

Public Health
University of Minnesota Bulletin
1986-88



Public Health

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General Information

This biennial bulletin describes the programs, procedures, and requirements of the School of Public Health. The *General Information Bulletin* and 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).

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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

Biometry
624-4655

Environmental and Occupational Health
626-0900

Epidemiology
624-5400

Health Services Administration
624-5615

Health Services Research and Policy
624-6151

Human Development and Nutrition
626-1447

Academic Offices

M.P.H. Program

Biometry
624-4655

Environmental Health
626-0900

Epidemiology
624-5601

Health Education
625-4441

Health Services Administration
624-1110

Maternal and Child Health
625-3660

Public Health Administration
625-9480

Public Health Nursing
625-2600

Public Health Nutrition
625-4100

Veterinary Public Health
624-0403

M.H.A. Program

Hospital and Health Care
Administration
624-5615

Education, Research, and Service Centers

Center to Study Human-Animal
Relationships and Environments
624-1051

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 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 directed 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.

Postal Statement

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Welcome

To Prospective Students:

We are pleased to introduce the University of Minnesota School of Public Health. This school is committed both to training professionals as effective practitioners and to furthering knowledge in the many disciplines of public health. It is a field with challenges and opportunities for making significant contributions to the health of humankind. We welcome your interest.

Because public health is so diverse an area, it is easy to get lost in what often seems to be a maze of programs, majors, and acronyms. We have tried to provide a map through this often confusing territory. The school provides educational experiences in several of the public health disciplines. It offers the master of public health and master of hospital administration professional degrees. The school also provides the educational experiences for several master of science and doctor of philosophy degrees through the Graduate School.

Enrollment in the School of Public Health offers students opportunities to participate in a wide variety of University-sponsored education and cultural activities. We encourage participation in the many activities available on this diverse university campus.

Please read this bulletin and communicate with appropriate faculty as you plan your public health education. We are very pleased you are interested in the field of public health, and I hope that these materials will whet your appetite to learn more about the school and the University.



A handwritten signature in black ink, appearing to read "R. L. Kane". The signature is stylized and written in a cursive-like font. It is positioned above the printed name of the Dean.

Robert L. Kane, Dean

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 11 areas:

- Biometry—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.
- Health Education—M.P.H.
- Health Services Administration—M.P.H.
- Hospital and Health Care Administration—M.H.A. and Ph.D.
- Maternal and Child Health—M.P.H. and M.S. in Public Health
- Public Health Administration—M.P.H.
- Public Health Nursing—M.P.H. and M.S. in Public Health
- Public Health Nutrition—M.P.H.
- Veterinary Public Health—M.P.H. and M.S. in Public Health

Most degrees awarded to public health students are the master of public health (M.P.H.) and master of hospital administration (M.H.A.) degrees. There are ten 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. In general, M.P.H. and M.H.A. students are not required to follow a rigid, lock-step educational experience. Each student has a faculty adviser, who assists in planning a course list based on the

background and interests of the student. The faculty adviser gives final approval of the list.

The Degree Programs and Academic Majors section of this bulletin describes the goals and processes of 11 distinctly different majors, a listing of each of the corresponding faculty members for each major, and typical course schedules. The faculty lists in each major are divided into two categories: those whose primary appointments are in the School of Public Health and those called affiliated faculty, 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 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, 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 the 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 University Hospitals.

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 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 course work 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 in philosophy and general principles of public health and in their area of specialization in accord with additional educational objectives defined by faculty.

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.PH) 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 Ph.D.) will depend upon a number of considerations, including the applicant's chosen program

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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 director of the appropriate unit or 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 programs are guided by criteria established by the Council on Education for Public Health. Applicants should 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 biometry, environmental health, epidemiology, health education, health services administration, maternal and child health, public health administration, public health nursing, public health nutrition, and veterinary public health. The length of time required to complete the degree may vary depending upon the major and the student's educational background and work experience. However, 11 months of approved study are generally regarded as a minimum.

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 cred-

its can only be transferred by petition approved by the adviser, major chairperson, and the dean. When adult special students transfer from another college within the University, both the major chairperson and the dean must approve credits accepted for transfer when they are admitted to degree candidacy.

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 school must have been approved by the faculty of the program and shall not constitute more than 40% of the total credits required for graduation.
2. **Course Work**—Appropriate course work 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 investigation 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 course work 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 prior to 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 Hospital Administration

This advanced professional degree is granted in recognition of scholastic attainment in hospital and health care administration to individuals with suitable previous education and experience. The goal of the M.H.A. 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 M.H.A. major 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 Independent Study Program for Hospital and Health Care Administration, Mental Health Administration, Ambulatory Care Administration, or Long-Term Care Administration.

The M.H.A. 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 (presently 75 credits) and 12 credits of elective courses, an acceptable research thesis, and an overall grade point average of 3.00 for all courses taken on A-F basis. 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 Ph.D. degrees, administered

through the Graduate School, may be elected with a major or minor in biometry, environmental health, and epidemiology. 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. Applicants interested in a Ph.D. for an academic career in health services research, policy, and administration should contact the director of graduate studies for the major in hospital and health care administration listed in the *Graduate School Bulletin* or write the School of Public Health. The M.S. degree in public health is also offered. For additional information about degree programs, including a minor in public health for the Ph.D. degree, consult the *Graduate School Bulletin*.

