrie Shearer, D.D.S., M.S.

5310. ORAL SURGERY I. (1 cr)

Principles of surgery; armamentarium.

5311. ORAL SURGERY II. (1 cr)

Complications in oral surgery.

5315. ORAL SURGERY III. (1 cr)

TMJ; salivary glands; trauma; developmental deformities; oral malignancies; facial space infections.

5316-5318-5319. ORAL SURGERY CLINIC ROTATION. (1 cr per qtr)

Experience in the Oral Surgery Clinic.

5317. ANESTHESIA. (2 cr)

The use of local and general anesthetic agents in dentistry.

5328. MEDICAL EMERGENCIES IN THE DENTAL OFFICE. (Cr ar)

Acute management of medical emergencies in dental practice.

5330. NITROUS OXIDE INHALATION ANALGESIA/EMERGENCY DRUG UTILIZATION. (1 cr)

Instruction and demonstration in the use of nitrous oxide and emergency drugs.

Division of Orthodontics

Professor

T. Michael Speidel, D.D.S., M.S.D., director

Associate Professor

Donald C. Quick, M.S., Ph.D.

Assistant Professor

E. Diane Rekow, B.S., B.M.E., M.B.A., M.S., M.E., D.D.S., Ph.D.

5371. ORTHODONTICS I. (3 cr)

Factors contributing to normal and abnormal development of deciduous, mixed, and permanent dentitions; space maintenance and tooth guidance procedures; introduction to biomechanics and construction of fixed and removable appliances.

5372. ORTHODONTICS II. (2 cr)

Clinical management of specific orthodontic problems.

5376. ORTHODONTIC LABORATORY. (1 cr)

Practical applications of developing occlusion analysis. Fundamentals of orthodontic appliances.

5380. ORTHODONTICS. (Cr and hrs ar; elective)

Principles and procedures in preventive, interceptive, and corrective orthodontics interrelated through case analysis and treatment planning.

5381. HEAD AND NECK ANATOMY REVIEW.

(Cr and hrs ar; elective)

Vascular supply and innervation, facial planes and their relationship to the spread of infection, radiographic anomalies.

5385. ORTHODONTICS: INDEPENDENT STUDY. (Cr and hrs ar)

TMJ/Occlusion Program

Associate Professor

James R. Friction, D.D.S., M.S.D., M.P.H., co-director

John K. Schulte, D.D.S., M.S.D., co-director

Assistant Professor

Gary C. Anderson, D.D.S., M.S.D.

Eric L. Schiffman, D.D.S., M.S.D.

5750. OCCLUSION I. (3 cr)

Principles of occlusion. Laboratory exercise in the wax-added technique of developing occlusal morphology.

5751. OCCLUSION II. (3 cr)

Examination, diagnosis, and treatment of patients with occlusal problems.

5753. TEMPOROMANDIBULAR JOINTS DISORDERS, DIAGNOSIS AND TREATMENT. (1 cr)

Comprehensive analysis of the etiology, pathophysiology, diagnosis, and treatment of temporomandibular joint and masticatory disorders.

5755. OCCLUSION: INDEPENDENT STUDY.

(Cr and hrs ar)

Doctor of Dental Surgery Program

Department of Oral Sciences

Gregory R. Germaine, M.S., Ph.D., chair

Professor

Dwight L. Anderson, M.S., Ph.D.
Gregory R. Germaine, M.S., Ph.D.
Charles F. Schachtele, M.S.D., M.S., Ph.D.
Burton L. Shapiro, D.D.S., M.S.D., Ph.D.
Quenton T. Smith, M.S., Ph.D.

Professor Emeritus

Maurice W. Meyer, D.D.S., M.S.D., Ph.D.

Associate Professor

Robert H. Ophaug, Ph.D.
Bernard E. Reilly, Ph.D.

Assistant Professor

Keith Kajander, D.D.S., Ph.D.
Ambika Mathur, M.S., Ph.D.
Joel D. Rudney, M.S., Ph.D.

5670. INTRODUCTION TO ORAL BIOLOGY.

(1 cr)

Major biological and pathological issues relevant to dentistry.

5675. ORAL BIOLOGY: FUNDAMENTAL AND APPLIED. (2 cr)

Specialists discuss major and current problems in dentistry and oral biology.

5677. DENTAL RESEARCH TRAINING. (3 cr; hrs ar; elective)

Following completion of the research project, students are required to submit a written report describing their research activities.

5680. ORAL BIOLOGY: INDEPENDENT STUDY. (Cr and hrs ar)

Biomaterials Research Center

Professor

William H. Douglas, B.D.S., M.S., Ph.D., director
Anna T. Hampel, D.D.S., M.S.D.

Associate Professor

Ralph DeLong, D.D.S., M.S.D., Ph.D.

Assistant Professor

Maria R. Pintado, M.P.H.
Ronald L. Sakaguchi, D.D.S., M.S.D., Ph.D.

5600. INTRODUCTION TO BIOMATERIALS I.

(1 cr)

Introduction to physical, chemical, and mechanical properties of materials used in dentistry.

5601. INTRODUCTION TO BIOMATERIALS II.

(3 cr)

Continuation of Introduction to Biomaterials I with accompanying laboratory exercise.

5602. BIOMATERIALS: INDEPENDENT STUDY.

(Cr and hrs ar)

Division of Oral Pathology

Regents' Professor

Robert J. Gorlin, D.D.S., M.S.D.

Professor

Jaroslav Cervenka, M.D., C.Sc.
Richard P. Elzay, D.D.S., M.S.D., dean, School of Dentistry

Heddie O. Sedano, D.D.S., M.S.D., Ph.D.
Robert A. Vickers, D.D.S., M.S.D.
Carl J. Witkop, Jr., D.D.S., M.S.D.

Associate Professor

Kathleen M. Keenan, M.S.D., Ph.D.

5100. GENETICS: AN INTRODUCTION FOR DENTAL STUDENTS. (1 cr)

The chemical basis of heredity; cytogenetics, genetic ratios, methodology of human genetics, heredity and environment, mutation and radiation.

5102. HUMAN AND ORAL GENETICS: INDEPENDENT STUDY. (Cr and hrs ar)

5250. ORAL PATHOLOGY: INDEPENDENT STUDY. (Cr and hrs ar)

5251-5252. ORAL PATHOLOGY. (6 cr total)

Diseases of oral and paraoral tissues and teeth including embryologic considerations.

5255. ORAL HISTOLOGY AND EMBRYOLOGY.

(3 cr)

The embryology and histology of human oral structures and other parts of the head and neck.

Department of Preventive Sciences

Carl L. Bandt, D.D.S., M.S.D., M.S., chair

Division of Dental Hygiene

See Bachelor of Science in Dental Hygiene Program section of this bulletin.

Division of Health Ecology

Professor

Leslie V. Martens, D.D.S., M.P.H., director
David O. Born, Ph.D.
P. Jean Frazier, M.P.H., Ph.D.
Michael J. Loupe, Ph.D.

Associate Professor

Muriel J. Bebeau, M.A., Ph.D.
James R. Gambucci, D.D.S., M.P.H.

Assistant Professor

Michael A. Johnson, J.D.
Stephen K. Shuman, D.D.S., M.S.
Mark S. Simmons, D.D.S., M.S.

Students are introduced to (a) the basic principles of epidemiology and health assessment, (b) the role and practice of dentistry as a health care delivery system, and (c) the factors influencing the availability and use of health services and preventive oral health procedures and methods.

5026. INTRODUCTION TO DENTAL CARE DELIVERY. (2 cr)

Public need and demand for dental services, variety of practices and personnel nationally and internationally.

5027. EPIDEMIOLOGY, PREVENTION, AND DENTAL PUBLIC HEALTH. (3 cr)

Introduction to scientific method in dentistry.

5030. HEALTH ECOLOGY: UPDATE. (2 cr)

Current information on geriatric dentistry, dental ramifications of anorexia and bulimia, dentistry for the hearing impaired, occupational health concerns of dentists, and chemical abuse.