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

The School of Public Health does not offer bachelor's degree programs. However, 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. Those interested in a bachelor's degree in biometry may enroll in the biometry program offered by the College of Liberal Arts (see the *College of Liberal Arts Bulletin*, available from the Information Center in Williamson Hall or from Student Support Services, 110 Williamson Hall, University of Minnesota, 231 Pillsbury Drive S.E., Minneapolis, MN 55455). 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

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course work can be used to fulfill one of these areas of concentration for students whose course work 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 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.

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 utilized.

Nondegree credential programs are regularly offered through the majors in public health nutrition (Nutrition Administration Independent Study Program) and in hospital and health care administration (Hospital and Health Care Administration, Long-Term Care Administration, Nursing and Patient

Care Administration, Ambulatory Care Administration, and Mental Health Administration Independent Study Programs). Further information about these programs can be found on page 29.

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. 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 in length. In each of these terms, courses taught during the regular year are offered in a concentrated period of time. 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, occu-

pational medicine, occupational toxicology, health statistics, occupational ergonomics, and principles of management in health service organizations. For more information, contact Ruth McIntyre or Regina Hoffman, Midwest Center for Occupational Health and Safety, 640 Jackson Street, St. Paul, Minnesota 55101 (612/221-3992).

The Graduate Summer Session in Epidemiology—An intensive program in epidemiology is offered by the School of Public Health and the Department of Conferences each summer for three weeks during the first term. This program, which carries graduate credit, is designed for teachers, postdoctoral fellows, graduate students, and residents in departments of preventive medicine and other medical areas and schools of public health, dentistry, and veterinary medicine as well as qualified personnel of health agencies. Registration is limited and cannot be made through regular Summer Session channels. Medical students who have completed their first year of study may register for introductory courses only. For more information, contact Dr. Leonard Schuman, Director, Epidemiology Summer Session, Division of Epidemiology, Box 197 Mayo Memorial Building, University of Minnesota, Minneapolis, Minnesota 55455 (612/373-8029).

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 grade point average 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.

Changes in grading systems after the first week of the term will be allowed in exceptional cases only and must be approved by both the instructor and the adviser.

Grades of incomplete carried for more than three quarters (excluding summer session) will be converted to a grade of F or N as appropriate.

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 grade point average 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 for student review in the major office.

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, (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.

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- Cumulative undergraduate grade point average (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 program
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:

- Describe in your letter of inquiry your present or previous professional experience; future career goals and educational needs including the professional role you see yourself performing; and, when possible, the type of agency, organization, or setting in which you plan to work.
 - 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.
 - 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.
- The admissions committee may require you to participate in an interview with faculty members or designated representatives.
 - Complete and return to the major chairperson, the application for admission along with a check, payable to the University of Minnesota, for the \$20 (U.S. currency) application fee. Former University of Minnesota students must also complete a change of college form but are not required to pay the \$20 fee.
 - 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, applicants are officially notified by the 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 acceptable 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 AFRAD 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 of 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 prior to formal application. Students are advised to contact their Ministry of Health or similar governmental agency by the first week in January of the calendar year in which they plan to enroll. 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 prior to 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 1986-87 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)	\$ 54.66/credit*
M.P.H., M.H.A., Adult	
Special—Nonresident	
(0-14 credits)	109.32/credit*

Students registering in the Graduate School

M.S., Ph.D.—Resident	
(7-15 credits)	\$ 799.10**
M.S., Ph.D.—Nonresident	
(7-15 credits)	1,598.20**

*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 per-credit

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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* or *General Information Bulletin* for detailed information on tuition and fees.

All students registered for 6 or more credits must pay a student services fee of \$95.42 per quarter. 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. Applicants who need financial assistance or who would like specific information about qualifying and applying for traineeship support may write to the chairperson of the major in which they plan to enroll. Since funds are limited and allocations usually must be determined in spring quarter for the following fall, early application, preferably by March 1, is urged.

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 that affect 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 faculty 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 course work while enrolled in the School of Public Health. For three years following completion of studies the rate is \$17 per year, after which it increases to \$22 per year. A husband/wife annual membership is \$28. 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. 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, a student must notify the records office on his or her 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 Information Center in Williamson Hall, Minneapolis, and at records offices on other campuses of the University. Questions may be directed to the Office of Registration, Student Records, and Scheduling, 150 Williamson Hall (612/625-5333).

Degree Programs and Academic Majors



Degree Programs and Academic Majors

Master of Public Health

This degree program's ten 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.

Biometry

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

Biometry is the study of the analytical and quantitative aspects of biology, medicine, and public health. The M.P.H. major includes course work in public health, biomedical statistics, health computer sciences, demography, and health statistics. Students with at least two years of relevant professional experience should plan to be in attendance for at least 12 months, beginning in the fall quarter. Students with little or no professional experience should plan to attend for a period of 21 months, beginning in the fall.

Biometry 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—August 15.

Typical Course Schedule

First Year

Fall:
PubH 5016 Introduction to Public & Community Health (3 cr)

PubH 5420 Statistical Computing I (3 cr)
PubH 5450 Biometry I (4 cr)
PubH 5460 Demographic Methods (2 cr)

Winter:

PubH 5431 Biomedical Computing II (4 cr)
PubH 5452 Biometry II (4 cr)
PubH 5459 Introduction to Mathematical Theory in Biometry (3 cr)
PubH 5330 Principles of Epidemiology (4 cr)

Spring:

PubH 5454 Biometry III (4 cr)
PubH 5461 Biometric Topics in Epidemiology (3 cr)
PubH 5432 Biomedical Computing III (4 cr)
PubH 5790 Sociology of Medicine and Health Care (4 cr)

Second Year

Fall:

Stat 5131 Theory of Statistics I (4 cr)
PubH 8420 Advanced Biometric Methods I (3 cr)
Stat 5302 Applied Regression Analysis (4 cr)

Winter:

Stat 5132 Theory of Statistics II (4 cr)
PubH 5462 Clinical Trials and Life Table Techniques (3 cr)
PubH 8421 Advanced Biometric Methods II (3 cr)
— Elective (3 cr)

Spring:

Stat 5133 Theory of Statistics III (4 cr)
PubH 5456 Biometry Consulting Seminar (3 cr)
PubH 8422 Advanced Biometric Methods III (3 cr)
— Elective (3 cr)

Primary Faculty

James R. Boen, Ph.D., Professor
Anne I. Goldman, Ph.D., Professor
Eugene A. Johnson, Ph.D., Professor
Marcus O. Kjelsberg, Ph.D., Professor
Glenn E. Bartsch, Sc.D., Associate Professor
Chap Le, Ph.D., Associate Professor
John E. Connert, Ph.D., Assistant Professor
James Neaton, Ph.D., Assistant Professor
Dorothy A. Jeffries, M.S., Public Health Specialist

Affiliated Faculty

Jacob E. Bearman, Ph.D., Professor Emeritus
Lynda B. Ellis, Ph.D., Lecturer; Associate Professor, Division of Health Computer Sciences, Medical School
Stanley Finkelstein, Ph.D., Associate Professor; Division of Health Computer Sciences, Medical School
David S. Fryd, Ph.D., Lecturer; Department of Surgery, Medical School
Lael Gatewood, Ph.D., Professor; Division of Health Computer Sciences, Medical School
Paul Gunderson, Ph.D., Lecturer; Minnesota Center for Health Statistics, Minnesota Department of Health
Kathleen M. Keenan, Ph.D., Associate Professor; School of Dentistry
Frederick L. King, B.A., Lecturer; Chief, Administrative Services, Minnesota Department of Health

Ruth B. Loewenson, Ph.D., Associate Professor; Department of Neurology, Medical School
John P. Matts, Ph.D., Assistant Professor; Department of Surgery, Medical School
Richard B. McHugh, Ph.D., Professor Emeritus

Environmental Health

Major Chairperson: Donald E. Barber, Ph.D.

This major is designed for general environmental health students and those with special interests in industrial hygiene, environmental toxicology, radiation protection, environmental chemistry, environmental and occupational epidemiology, biological aspects of environmental health, and special institutional environmental health problems. Physicians interested in occupational health also may major in environmental health. Because environmental health has a number of interrelationships with other programs in the University, students plan a curriculum involving such areas as biochemistry, biology, biophysics, biometry, chemistry, epidemiology, geology, engineering, medical entomology, microbiology, physics, physiology, pharmacology, and toxicology as well as administration, labor relations, public relations, teaching, and philosophy. The course of instruction leading to the M.P.H. and 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 through the following summer session.

Majors in environmental health are required to satisfactorily complete a written comprehensive examination prior to earning their degree. Students who require longer than five years from the time of first registration to complete a master's degree will be required to repeat and satisfactorily complete the written comprehensive examination to satisfy degree requirements. The comprehensive examination to be repeated will be the examination offered to current students at a regular scheduled time.

This major is open to those with suitable advanced education or professional experience, and is intended to prepare students for higher levels of responsibility by

expanding their previous knowledge and experience.

Faculty Research Interests—Research interests are diversified, including such areas as health effects of carcinogens in the work place; investigation of the mechanisms of toxicity of environmental contaminants such as trace metals, asbestos, pesticides, and SO₂; control of microbiological contamination; health effects associated with long-term low level radiation exposure and radiation dosimetry; identification and movement of substances in water supply and wastewater environments; production of contaminants during coal-conversion processes; and air quality assessment in industrial and public environments. Collaborative research involves several different programs, departments, schools, and institutes at the University. The ultimate research objective is to maintain and improve human health through preventive practices.

Additional Admission Requirements (see also Introduction)

1. Major in one of the biological, chemical, or physical sciences or engineering preferred.
2. For the M.P.H. program, appropriate professional experience (minimum of two years) or an advanced degree in a related discipline.
3. Résumé with a statement of career objectives.

Application deadline—March 1. Applications received after this date are 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 program of study for those interested in environmental toxicology as a specialty.

First Year

Fall:	
PubH 5156	Environmental Health I (2 cr)
PubH 5159	Seminar: Environmental Health (1 cr)
PubH 5261	General Environmental Toxicology (3 cr)
PubH 5330	Epidemiology I (4 cr)
PubH 5413	Vital and Health Statistics (1 cr)
PubH 5414	Biometric Methods I (3 cr)

Degree Programs and Academic Majors

Winter:

- PubH 5157 Environmental Health II (2 cr)
PubH 5159 Seminar: Environmental Health (0 cr)
PubH 5186 Environmental Chemistry (3 cr)
PubH 5408 Biometric Methods II (3 cr)
— Electives (4-7 cr)

Spring:

- PubH 5161 Administration of Environmental Health Problems (3 cr)
PubH 5159 Seminar: Environmental Health (0 cr)
PubH 5158 Health Risk Evaluation (2 cr)
PubH 5215 Applied Occupational Toxicology (3 cr)
— Electives (4-7 cr)

Summer Session I/II (or any quarter)

- PubH 5154 Field Experience in Environmental Health (1-6 cr, total of 4 required)

Second Year

Fall:

- PubH 8261 Molecular Toxicology for the Environmental Scientist (3 cr)
— Electives (9 cr)

Winter:

- PubH 5262 Toxicokinetics and Metabolism of Environmental Agents (3 cr)
— Electives (9 cr)

Spring:

- PubH 8263 Pathophysiology for the Environmental Scientist (3 cr)
PubH 8269 Seminar: Environmental and Occupational Toxicology (1 cr)
— Electives (8 cr)

Electives are determined by the professional objectives of the student.