5036. ORGANIZATION AND MANAGEMENT OF DENTAL PRACTICE I. (3 cr)

Skills in planning, organizing, leading, and controlling the human environment of the dental practice.

5043-5044. ORGANIZATION AND MANAGEMENT OF DENTAL PRACTICE II. (1 cr total)

A three-day training seminar in management for third-year students.

5050. DENTAL ERGONOMICS AND AUXILIARY UTILIZATION. (1 cr)

Lectures and clinical seminars on ergonomic principles.

5052-5053-5054. DENTAL AUXILIARY UTILIZATION CLINIC (DAU I, II). (2 cr total)

Clinical experience designed to help students develop specific skills in four-handed dentistry with emphasis on the efficient use of chairside dental assistants.

5055. HEALTH ECOLOGY: INDEPENDENT STUDY. (Cr and hrs ar)

5060. TEAM II: GENERAL DENTISTRY CLINIC. (2 cr; elective)

Experience in managing and treating patients as in private practice.

5070. HEALTH ECOLOGY ELECTIVE. (Cr ar)

Allows highly motivated students to undertake study and receive academic credit for activities in special-interest areas.

5075. SPECIAL TOPICS IN DENTAL ASSOCIATESHIPS. (Cr ar; elective)

Individually designed reading and research course focused on dental practice, associateships, career decision making, and career tracks.

5080. DENTAL AUXILIARY UTILIZATION CLINIC (DAU III). (1 cr; prereq 5054; elective)

Students train a dental auxiliary student in effective chairside assisting with emphasis on four-handed dentistry techniques.

5090. BUSINESS AND LEGAL ASPECTS OF A DENTAL PRACTICE. (5 cr)

Essential business and legal considerations, including regulation of the profession, forms of practice, associateships, purchasing a practice, starting a practice, leases, office design, marketing, advertising, financing, malpractice and contract case law.

5092-5093-5094. PROFESSIONAL PROBLEM SOLVING. (1 cr)

Issues, rights, responsibilities, codes, and consequences in resolving recurrent ethical dilemmas of the student dentist.

5095-5096-5097. PROFESSIONAL PROBLEM SOLVING. (1 cr)

5760. PUBLIC COMMUNICATION. (1 cr; elective)

Increases dental students' knowledge and understanding of people and communication (verbal and nonverbal) and helps them become better speakers and listeners.

Division of Pediatric Dentistry

Professor

Michael J. Till, D.D.S., M.S.D., Ph.D., director
Karlind T. Moller, M.A., Ph.D., director, Cleft Palate Program

Associate Professor

Robert J. Feigal, D.D.S., Ph.D.

Assistant Professor

John P. Conry, D.D.S., M.S.D.

Patricia C. Kubes, B.D.S., M. Phil.

5401. PEDIATRIC DENTISTRY I. (1 cr)

Development of the dentition; restorative dentistry and pulpal therapy in the primary dentition; principles of preventive dentistry.

5402. PEDIATRIC DENTISTRY II. (1 cr)

Physical and emotional development of the child; patient management; treatment of congenital disorders and traumatic dental injuries; clinical aspects of preventive, interceptive, and corrective orthodontics in the primary and mixed dentitions.

5404. PEDIATRIC DENTISTRY III. (1 cr)

Handicapping conditions frequently encountered by the general practitioner.

5407. MINOR TOOTH MOVEMENT. (1 cr; hrs ar; elective)

Appliances for space maintenance, simple crossbite, correction of tipped teeth for restorative treatment, and replacement and stabilization of avulsed teeth.

5409-5410-5411. PEDIATRIC DENTISTRY CLINIC. (1 cr total)

A clinic-seminar program reviewing clinical topics and techniques and treating selected patients under supervision.

5413-5414-5415. PEDIATRIC DENTISTRY CLINIC. (2 cr total)

Diagnostic, treatment planning, and restorative procedures on children aged 2 to 12 years.

5420. PEDIATRIC DENTISTRY: INDEPENDENT STUDY. (Cr and hrs ar)

Division of Periodontology

Professor

M. Bashar Bakdash, D.D.S., M.P.H., M.S.D., director
Carl L. Bandt, D.D.S., M.S.D., M.S.
Richard C. Oliver, D.D.S., M.S.D.
Bruce L. Pihlstrom, D.D.S., M.S.D.
Erwin M. Schaffer, D.D.S., M.S.D.

Associate Professor

Mark C. Herzberg, D.D.S., M.S., Ph.D.
James E. Hinrichs, D.D.S., M.S.D.
Larry F. Wolff, M.A., Ph.D., D.D.S.

Assistant Professor

Bryan Michalowicz, D.D.S., M.S.D.

Clinical Dental Specialist

Eric E. Stafne, D.D.S.

Doctor of Dental Surgery Program

5451. PERIODONTOLOGY I. (3 cr)

Ecological impact of periodontal disease on oral health.

5452. PERIODONTOLOGY II. (3 cr)

Clinical procedures associated with surgical phase of periodontal therapy.

5460. PERIODONTICS: INDEPENDENT STUDY.

(Cr and hrs ar)

5463-5464. PERIODONTOLOGY TECHNIQUE

(LAB). (1 cr total)

Presurgical procedures in periodontics.

5465. PERIODONTOLOGY CLINIC. (1 cr)

Periodontal clinical examination, treatment planning, and prognosis.

5469-5470-5471. PERIODONTOLOGY CLINIC.

(3 cr total)

Surgical treatment of periodontal disease, evaluation of periodontal therapy, and implementation of maintenance programs.

Department of Rehabilitative Sciences

James R. Jensen, D.D.S., M.S.D., chair

Division of Endodontics

Professor

James R. Jensen, D.D.S., M.S.D., acting director

Associate Professor

Mahmoud ElDeeb, B.D.S., M.S.D.

5623. ENDODONTIC TECHNIQUE. (Cr ar)

Seminars and laboratory exercises.

5624. ENDODONTIC TECHNIQUE. (Cr ar)

Seminars and laboratory exercises.

5625. ENDODONTICS. (2 cr)

Pulp biology, diagnosis and treatment of pulp and periapically involved teeth.

5626-5627-5628. ENDODONTICS CLINIC. (1 cr

per qtr)

Basic principles of diagnosis and treatment of pulp and periapically involved teeth. Seminars, clinical demonstrations, and practical experience with clinical patients.

5630. ENDODONTICS: INDEPENDENT STUDY.

(Cr and hrs ar)

5631. SURGICAL ENDODONTICS ELECTIVE.

(Cr ar)

Clinical demonstration and participation in surgical techniques.

Division of Operative Dentistry

Professor Emeritus

Frederick W. Noble, D.D.S.

Associate Professor

Gary L. Hill, D.D.S., M.S.D., director

Thomas D. Larson, D.D.S., M.S.D.

Craig B. Phair, D.D.S., M.S.D.

Assistant Professor

Joseph Grayden, D.D.S.

Ignatius K. Lee, D.D.S., M.S.D., M.S.

Omar A. Zidan, D.D.S., M.S.D., M.D.D., Ph.D.

Clinical Dental Specialist

Richard T. Ford, D.D.S., M.A.

Ronald E. Geistfeld, D.D.S.

Chester J. Schultz, D.D.S., M.S.D., M.A.

5150-5151-5152. OPERATIVE DENTISTRY I.

(2/2/1 cr)

Lectures on the nomenclature of operative dentistry, cavity design and classification, composition of materials, instrumentation, and the fundamental basis of the techniques employed.

5153-5154-5155. OPERATIVE DENTISTRY LABORATORY. (2/3/2 cr)

Techniques and principles of cavity preparation, manipulation of restorative materials, and instrumentation.

5156. INTRODUCTION TO OPERATIVE DENTISTRY CLINIC. (1 cr)

Experience in clinical techniques and clinical protocol, forms, and systems.

5158. OPERATIVE DENTISTRY: INDEPENDENT STUDY. (Cr and hrs ar)

5160. OPERATIVE DENTISTRY II. (2 cr)

Advanced clinical techniques.