Primary Faculty

- Donald E. Barber, Ph.D., Professor
Donald Vesley, Ph.D., Professor
Jack S. Mandel, Ph.D., Associate Professor
Rexford D. Singer, M.S., Associate Professor
Susan G. Gerberich, Ph.D., Assistant Professor
Charles E. McJilton, Ph.D., Assistant Professor
Orlando R. Ruschmeyer, Ph.D., Assistant Professor
Jeffrey B. Stevens, Ph.D., Assistant Professor
Deborah L. Swackhamer, Ph.D., Assistant Professor
Fay M. Thompson, Ph.D., Assistant Professor
Patricia M. McGovern, M.P.H., Instructor
Debra K. Olson, M.P.H., Instructor
Donald Ostrum, M.P.H., Instructor

Affiliated Faculty

- James L. Craig, M.D., Clinical Professor; Department of Medicine, Medical School
Vincent F. Garry, M.D., Assistant Professor; Laboratory Medicine and Pathology, Medical School
Velvl W. Greene, Ph.D., Professor Emeritus
Paul B. Johnson, M.D., Assistant Professor; Department of Medicine, Medical School; Associate Director, Occupational Medicine Residency Program, St. Paul-Ramsey Medical Center

Walter H. Jopke, Sr., M.P.H., Assistant Professor Emeritus

Robert O. Mulhausen, M.D., Professor; Department of Medicine, Medical School; Director, Midwest Center for Occupational Health and Safety; Chief of Medicine, St. Paul-Ramsey Medical Center

Theodore A. Olson, Ph.D., Professor Emeritus

Harold J. Paulus, Ph.D., Professor Emeritus

Irving J. Pflug, Ph.D., Professor; Department of Food Science and Nutrition, College of Home Economics, College of Agriculture

Gustave L. Scheffler, B.S.C.E., Assistant Professor Emeritus

Jerome W. Staiger, M.S., Adjunct Instructor; Senior Health Physicist, Boynton Health Service

Conrad P. Straub, Ph.D., Professor Emeritus

W. Dixon Ward, Ph.D., Professor; Communication Disorders Otolaryngology, Department of Medicine, Medical School

Paul W. Willard, Ph.D., Adjunct Professor

Ralph O. Wollan, M.P.H., Assistant Professor Emeritus

Epidemiology

Major Chairperson: Ronald J. Prineas, M.B., B.S., Ph.D.

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.

It is open to qualified individuals with a minimum of a baccalaureate degree from an acceptable institution. The two-year programs include advanced course work in the basic medical sciences and field experience in an approved health agency. Students who have a graduate degree in a health-related field or a professional degree such as the M.D., D.D.S., or D.V.M. may complete the program in one year.

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 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.

Master of Public Health Program

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, and the epidemiology of mental illness.

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 grade point average of 3.00 on a 4.00 scale).
2. Acceptable score on the Graduate Record Examination. The student is responsible for ensuring that a copy of the test results is forwarded to the program.

Application deadline—March 31.

Typical Course Schedule

First Year

Fall:

- PubH 5330 Epidemiology I (4 cr)
PubH 5450 Biometry I (4 cr)
PubH 5420 Statistical Computing I (3 cr)

Winter:

- PubH 5340 Epidemiology II (4 cr)
PubH 5452 Biometry II (4 cr)
PubH 5386 Public Health Aspects of Cardiovascular Disease (3 cr)
-and/or-
PubH 5335 Epidemiology of Infections and Communicable Disease (3 cr)

Spring:

- PubH 5454 Biometry III (or Year 2) (4 cr)
PubH 5461 Biometric Topics (or Year 2) (3 cr)
PubH 5387 Cancer Epidemiology (3 cr)
-and/or-
PubH 5391 Behavioral Epidemiology (3 cr)

Summer: (optional)

Second Year

Fall:

- PubH 8379 Seminar (2 cr)
Phsl 5440 Quant Physiology (3 cr)
PubH 5001 Philosophical and Conceptual Bases of Public Health Practice (2 cr)

Winter:

- PubH 8379 Seminar (2 cr)
Phsl 5441 Quant Physiology (3 cr)
PubH 5335 Infectious Disease Epidemiology (3 cr)
-and/or-
PubH 5386 Public Health Aspects of Cardiovascular Disease (3 cr)

Spring:

- LaMP 5177 Pathology (4 cr)
PubH 8379 Seminar (2 cr)
PubH 5152 Environmental Health (2 cr)
PubH 5387 Cancer Epidemiology (3 cr)
-and/or-
PubH 5391 Behavioral Epidemiology (3 cr)

Summer: (optional)

Required Courses—59 credits

Electives—21 credits

Core Curriculum—80 credits total

Electives—Total of 21 elective credits required, of which 12 credits must be in epidemiology or biometry (therefore a total of 80 credits). A course in public health administration is highly recommended if the student's schedule permits.