5161-5162-5163. OPERATIVE DENTISTRY CLINIC. (3 cr per qtr)

5165-5166-5167. OPERATIVE DENTISTRY CLINIC. (Cr ar)

5170. SEMINAR: OPERATIVE DENTISTRY. (1 cr)

5171. CLASS III DIRECT GOLD RESTORATIONS. (1 cr; elective)

Preparation, condensation, and finishing of Class III direct gold restorations.

5172. ESTHETIC DIRECT ANTERIOR RESTORATIVES. (1 cr; elective)

5173. CLERKSHIP IN OPERATIVE DENTISTRY. (2 cr)

Assist preclinical faculty in teaching techniques and procedures used in operative dentistry.

5174. DENTAL CARIES: ETIOLOGY, PATHOLOGY, AND PREVENTION. (1 cr; elective)

5175. ESTHETIC DENTISTRY CLINIC. (1 cr; elective)

Division of Prosthodontics

Professor

Harvey L. Colman, D.D.S., M.S.D.

Richard J. Goodkind, D.M.D., M.S.D.

Andrew T. Morstad, D.D.S., M.S.D.

Associate Professor

James L. Baker, D.D.S., M.S.D.

James L. Donahue, D.D.S.

Assistant Professor

David Drennon, D.D.S., M.S.D.
Kenneth Hargreaves, D.D.S., M.S., Ph.D.
Paul S. Olin, D.D.S.

James E. Schreiner, D.D.S., M.S.D.

Clinical Dental Specialist

James R. Holtan, D.D.S., director

Associate Clinical Dental Specialist

David J. Clay, D.D.S., M.S.D.

5000-5001-5002. FIXED PROSTHODONTICS TECHNIQUE LECTURES. (2/1/1 cr)

Emphasis on laboratory techniques and fundamentals of tooth preparation.

5003-5004-5005. FIXED PROSTHODONTICS LABORATORIES. (2/2/2 cr)

Demonstrations of clinical and laboratory procedures. Exercises in casting, soldering, and the construction of bridges and porcelain crowns.

5006. FIXED PROSTHODONTICS I. (1 cr)

Treatment planning for abutments, retainers, and pontics used in Fixed Prosthodontics.

5007. FIXED PROSTHODONTICS II. (1 cr)

Design principles for porcelain fused to metal restorations, pontic designs, occlusion in fixed prosthodontics.

5009. FIXED PROSTHODONTICS: INDEPENDENT STUDY. (Cr and hrs ar)

5010-5011-5012. FIXED PROSTHODONTICS CLINIC. (3 cr per qtr)

Diagnosis, design, and construction of fixed prosthodontic cases.

5015-5016-5017. FIXED PROSTHODONTICS CLINIC. (Cr ar)

5550. REMOVABLE PROSTHODONTICS I LECTURE. (1 cr)

The use of prosthetic dental materials and fundamental principles of complete denture fabrication.

5551. REMOVABLE PROSTHODONTICS II LECTURE. (2 cr)

Fundamental principles of design and fabrication of removable partial dentures.

5553. REMOVABLE PROSTHODONTICS: INDEPENDENT STUDY. (Cr and hrs ar)

5554. REMOVABLE PROSTHODONTICS I LABORATORY. (4 cr)

Complete denture fabrication.

5555. REMOVABLE PROSTHODONTICS II LABORATORY. (2 cr)

Design and fabrication of removable partial dentures.

5560. REMOVABLE PROSTHODONTICS III. (1 cr)

Complete denture prosthesis correlated with students' accumulated knowledge from basic and clinical sciences.

5562-5563-5564. REMOVABLE PROSTHODONTICS CLINIC. (3 cr per qtr)

Clinical practice in complete and partial removable denture prosthodontics.

5565-5566-5567. REMOVABLE PROSTHODONTICS CLINIC. (Cr ar)

5568. REVIEW OF PARTIAL REMOVABLE PROSTHETICS. (1 cr; hrs ar; elective)

Treatment planning, case analysis, use of precision attachments, and overlay dentures.

5569. REMOVABLE PROSTHETICS. (Cr ar)

Recent advances in removable prosthetic dentistry.

5570. SEMINAR: RESTORATIVE DENTISTRY. (Cr ar)

Lectures on the clinical approach to crown and bridge, operative, periodontic, and removable prosthetic dentistry; technical procedures and biological concepts.

5575. OVERVIEW OF IMPLANTS USED IN DENTISTRY. (1 cr; elective)

Endosseous and subperiosteal implants used today.

5577. REVIEW OF COMPLETE DENTURE PROSTHETICS. (1 cr; elective)

Various phases of complete denture prosthetics.

Contributing Departments

Biochemistry (MdBc)

5201. BIOCHEMISTRY FOR DENTAL STUDENTS. (4 cr)

5202. BIOCHEMISTRY FOR DENTAL STUDENTS. (3 cr)

5203. TOPICS IN DENTAL BIOCHEMISTRY. (3 cr)

Cell Biology and Neuroanatomy (CBN)

5100. GROSS HUMAN ANATOMY. (12-13 cr; 12 cr for med/dental freshman; prereq regis med/dental freshman or grad, #)

Lectures and dissections of the human body.

5103. HUMAN HISTOLOGY. (3-8 cr; 7 cr for med/dental freshman; prereq regis med/dental freshman or grad, #)

Microscopic structure, cytochemical and functional aspects of cells, tissues, and organs.

5110. NEUROSCIENCE FOR DENTAL STUDENTS. (2 cr; Phsl 5101; prereq regis dental freshman, #)

Introduction to the structure and function of the central nervous system. The correlation between morphology and physiology emphasized.

Doctor of Dental Surgery Program

Microbiology (MicB)

5201. MICROBIOLOGY FOR DENTAL STUDENTS. (7 cr)

Nature and diversity of microorganisms; microbial structure and function; metabolism and growth; genetics and virology; principles of sterilization and disinfection; chemotherapy; host-parasite relationships; fundamentals of immunology; pathogenic bacteria, fungi, and viruses; ecology of oral microorganisms; microbiology of dental caries and periodontal disease.

Pathology (LaMP)

5099. GENERAL PATHOLOGY FOR DENTAL STUDENTS. (2 cr; prereq CBN 5100, 5103; MdBc 5201, 5202; MicB 5201; Phsl 5100)

Lectures on general pathology for dental students.

5100. SYSTEMIC PATHOLOGY FOR DENTAL STUDENTS. (3 cr; prereq LaMP 5099; Dent 5100)

Lectures, self-study with recitations (histopath, microfiche), systemic pathology for dental students.

Pharmacology (Phcl)

5103. PHARMACOLOGY FOR DENTAL STUDENTS. (5 cr)

Lectures and laboratory exercises on the action and fate of drugs.

Physiology (Phsl)

5100. SYSTEM PHYSIOLOGY. (5 cr; for dental students; prereq biochemistry; 4 lect and 2 lab hrs per wk)

Principles of physiology, circulation, respiration, digestion, excretion, metabolism, and endocrine gland function.

5101. NEUROSCIENCE FOR DENTAL STUDENTS. (2 cr; concurrent regis in CBN 5110

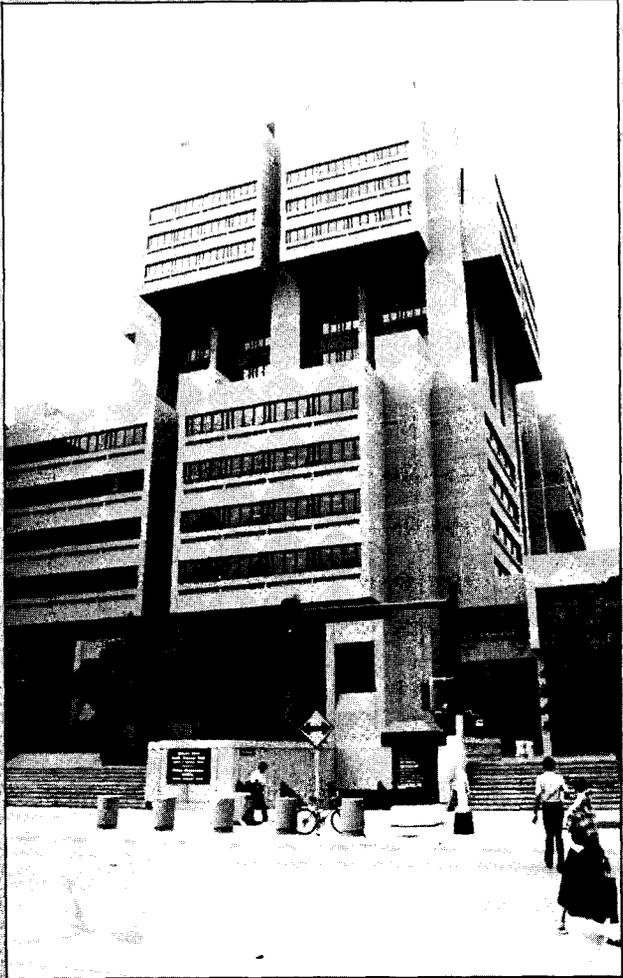
required; prereq courses in biochemistry and human anatomy; 3 lect and 3 lab hrs per wk)

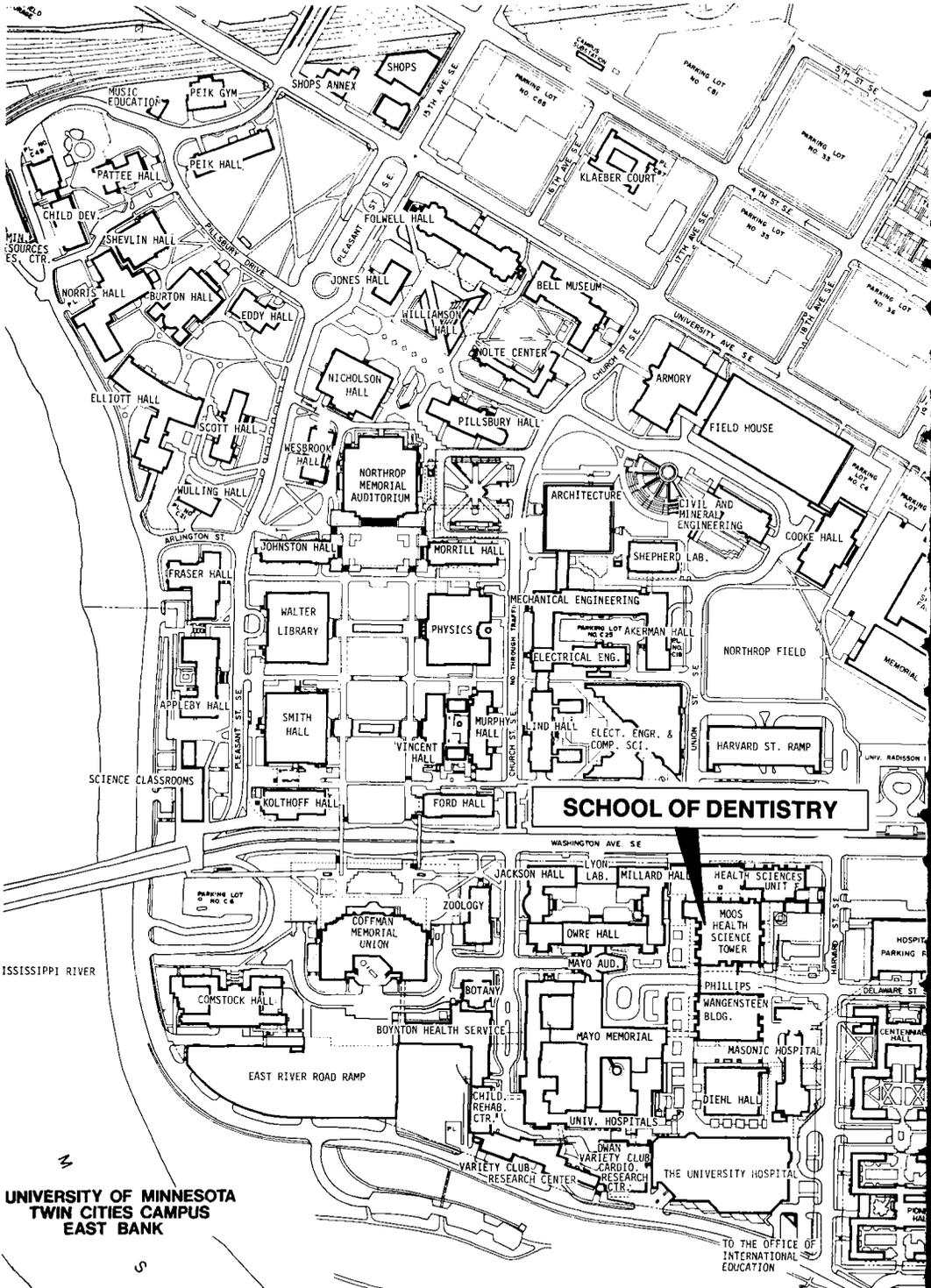
Basic principles of nervous function studied through neuroanatomy and neurophysiology.

5102. PHYSIOLOGY AND DENTISTRY. (1 cr; for dental students only; prereq Phsl 5101; elective)

Lecture-conference course integrating physiology and dentistry.

Campus Map





UNIVERSITY OF MINNESOTA
TWIN CITIES CAMPUS
EAST BANK

SCHOOL OF DENTISTRY

TO THE OFFICE OF
INTERNATIONAL
EDUCATION

Index



Index

-
- Accreditation 6, 10*
Administration 7
Admission Requirements 16, 10*, 12*
Advising (see Counseling) 19, 10*
Alpha Omega 8
Application Procedures 18, 10*
Arts and Entertainment 2
- Bachelor of Science Degree 6, 10*
Basic Sciences for Dental Students 27
Biochemistry 27
Biomaterials Research Center 24
Bulletin Use 4
- Calendar 16
Campus and Community 2
Cell Biology and Neuroanatomy 27
Clinics 3
Contact Points 4
Continuing Dental Education
Program 7
Counseling 19, 10*
Course Descriptions 22, 12*
Curriculum 2, 20, 12*
- Delta Sigma Delta 8
Dental Hygiene, Program in 10*, 24*
Dental Profession 3
Diagnostic/Surgical Sciences,
Department of 22
Doctor of Dental Surgery Degree 6, 16
Elective Courses (Predental) 17
Endodontics 26
Entrance Tests 18
Evaluation of Student Performance 20
Facilities 6
Faculty 22-27, 14*
Fees 19, 11*
Financial Aid 19, 11*
- Grading 20
Graduate Programs 7
Graduation Requirements 20, 11*
Health Ecology 24
Interview (Pre-admission) 18
Licensure 20, 11*
Map 30
Microbiology 28
Mission 6
National Board Dental
Examinations 20, 11*
- Omicron Kappa Upsilon 8
Operative Dentistry 26
Oral Diagnosis/Radiology 23
Oral and Maxillofacial Surgery 23
Oral Pathology 24
Oral Sciences, Department of 24
Orthodontics 23
- Pathology 28
Pediatric Dentistry 25
Periodontology 25
Pharmacology 28
Physiology 28
Preprofessional Program 12*
Preventive Sciences, Department of 24
Professional Program 20, 12*
Program (four-year breakdown) 20, 12*
Prosthodontics 26
Psi Omega 8
Publication 4
- Reciprocity 11*
Records, Access to 22, 10*
Recreation 2
Rehabilitative Sciences,
Department of 26
Required Courses (Predental) 17
Research 3
Residency 18, 11*
- Scholarships 19, 11*
Societies 8, 11*
Student Activities 8, 11*
Support 3
- TMJ/Occlusion 23
Tuition 19, 11*
Xi Psi Phi 8
-

**Pertains to Dental Hygiene*

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Minneapolis, MN 55455

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Nursing University of Minnesota Bulletin 1990-92



Nursing

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| | |
|--|----|
| General Information | 3 |
| Curriculum, Policies, and Requirements | 11 |
| Course Descriptions | 21 |
| Administration and Faculty | 25 |
| Campus Maps | 29 |
| Index | 31 |

Introduction

Policies

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

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, religion, color, sex, national origin, handicap, age, 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, 420.S.C. 20000e; and by the requirements of Title IX of the Education Amendments of 1972; by Sections 503 and 504 of the Rehabilitation Act of 1973; by Executive Order 11246, as amended: 38 U.S.C. 2012; by 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 addressed to Patricia A. Mullen, Director, Office of Equal Opportunity and Affirmative Action, 419 Morrill Hall, University of Minnesota, 100 Church Street S.E., Minneapolis, MN 55455 (612/624-9547); to the Director of the Office of Civil Rights, Department of Education, Washington, DC 20202; or to the Director of the Office of Federal Contract Compliance Programs, Department of Labor, Washington, DC 20210.