Primary Faculty

- Robert K. Anderson, D.V.M., M.P.H., Professor Emeritus
Henry Blackburn, M.D., Professor
Robert L. Kane, M.D., Professor
Arthur S. Leon, M.D., Professor
Ronald J. Prineas, M.B., B.S., Ph.D., Professor
Richard S. Crow, M.D., Associate Professor
David R. Jacobs, Ph.D., Associate Professor
Robert Jeffery, Ph.D., Associate Professor
Russell V. Luepker, M.D., Associate Professor
Cheryl L. Perry, Ph.D., Associate Professor
John D. Potter, M.B., B.S., Ph.D., Associate Professor
John Belcher, Ph.D., Assistant Professor
Gregory Burke, M.D., Assistant Professor
John Finnegan, Ph.D., Assistant Professor
Aaron Folsom, M.D., Assistant Professor
Lael Gatewood, M.S., Ph.D., Assistant Professor
Orlando Gomez-Marin, Ph.D., Assistant Professor
Richard H. Grimm, M.D., Ph.D., Assistant Professor
Stephen R. Mascioli, M.D., Assistant Professor
Maurice Mittelmark, Ph.D., Assistant Professor
David M. Murray, Ph.D., Assistant Professor
Phyllis L. Pirie, Ph.D., Assistant Professor
David Snowdon, Ph.D., Assistant Professor
J. Michael Sprafka, Ph.D., Assistant Professor
Shu-chen Ho Wu, Ph.D., Assistant Professor
Stanley Edlavitch, Ph.D., Senior Research Associate

Affiliated Faculty

- Alan P. Bender, Ph.D., Clinical Associate Professor; State Epidemiologist, Division of Disease Prevention & Health Promotion, Minnesota Department of Health
Stanley L. Diesch, D.V.M., M.P.H., Professor; Department of Large Animal Clinical Sciences, College of Veterinary Medicine
L. Ronald French, Ph.D., Assistant Professor; Epidemiologist, Section on Chronic Disease & Environmental Epidemiology, Division of Disease Prevention and Health Promotion, Minnesota Department of Health

Degree Programs and Academic Majors

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
Thomas E. Kottke, M.D., Assistant Professor, Department of Medicine

Leonard T. Kurland, M.D., Adjunct Professor; Professor and Chairman, Department of Medical Statistics and Epidemiology, Mayo Clinic

Jack S. Mandel, Ph.D., Associate Professor, Division of Environmental and Occupational Health

Rebecca M. Mullis, Ph.D., Assistant Professor, Division of Human Development and Nutrition

Michael T. Osterholm, M.P.H., Ph.D., Adjunct Associate Professor; State Epidemiologist and Chief, Section on Acute Disease Epidemiology, Minnesota Department of Health

Frank S. Rhame, M.D., Associate Professor; Director, Department of Infection Control, Medical School, University of Minnesota

R. Ashley Robinson, Ph.D., D.V.M., Lecturer; Division of Epidemiology; Professor, Department of Large Animal Clinical Sciences, College of Veterinary Medicine

Leslie L. Robison, Ph.D., Assistant Professor; Department of Pediatrics, Medical School

Leonard M. Schuman, M.D., Mayo Professor Emeritus
David Stickle, Dr. P.H., Adjunct Assistant Professor; Assistant Director, Division of Medical Labs, Minnesota Department of Health

Health Education

Major Chairperson:

James H. Rothenberger, M.P.H.

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 assist citizens to utilize health services more effectively. Health educators work in a variety of settings including health departments, voluntary agencies, medical care organizations, and the workplace. The curriculum focuses on community intervention, planned change, communication, and evaluation methodologies.

The normal period of study is approximately five quarters of full-time study or 60 credits. The major is also designed to take into consideration the special needs of part-time students. Each student should have an area of specialization that interfaces with career goals.

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. In some cases the Miller Analogies Test score may be substituted.
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 the following courses or their equivalents:

School of Public Health Core

- PubH 5016 Community Health (3 cr)
- PubH 5413 Vital and Health Statistics (1 cr)
- PubH 5414 Biometry (3 cr)
- PubH 5751 Management (3 cr)
- PubH 5330 Epidemiology (4 cr)
- PubH 5151 Environmental Health (2 cr)

Health Education Core

- PubH 5053 Communication (3 cr)
- PubH 5806 Research (3 cr)
- PubH 5054 Foundations (3 cr)
- PubH 5056 Planning (3 cr)

Students then choose one of the following tracks:

Health Education Professional—designed to prepare the traditional health educator. Students take the School and Health Education core courses plus:

- PubH 5392 Public Health Approaches (3 cr)
- PubH 5095 Advanced Seminar (2 cr)
- PubH 5090 M.P.H. Project (4 cr)
- PubH 5084-85 Internship in Health Education (10 cr)
- Electives (13 cr)

Health Education/Specialized Field—designed for those students who wish to specialize outside of the traditional health education field. Students take the School and Health Education core courses plus:

- PubH 5090 M.P.H. Project (4 cr)
- PubH 5084-85 Internship (10 cr)
- Electives determined with adviser (18 cr)

Health Education/Alcohol and Drug Problems—designed for those students who wish to specialize in prevention of alcohol and drug use associated problems.