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. The policy also permits students to review their educational records and to challenge the contents of those records.

Some student information—name, address, telephone number, dates of enrollment and enrollment termination, college and class, major, adviser, academic awards, honors received, and degrees earned—is considered public or directory information. To prevent release of such information outside the University while in attendance at the University, students must notify the records office on their campus.

Students are notified annually of their right to review their educational records. The regents' policy, including a directory of student records, is available for review at the Williamson Hall Information Center, 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).

Mailing Address

Admissions Office
School of Nursing
5-160 Health Sciences Unit F
University of Minnesota
308 Harvard Street S.E.
Minneapolis, MN 55455
612/624-3108

Postal Statement

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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 a bachelor's or master's degree was also begun, fall 1989.

The first post-baccalaureate 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.

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 faculty of the School of Nursing makes decisions about goals and priorities and plans programs to carry out the education, research, and service missions of the school and the University. Committees of the faculty are concerned with curriculum; admission and progression of students; faculty development, promotion, and tenure; and long-range

planning. The Consultative Committee, elected by the faculty, advises the dean on matters relating to the budget, school activities, and directions. 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 life-long learners, most of whom pursue further study at the master's and doctoral levels.

The program is designed for high-ability, achievement-oriented students. A challenging learning environment assures students' continuing enrollment in the program, providing innovative approaches in faculty-student scholarly relationships and learning experiences.

No less than the students they teach, faculty are life-long 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.

General Information

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 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 liberal arts 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.

Prerequisites for admission include:

| Courses | Quarter Credits |
|---|-----------------|
| Writing Practice Requirement | |
| University of Minnesota students: Comp 1011 or 1012 | 5 |
| Transfer students: Composition (Additional work may be required after admission to the school.) | 4½-6 |
| General Chemistry | 8 |
| General Biology | 4 |
| Cultural Anthropology | 3 |
| Introductory Sociology | 3 |
| General Psychology | 3 |
| Biochemistry (Organic Chemistry, if unavailability of Biochemistry is documented) | 4 |
| Abnormal Psychology | 4 |
| Family Theory | 3 |
| Small Group Dynamics | 3 |
| Human Anatomy | 4 |
| Human Physiology | 4 |
| Microbiology | 4 |
| Basic/General Nutrition | 3 |
| Statistics | 3 |
| Upper Division Writing (deferred if unavailability is documented) | 4 |

The remaining required credits must be chosen from liberal arts elective courses. Particularly recommended are courses in groups A and D (see Liberal Education Distribution Plan in this section of the bulletin). Credits for courses focusing on studies in professional or vocational majors will not be counted or computed in the grade point average (GPA) used to determine admissibility.

Prenursing students are required to complete Standard First Aid and Cardiopulmonary Resuscitation certification before admission.

Students must complete all required prenursing courses by August 31 before entering the nursing program the following fall.

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

To be considered for admission, the preferred GPA is 2.80. 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 sophomore year and the most recent

liberal arts/transferable course credits (quarter or semester averaging will ensure the exact number of credits). If the number of credits taken in prerequisite courses adds up to more than 60, all of those credits will be used in the admission GPA. Admission is granted pending satisfactory completion of all prerequisites. Two-thirds of admission credits must be on a letter-grade basis.

All applicants are required to take a scholastic aptitude test (ACT). Several other factors including previous educational experience and trend in academic performance, are considered in determining admission. Selection is competitive because enrollment is limited.

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).

Applicants enrolled in other educational institutions must complete an Application for Admission and return it to the above office together with the required application fee and one 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 that transfer to the School of Nursing will be effective fall quarter.

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 pre-admission requirements must notify the school to explain how they plan to remedy them. Evidence that all entrance course requirements have been met must be submitted by August 31.

Applications are reviewed by the admissions committee every quarter. The last review begins about April 15, following receipt by the School of Nursing of winter quarter or fall semester grades. Applications may be reviewed more than one time if new data is received. Each applicant is responsible for ensuring that all materials required for application are received by the School of Nursing.

Important Deadlines

April 15—last date for receipt of application in University of Minnesota Office of Admissions and receipt of ACT test scores in School of Nursing Admissions Office.

August 31—receipt of *evidence* in School of Nursing Admissions Office that all course entrance requirements have been met.

Any additional deadline information will be sent to applicants after their initial applications have been forwarded to the School of Nursing by the Office of Admissions.

Acceptance—The School of Nursing will notify applicants of the admission decision as soon as all records are processed each quarter. A decision of acceptance is provisional, pending satisfactory completion of all entrance requirements and maintenance of a satisfactory admission GPA.

Registration materials for fall quarter will be sent to newly admitted students during the summer by the Office of Admissions. Students must register during the scheduled orientation-registration period, or they must secure written permission from the School of Nursing before that date to register later.

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.

General Information

Applicants should consult the School of Nursing about special needs before submitting their applications. Applicants will be considered individually on the basis of their academic records and work experience.

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) the ability to read, write, speak, and understand English; (c) a certificate of good health; and (d) possession of a student or other appropriate visa.

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. Although the price of these items vary, they are likely to cost \$125 or more.

Financial Aid

Federal Loan and Scholarship Program—Current information and applications are 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).

State Scholarships for Nursing Students—Through Minnesota law, scholarship funds are available for state residents enrolled in nursing programs. Students accepting scholarships must agree to practice in the field of nursing in Minnesota for at least one year immediately after graduation. Students may apply for scholarship funds at any time during their nursing programs. The scholarship program is administered by the Minnesota Higher Education Coordinating Board. Information about scholarships and application procedures is in the Application Packet for Minnesota State Scholarship and Grant-In-Aid Program, which is available from the University Office of Student Financial Aid (OSFA), from most college financial aid offices, and from many high school counseling offices. Students should apply before March 1.

University Scholarship Funds—University scholarship funds for School of Nursing students are administered by the OSFA. 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.

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:

Ruth Thomas Brinker Scholarship in Nursing
Margaret Caldwell Memorial Scholarship
Grace B. Dayton Scholarship Fund
Katharine J. Densford Scholarship
Suzanne J. Doehring Memorial Scholarship in Nursing
Anna and Otilie Eisenmenger Scholarship
School of Nursing Scholarship
Alice and Gale Perry Scholarship Fund

Jennie Siebold Memorial Scholarship Fund
Margaret Wahlquist Memorial Scholarship—
Women's Auxiliary of the Minnesota State Medical
Association

Applications for these awards are available at OSFA.

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' Educational Funds, Inc., 2420 Pershing Road, Kansas City, MO 64108. Applications must be submitted by January before fall enrollment.

State Nurses' Associations—Some state associations maintain funds to aid 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.

The ROTC program on campus provides another source of financial aid. For information about its benefits and obligations, consult the ROTC office in the Armory Building.

As additional sources of financial aid become available, information will be published in the School of Nursing's student newsletter, *Progress Notes*.

Learning Resources

To provide opportunities for all students to acquire essential skills, the School of Nursing contracts with a variety of agencies, including the University of Minnesota Hospitals and Hennepin County Medical Center, for use of their facilities for planned clinical experiences. The school's faculty is responsible for planning and supervising the clinical experiences. The types of facilities used include acute care hospitals, public health 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.

Student Services

Orientation—The School of Nursing offers orientation activities for new students. Several one-day programs are scheduled during late summer, and every new student is expected to attend one of them.

Health—After admission and before enrollment, new students must provide evidence that they have completed a physical examination, including a tuberculin test or chest X-ray and evidence of rubella immunity. 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.

General Information

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 Nursing College Board is a 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-managed organization sponsors programs for students in the health sciences. The CHIP council, which includes representatives from all of the health science schools and programs, organizes workshops, noontime lectures, conferences, and other programs throughout the academic year. The council also publishes a newsletter that features announcements of upcoming events and articles of interest to students. CHIP headquarters in 1-425 Moos Health Sciences Tower includes a lounge and a typing room. For more information, come to this office or call 612/625-7100.

Alpha Tau Delta—This professional nursing fraternity was founded in 1921 on the campus of the University of California at Berkeley. The Beta Chap-

ter 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—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;
- to support and assist fund-raising efforts for the School of Nursing;
- to promote the continued emphasis on high standards in the school's education, research, and service functions;
- to promote the professional interests of nurses through newsletters, educational functions, and social functions; and
- to provide an opportunity for communication between alumni, faculty members, and students of the School of Nursing about educational trends and developments in nursing.

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. In the junior year, the focus is 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 junior year culminates in a summer quarter of full-time study and practice in critical care.

The focus in level two, the senior year, is 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.

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 B average in their first two years of study and who demonstrate leadership potential, problem-solving skills, and well-developed communication abilities are qualified to apply to the Honors Program. Although no one criterion is mandatory for admission, academic achievement is important.

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.

Junior and Senior Years—For the junior and senior years, the required courses, with the minimum credits in parentheses, are as follows:

Human Growth and Development (3)
 Pharmacology (4)
 Pathophysiology (4)
 Nurs 5000—Core Concepts in Nursing (4)
 Nurs 5021—Practicum: Ill Adults (3)
 Nurs 5040—Health in Acutely Ill Adults (4)
 Nurs 5041—Practicum: Acutely Ill Adults (7)
 Nurs 5042—Interpersonal Communication (2)
 Nurs 5212—Growth and Development (4)
 Nurs 5213—Growth and Development, Supplement (2)
 Nurs 5140—Health 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 (5)
 Nurs 5241—Practicum: Critical Care (8)
 Nurs 5450—Public Health (3)
 Nurs 5440—Community Health and Long-Term Care (4)
 Nurs 5441—Practicum: Families with Children (8)*
 Nurs 5714—Health Assessment (3)
 Nurs 5443—Practicum: Individuals/Groups/Populations (10)*
 Nurs 5420—Applied Clinical Research(3)
 Nurs 5460—Leadership/Fellowship/Management (4)
 Nurs 5462—Professional Issues (3)
 Nurs 5480—Special Topics (1)

*Clinical experiences spread over two quarters.

Liberal Education Distribution 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 undergraduate students 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*—8 to 10 credits (normally two courses).
 - Group B. The Physical and Biological Universe*—fulfilled with required courses.
 - Group C. The Individual and Society*—fulfilled with required 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 group distribution credit requirement but not the upper division elective credit requirement.
 - Any course accepted by the College of Liberal Arts to meet the group distribution or upper division elective credit requirement is accepted by the School of Nursing. Other courses may be used to meet group distribution or upper division requirements only with the approval of the Progression Committee.

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, have fulfilled the group distribution and upper division elective requirements, and have completed a minimum of 180 credits.

Curriculum, Policies, and Requirements

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—

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 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 the College of Liberal Arts to satisfy group distribution 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 CLA or the School of Nursing. Credits earned through extension classes (evening school), independent study (correspondence), special department examinations, or challenge examinations will also be accepted if taken at this University.

The equivalency of a course taken elsewhere to a course required for the degree in nursing is determined by the instructor in the appropriate department. The student must secure a statement of equivalency, which is submitted to the Progression Committee for final decision.

To request approval to use courses not listed in the *College of Liberal Arts Bulletin* to satisfy group distribution or

upper division requirements, a student must petition the Progression Committee. Exceptions to this petition policy are Phar 5210/HSU 5210, Terminology of Health Sciences; these courses may not be used to meet group distribution or upper division requirements, although they may be applied toward the total credit requirement.

If the student has completed the required 48 credits of liberal education group distribution coursework, 20 credits of upper division liberal arts elective coursework, and supportive and nursing coursework, and has not earned 180 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 group distribution 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 are expected to 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*. Additional information is distributed to students via the student newsletter of the School of Nursing. Changes in schedules of nursing courses are posted on the registration bulletin in the School Records Office.

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. Changes of registration for non-nursing courses—including cancellations, additions, and changes in grading system—must be approved by an adviser. To drop a non-nursing course after the second week, the instructor's permission is required before the adviser's approval. No change in grading

system is allowed after the second week of a course.

To cancel, add, or change a section in a professional nursing course, a student must have both the instructor's and adviser's signatures. If a student cancels one nursing course and adds another, the instructors of both courses must approve in writing. The change must be made before the end of the first week of the course.

Course Request forms are available at the School of Nursing Records Office. After the necessary signatures have been secured, students should return the form to this office.

Tuition refunds for cancelled 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. Since summer offerings change from year to year, the appropriate departments should be consulted regarding the availability of particular courses.

The curriculum requires one summer of full-time study at the end of the junior year.

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 the School Counselor and 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% of their nursing course credits and up to 50% of their total credits on an S-N basis. All nursing courses are offered on both the A-F and S-N grading systems.

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—Students are expected to complete 50% or more of the credits for which they register each quarter and 75% or more of the credits for which they register each year with passing grades. These percentages apply to credits for which students are registered beyond the tenth day of classes each quarter. A student must maintain a minimum grade point average of 2.00 in (a) all courses completed, (b) all courses in nursing, and (c) each quarter of study.

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.

It is the responsibility of students to be aware of their academic standing and to see their instructor or adviser immediately if problems arise.

When an undergraduate student's grade point average (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 Progression Committee for appropriate action.

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.

Credit Loads

Classification of Students—Students who have completed all prenursing requirements on entering the School of Nursing are classified as juniors. Students who have completed all first-year nursing courses are classified as seniors.

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 Progression 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 Progression 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 seniors regarding a graduation requirement must be submitted at least four months before graduation. Dates for submitting petitions in order to meet these requirements are published quarterly in the student newsletter, *Progress Notes*.

Curriculum, Policies, and Requirements

Regular petition blanks are available in the School of Nursing Records Office. A petition should be reviewed and signed by an adviser and submitted to the Progression 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 Progression 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.

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. The decision on reentry will take into account current availability of needed learning opportunities and of the school's resources for serving additional students. Placement upon reentry will be determined by the associate dean for academic affairs.

In view of possible changes in the curriculum, students seeking reentry must understand that they 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 Grievance Committee of the School of Nursing handles grievances within the school according to policies and procedures adopted by the faculty. The school's policies and procedures conform to those adopted by the University Senate. Faculty members, staff members, and students are elected to the Grievance Committee by the groups they represent. A grievance officer, appointed by the dean, is also available for consultation.

Graduation

Students may complete degree requirements in any term of the academic year or summer session. Prospective graduates must submit a report of progress toward completion of degree requirements at the School of Nursing Records Office and file an Application for Degree in 150 Williamson Hall at least two quarters before the expected graduation

Two Baccalaureate Degrees and Academic Minors

date. The graduation and diploma fee should be paid one quarter before graduation, or by the date indicated on the graduation fee statement.

Graduation with distinction is conferred upon eligible students on recommendation of the faculty.

Letters of Reference—Students who anticipate the need for letters of reference for future applications for employment, graduate study, or similar uses should secure such letters from the instructors who know them best. Students must authorize the School to send these letters by signing each letter or by signing a general authorization form. These letters will be kept in the student's file for future use. In the absence of such letters, the school will respond to a reference request with a general statement that a student has completed a program preparing for the practice of professional nursing.