Master of Public Health Program

Students take the School and Health Education core courses plus:

- PubH 5043 Analysis of Alcohol and Drug Problems (3 cr)
- PubH 5045 Development and Prevention of Alcohol and Drug Problems (3 cr)
- PubH 5047 Intervention/Secondary Prevention (3 cr)
- PubH 5090 M.P.H. Project (4 cr)
- PubH 5084-85 Internship (10 cr)
- Electives (9 cr)

Primary Faculty

Robert Veninga, Ph.D., Professor
Judith Garrard, Ph.D., Associate Professor
Robert Jeffrey, Ph.D., Associate Professor
James Kincannon, Ph.D., Associate Professor
Cheryl Perry, Ph.D., Associate Professor
James Schaefer, Ph.D., Associate Professor
Robert Schwanke, M.P.H., Associate Professor
John Finnegan, Jr., Ph.D., Assistant Professor
Maurice Mittelmark, Ph.D., Assistant Professor
David Murray, Ph.D., Assistant Professor
Carolyn Williams, Ph.D., Assistant Professor
James Rothenberger, M.P.H., Instructor
James Meland, Ph.D., Research Associate
Deborah Plumb, M.P.H., Coordinator

Affiliated Faculty

Neil Bracht, M.A., M.P.H., Professor; School of Social Work
John P. Brantner, Ph.D., Professor; Department of Psychiatry, Medical School
Raymond Carlaw, Dr.P.H., Clinical Associate Professor; USAID, Burma
Marlene Deschler, R.P.T., M.P.H., Lecturer; Chief, Technical Consultation and Training Section, Minnesota Department of Health
David Garloff, Ph.D., Assistant Professor; Director, Health Sciences Learning Resources
Nancy Goldstein, M.P.H., Clinical Instructor; Patient Education Specialist, Education Division of Nursing Services, University of Minnesota Hospitals
Mark Hochhauser, Ph.D., Assistant Professor; Boynton Health Service
C. David Hollister, M.S.W., Ph.D., Professor; Director, School of Social Work
John Hung, Ph.D., Adjunct Assistant Professor; Psychology Clinic, University of Minnesota Hospitals
Lawrence Kutner, Ph.D., Clinical Assistant Professor; Health and Science Communications, Inc., Minneapolis
Noel Larson, Ph.D., Clinical Assistant Professor; Meta Resources
Harold Leppink, M.D., Adjunct Assistant 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 Home Economics; Meta Resources
Richard Needle, Ph.D., Associate Professor; Department of Family Social Science, College of Home Economics
William O'Brien, M.D., Clinical Professor, Department of Medicine, Medical School
Linda Schenck, M.D., Adjunct Instructor

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 six Independent Study Programs (ISP): Ambulatory Care, Hospital and Health Care, Long-Term Care, Mental Health, Nursing and Patient Care, or Nutrition Administration. The individual must meet the admission criteria for the master's option in addition to the ISP criteria.

The course of study for this M.P.H. major includes completion of three years of any Independent Study Program in addition to a minimum of fifteen additional graduate credits and a research thesis. Enrollment in ISP requires employment as an administrator.

Typical Course Schedule

First Year

- PubH 5775 Management and Organization (15 cr)
- PubH 5331 Fundamentals of Biostatistics (3 cr)

Second Year

- PubH 5776 Administrative and Professional Relationships (15 cr)
- PubH 5798 Research Methods (3 cr)

Third Year

- PubH 5777 External Forces Affecting Health Care Delivery (25 cr)
- PubH 5770 Principles and Practices of Public Health (2 cr)
- PubH 5150 Fundamentals of Environmental Health (2 cr)
- PubH 5210 Medical Terminology (2 cr)
- PubH 5332 Fundamentals of Epidemiology (3 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, PubH 5787-8, or PubH 5936-7). The other examples of courses above are offered in the summer but are also completed in the summer. Other epidemiology, research, and statistics courses are available.

Contact faculty for the six Independent Study Programs leading to this major are:

Vernon E. Weckwerth, Ph.D., Hospital and Health Care Administration
Bonnie Brysky, M.H.A., Mental Health Administration
Caryl Carpenter, M.P.H., Ambulatory Care Administration
G. Kenneth Gordon, Ed.D., Long Term Care Administration

Degree Programs and Academic Majors

Marie Manthey, M.N.A., Nursing and Patient Care Administration

Patricia Splett, M.P.H., 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 11 months. A minimum of 45 credits of course work and a supervised field experience are required for the M.P.H. degree. Of the 45 credits, 16 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.

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 Miller Analogies Test (graduate level).

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

Typical Course Schedule

Fall:

- PubH 5413 Vital and Health Statistics (1 cr)
PubH 5806 Principles of Public Health Research (3 cr)
PsyF 5110 Introductory Statistical Methods (3 cr) or PubH 5414 Biometry (3 cr)
PubH 5610 Principles of Maternal and Child Health (3 cr)
PubH 5621 MCH/Nutrition Student Seminar (1 cr)
— Elective (3 cr)

Winter:

- PubH 5333 Biological Bases and Epidemiology of Health and Disease (4 cr)
PubH 5751 Principles of Management in Health Service Organization or
PubH 5934 Administration Skill Building for Nutritionists (3 cr)
PubH 5611 Programs in Maternal and Child Health (3 cr)
PubH 5621 MCH/Nutrition Student Seminar (1 cr)
— Elective (3 cr)

Spring:

- PubH 5152 Environmental Health (2 cr)
PubH 5621 MCH/Nutrition Student Seminar (1 cr)
— Electives (10 cr)

Summer:

- PubH 5614 Field Experience in MCH (required, but does not count in 45 credit total)
PubH 5649 Topics in Maternal and Child Health (4-8 cr)