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.



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 is designed to foster intellectual curiosity and growth. A progression of contemporary, challenging, and flexible learning experiences that make use of a wide variety of academic, 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 Nursing 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 correspondence 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 members of the School of Nursing faculty or by cooperating faculty members 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 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).

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 and 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 the 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.

5212. INTRODUCTION TO HUMAN GROWTH AND DEVELOPMENT ACROSS THE LIFE SPAN. (4 cr; prereq admission to the School or #)
Human growth and development from conception to death, including physical, cognitive, social, personality, and moral domains.

5213. INTRODUCTION TO HUMAN GROWTH AND DEVELOPMENT ACROSS THE LIFE SPAN, SUPPLEMENT. (2 cr; prereq General Psychology, General Biology)
Introduction to human growth and development from conception to death. Life span approach to physical, cognitive, social, personality, and moral domains. Presentation of major theoretical viewpoints, selected research strategies, and findings. A supplement to prior growth and development courses that do not use the life-span approach.

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.

5240. CORE CONCEPTS IN CRITICAL CARE. (5 weeks) (5 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 weeks) (8 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. (2 qtrs) (8 cr; prereq ¶5440, ¶5714)

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, ¶5714)

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.

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 Quarter 7)

Focus on selected topical issues in health care in one- to two-day workshops.

5714. HEALTH ASSESSMENT. (3 cr; prereq 5241, 5450, ¶5440, ¶5441, ¶5443)

Health assessment of self, clients using knowledge and physical skills. Strategies for behavior change, values clarification, and contracting with clients seeking health enhancement.

For Graduate Students

Core Courses

8010. STRUCTURE OF THE DISCIPLINE OF NURSING

8011. MORAL AND ETHICAL POSITIONS IN NURSING

8012. CONCEPTUAL FRAMEWORK FOR NURSING PRACTICE

8014. RESEARCH IN NURSING

8030. NURSING INTERVENTION MODELS

8314. NURSE-MIDWIFERY MANAGEMENT DURING CHILDBEARING

Course Descriptions

**8315. NURSE MIDWIFERY MANAGEMENT:
INTRAPARTAL; POSTPARTAL**

**8411. KNOWLEDGE DEVELOPMENT UNDER-
LYING NURSING THERAPY**

**8415. NURSE CLINICIAN ROLE DEVELOP-
MENT**

**8421. PSYCHIATRIC-MENTAL HEALTH
NURSING: GROUP DYNAMICS AND LEADER-
SHIP**

**8422. PSYCHIATRIC-MENTAL HEALTH
NURSING: FAMILY DYNAMICS AND THERAPY**

**8425. PSYCHIATRIC-MENTAL HEALTH
NURSING: ROLE DEVELOPMENT**

**8431. CHILDBEARING-CHILD REARING
FAMILY NURSING: THEORETICAL FOUNDA-
TION**

**8435. CHILDBEARING-CHILD REARING
FAMILY NURSING: ROLE DEVELOPMENT**

**8451. TEACHING LEARNING PROCESS IN
NURSING**

**8455. NURSE EDUCATOR IN HIGHER
EDUCATION**

8701. NURSING ADMINISTRATION I

8702. NURSING ADMINISTRATION II

Other Nursing Courses

**5902. NURSING AND THE POLITICS OF
HEALTH AND LEADERSHIP**

**8001. SPECIAL EDUCATIONAL EXPERIENCES
IN NURSING**

8009. SPECIAL TOPICS IN NURSING

8050. PROBLEMS IN NURSING

**8051. SPECIAL TOPICS IN NURSING RE-
SEARCH**

8060. ADVANCED CLINICAL NURSING

8063. NURSING CONSULTATION

8064. CLINICAL REASONING IN NURSING

**8110. THEORETICAL FOUNDATIONS OF THE
DISCIPLINE**

**8111. MORAL AND ETHICAL DEVELOPMENT
IN NURSING SCIENCE**

8114. ADVANCED NURSING RESEARCH

8210. THEORY DEVELOPMENT IN NURSING

**8313. CARE OF THE CHILDBEARING FAMILY
IN RISK**

**8509. SPECIAL TOPICS IN NURSING EDUCA-
TION**

**8600. HEALTH CARE INSTITUTIONS AND
NURSING LEADERSHIP**

8601. CLINICAL NURSING LEADERSHIP I

**8609. SPECIAL TOPICS IN NURSING SUPERVI-
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8800. PHENOMENON OF HEALTH

**8900. THEORETICAL FOUNDATIONS OF
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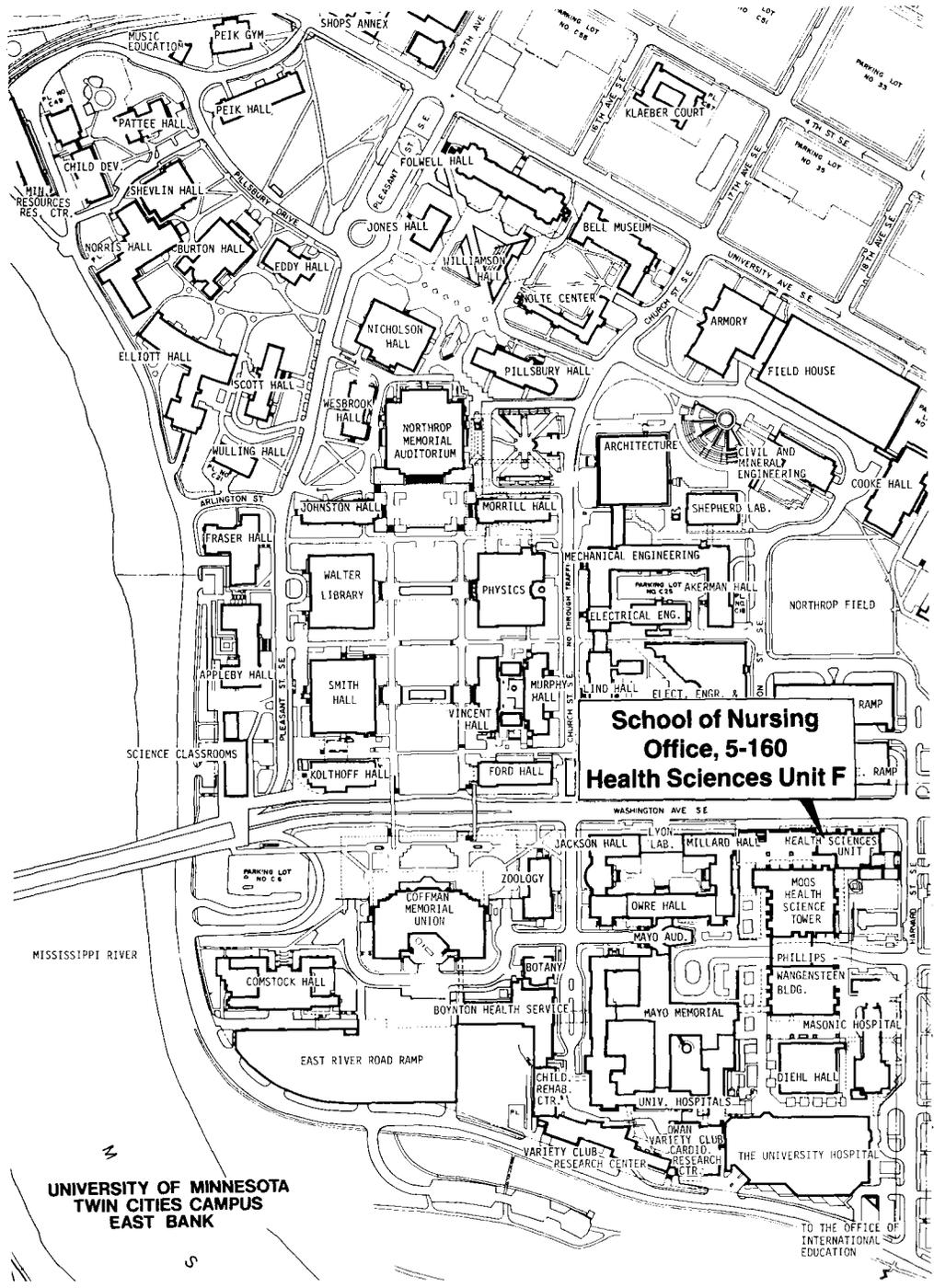
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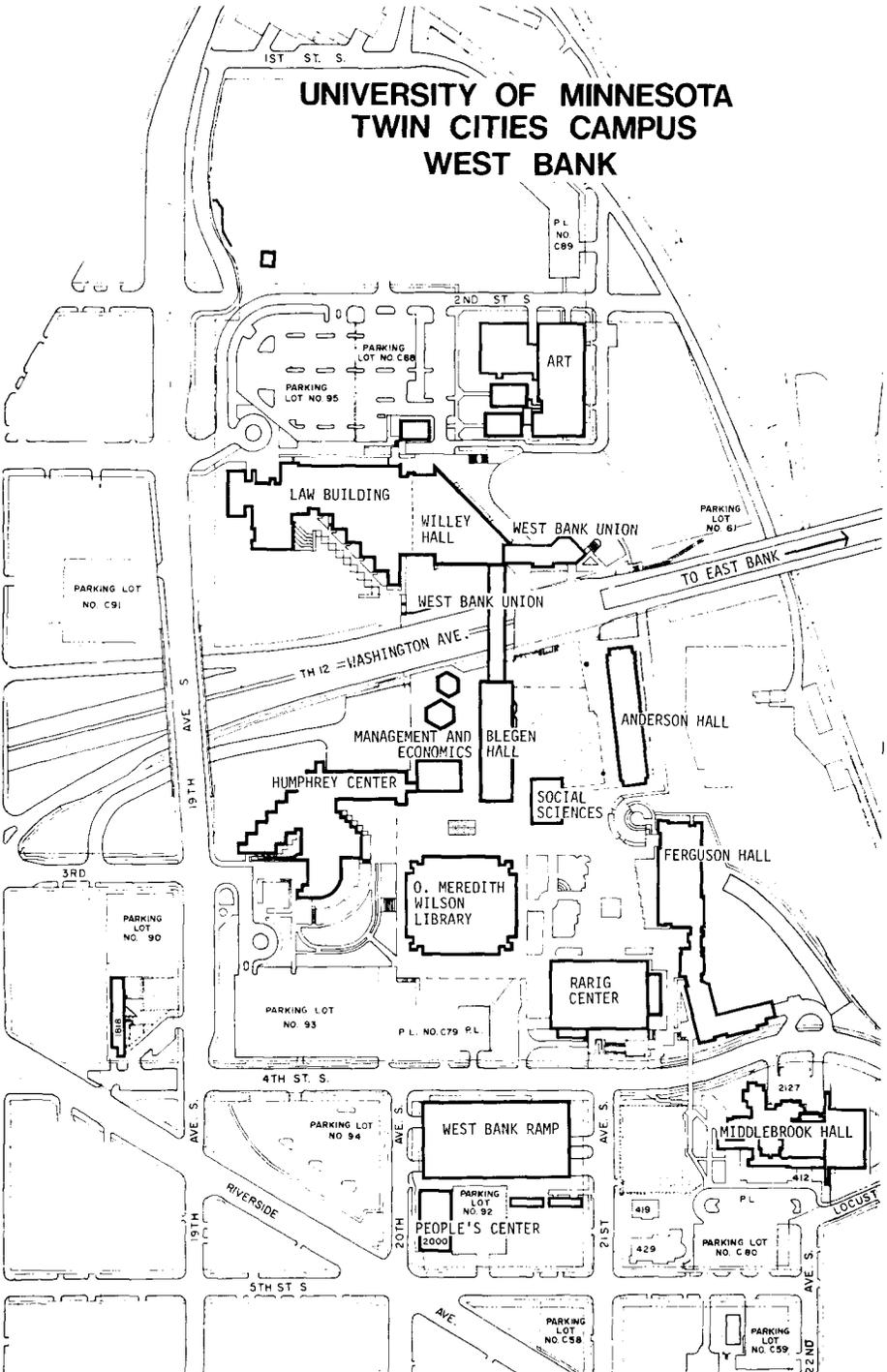


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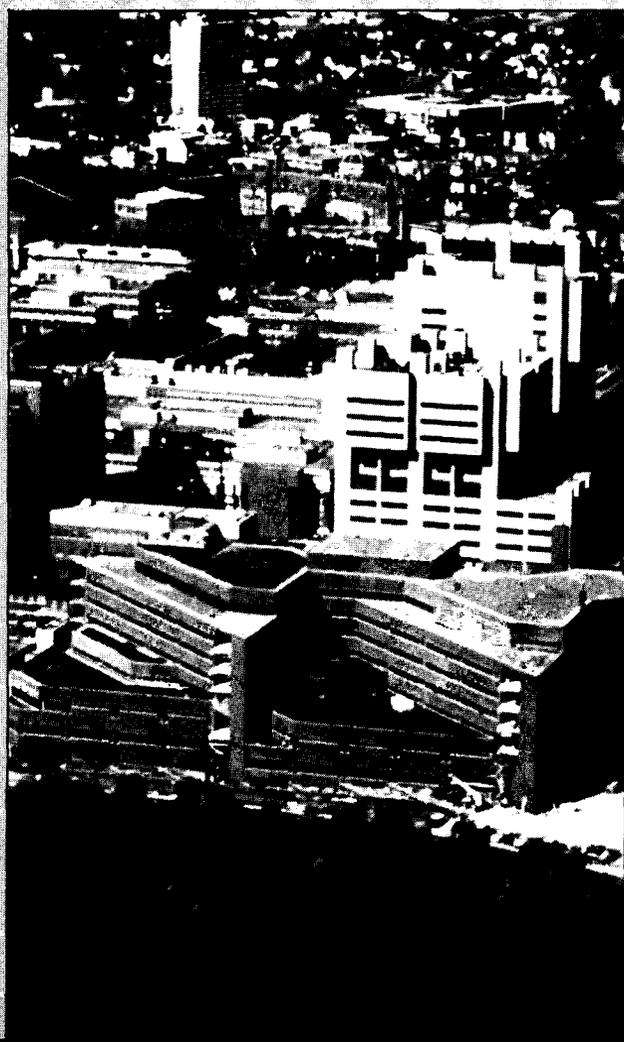
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Index



Index

- Academic Regulations and Requirements 16
Acceptance into School 7
Access to Student Educational Records 2, 18
Administrators 26
Admission Procedures 6
Admission Requirements 6
Adult Special Status 7
Advising 15
Alpha Tau Delta 10
Application Procedures 7
Attendance 16
Baccalaureate Program 12
Bachelor of Science in Nursing 5
Bulletin Use 2
Change of Registration 15
CLEP Examinations 14
Continuing Education 20
Council for Health Interdisciplinary Participation 10
Course Descriptions 22-24
Course Numbers and Symbols 22
Credit Loads 17
Credit by Examination 14
Credits for Equivalent Courses 14
Curriculum Requirements 12
Deadlines 7
Degree Requirements 13
Development of the School 4
Elective Credits 13
Expenses 8
Faculty 26-28
Financial Aid 8
Freshman and Sophomore Years 12
Governance 4
Grading 16
Graduate Study in Nursing 20
Graduation and Recognition 18
Grievances 18
Health Requirements 9
Honors Program 12
International Students 8
Junior and Senior Years 12
Learning Resources 9
Letters of Reference 19
Liberal Education Distribution Requirements 13
Minors 19
Nursing College Board 10
Organizations 10
Orientation 9
Petitions 17
Philosophy of Nursing Education 4
Professional Licensure 19
Reentry 18
Regents 26
Registration 15
Satisfactory Progress 16
Sigma Theta Tau 10
Student Services 9
Summer Session 15
Two Baccalaureate Degrees 19
Unsatisfactory Progress 17
Voluntary Withdrawal or Leave of Absence 18

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