Primary Faculty

- Robert W. ten Bensel, M.D., M.P.H., Professor
Vernon Weckwerth, Ph.D., Professor
Lester Block, D.D.S., M.P.H., Associate Professor
Robert W. Blum, M.D., Ph.D., M.P.H., Associate Professor
Judith Brown, R.D., Ph.D., M.P.H., Associate Professor
Barbara J. Leonard, R.N., M.S., Ph.D., Assistant Professor
Betty Lia-Hoagberg, R.N., Ph.D., Assistant Professor
Pat Splett, R.D., M.P.H., Instructor

Affiliated Faculty

- Michael Baizerman, M.S.(Hy), Ph.D., Professor; Center for Youth Development and Research
Colleen Berney, M.Ed., Clinical Instructor; Teacher, Mounds View School District

Ronald Campbell, M.D., M.P.H., Lecturer; Chief, Maternal and Child Health Section, Minnesota Department of Health

Peter D'Ascoli, M.D., M.P.H., Instructor; Staff Physician, Department of OB/GYN, St. Paul Ramsey Medical Center

Amos Deinard, M.D., M.P.H., Associate Professor; Department of Pediatrics, University of Minnesota Hospitals

Laura Edwards, M.D., Associate Professor; Staff Physician, Department of OB/GYN, St. Paul-Ramsey Medical Center

Edward Ehlinger, M.D., Assistant Professor; Director, Bureau of Maternal and Child Health, Minneapolis Health Department

Betty J. Flanagan, O.T.R., M.P.H., Lecturer; Supervisor, Screening Program, Minneapolis Health Department

Ralph Franciosi, M.D., Assistant Clinical Professor; Director, SIDS Center, Children's Health Center

John T. Kelly, M.D., M.P.H., Professor and Associate Head, Family Practice and Community Health, University of Minnesota Hospitals

James Kenney, Ph.D., Associate Professor; Executive Director, Minnesota Coalition on Health Care Costs

Karen A. Knoll, B.S.N., M.P.H., Lecturer; Manager, Maternal and Child Health, Minneapolis Health Department

Eric Knox, M.D., Clinical Associate Professor; Medical Director, Perinatal Center, Abbott-Northwestern Hospital

Carolyn J. McKay, M.D., M.P.H., Assistant Professor; Director, Division of Maternal and Child Health, Minnesota Department of Health

Richard P. Nelson, M.D., Adjunct Associate Professor; Department of Pediatrics, Medical School; Chief, Developmental Disabilities Program, Gillette Children's Hospital

Charles Oberg, M.D., M.P.H., Adjunct Assistant Professor, Health Policy Analyst, Interstudy

Karen Olness, M.D., Associate Professor; Director, Behavioral Pediatrics and Research, Minneapolis Children's Health Center

Lee Schacht, Ph.D., Adjunct Associate Professor; Supervisor, Human Genetics Unit, Minnesota Department of Health

John Shaffer, M.S.W., M.P.H., Instructor; Director, Minnesota Occupant Restraint Program

Stan Shanedling, M.P.H., Clinical Instructor; Director, Specialized Social Services, Minnesota Medical Association

Ann St. Germaine, R.N., M.S., Clinical Instructor; School of Nursing

Linda G. Stein, O.T.R., M.P.H., Lecturer; Health Planner, Ramsey County Public Health Department

Mary Jo Thorsheim, Ph.D., Clinical Assistant Professor; Principal Investigator, Home Care, Abbott-Northwestern Hospital

Theodore Thompson, M.D., Lecturer; Director, Newborn Intensive Care Unit, University of Minnesota Hospitals

Homer Venters, M.D., M.P.H., Professor, Chief, Department of Pediatrics, Medical School; St. Paul-Ramsey Medical Center

Maurine Venters, R.N., M.P.H., Ph.D., Assistant Professor

J. Pamela Weiner, M.P.H., Clinical Instructor (Ph.D. candidate); Center for Youth Development and Research, College of Home Economics

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, HMOs, community health centers, or ambulatory 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 upon 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 course (3 credits or equivalent) in the principles of accounting and microeconomics. Candidates lacking essential course work 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 lacking experience, but well-qualified in other respects, will be given individual consideration.

Application Deadline—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

Degree Programs and Academic Majors

Institute of Public Affairs and the School of Management provide the health administration content for Public Health Administration students.

Typical Course Schedule

First Year

Fall:

- PubH 5413 Vital and Health Statistics (1 cr)
- PubH 5414 Biometric Methods I (3 cr)
- PubH 5700 Public Health Administration I (3 cr)
- PubH 5790 Sociology of Medicine and Health Care (4 cr)
- PA 5001 Policy Process I (3 cr)

Winter:

- PubH 5005 Principles and Strategies of Public Health (2 cr)
- PubH 5701 Public Health Administration II (2 cr)
- PubH 5330 Epidemiology I (4 cr)
- PubH 5751 Principles of Management in Health Services Organizations (3 cr)
- Electives (2-4 cr)

Spring:

- PubH 5702 Public Health Administration III (2 cr)
- PubH 5762 Evaluation Concepts and Methods (3 cr)
- PA 5002 Policy Process II (3 cr)
- PubH 5152 Environmental Health (2 cr)
- Electives (2-5 cr)

Summer:

- PubH 5704 Field Experience: Public Health Administration (cr arranged)

Second Year

Fall:

- PubH 5756 Financial Accounting in Health Organizations (4 cr)
- PubH 5793 Economic Aspects of Health Care (3 cr)
- PubH 5707 Independent Study: Public Health Administration (1 cr)
- Electives (4-6 cr)

Winter:

- PubH 5757 Managerial Accounting in Health Organizations (4 cr)
- PubH 5720 Interpersonal Effectiveness in Health Administration (2 cr)
- PubH 5770 Strategic Management (3 cr)
- PubH 5707 Independent Study: Public Health Administration (1 cr)
- Electives (2-5 cr)

Spring:

- PubH 5711 Public Health Law (4 cr)
- PubH 5707 Independent Study: Public Health Administration (1 cr)
- PubH 5747 Human Resources Management (3 cr)
- Electives (4-7 cr)

The major requires a minimum of 80 credit hours and a master's project. Students entering with limited administrative work experience are required to

complete a supervised field placement at an approved health agency. The length of the field placement, which depends on the student's individual needs, varies from a minimum of the equivalent of one quarter of full-time experience to a maximum of 11 months in an administrative residency. The field placement site is selected in accordance with the student's career objectives. The field placement is designed to allow the student to gain experience in a setting similar to that in which she or he plans to work after graduation.

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, management information systems, and risk management and insurance.

The course schedule shown above is illustrative only. Applicants should be aware that this major will be undergoing intense review during the 1986-87 academic year to strengthen the curriculum and educational experiences. Thus, there will no doubt be additional changes suggested for the second year of the major, and for students planning to enter in the fall of 1987.

Primary Faculty

Bright M. Dornblaser, M.H.A., Professor
Roger Feldman, Ph.D., Professor
John E. Kralewski, Ph.D., Professor
Theodor J. Litman, Ph.D., Professor
Robert Veninga, Ph.D., Professor
Vernon E. Weckwerth, Ph.D., Professor
Lester E. Block, D.D.S., M.P.H., Associate Professor
Thomas Choi, Ph.D., Associate Professor
G. Kenneth Gordon, Ed.D., Associate Professor
George O. Johnson, Ph.D., Associate Professor
Ira Moscovice, Ph.D., Associate Professor
Barbara Spradley, M.N., Associate Professor
Lee D. Stauffer, M.P.H., Associate Professor
Ruth P. Stryker-Gordon, M.A., Associate Professor
Gestur B. Davidson, Ph.D., Assistant Professor
Bryan E. Dowd, Ph.D., Assistant Professor
Sharon Ostwald, Ph.D., Assistant Professor
Michael Resnick, Ph.D., Assistant Professor
Paul Rupprecht, Ph.D., Assistant Professor
Caryl Carpenter, M.P.H., Instructor
Janet Porter, M.H.A., M.B.A., Instructor

Affiliated Faculty

Jonathan Balk, M.P.H., Lecturer; Chief Executive Officer, Anoka and Cambridge State Hospital and Anoka Metro Regional Treatment Center

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

David Giese, M.P.H., Clinical Assistant Professor; Assistant Director, Division of Maternal and Child Health, 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; Health One, Minneapolis

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

John R. Malban, M.S.H.A., Assistant Professor

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

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

Margaret Sandberg, M.S.W., A.C.S.W., M.P.H., Adjunct Assistant Professor; Assistant Commissioner, Bureau of Mental Health, State of Minnesota

Terry Tranter, Ph.D., Assistant Professor; School of Management

Public Health Nursing

Major Chairperson: Mila A. Aroskar, Ed.D.

The public health nursing major prepares nurses to function effectively as public health practitioners and seeks to improve the health status of groups, communities and other populations through effective management of programs, institutions, organizations, and systems. Nurses who seek graduate preparation in public health nursing and meet the entrance requirements may pursue programs of study leading to either the M.P.H. or M.S. in public health.

Students work closely with a faculty adviser for overall program direction and assistance. Graduates of the master's program are prepared to assume indirect service roles in public health and public health nursing. Knowledge and skills in the public health sciences, research, education, and management, coupled with a strong nursing professional base, allow flexibility and creativity in career options for graduates.

This four-quarter M.P.H. major is designed to provide advanced preparation in public health and public health nursing for nurses with experience in public and/or community health practice. Students choose an elective specialty focus from among the options available. The major places special emphasis on knowledge and skill development in the areas of management or education. A master's project, a written comprehensive examination, and practicum experience are required.

Areas of Study—The broad areas of study included in the M.P.H. major are public health: philosophy and concepts, epidemiology, environmental health, biometry and vital statistics, and management; public health nursing: philosophy, history, theories and concepts, contemporary practice, program planning, political processes, research, and educational interventions; M.P.H. elective specialty options: administration, adult health, child health, community systems, education, maternal and child health, and occupational health.

Annual National Public Health Nursing Leadership Institute—Public health nursing sponsors a three-day leadership institute each June that addresses contemporary issues and practice, serves a national and international public health nursing audience, and meets the continuing education needs in the field.

Additional Admission Requirements (see also Introduction)

1. Bachelor's degree from a program accredited by the National League for Nursing. Individual consideration will be given to other applicants. Deficiencies must be corrected before admission.
2. Score from the Graduate Record Examination and Miller Analogies Test (graduate level).
3. An interview with a faculty member (not required for international students).

Degree Programs and Academic Majors

4. Nursing experience, evidence of community health involvement, and demonstrated leadership ability.
5. Current R.N. licensure. A copy of the applicant's license.
6. Applicants not actively engaged in nursing are required to update their professional competence through an R.N. refresher program, work experience, or post-bachelor's degree summer courses in public health nursing and community health.

Application deadline—February 1. Applications received after this date are considered on a space-available basis.

Typical Course Schedule

Fall:

- PubH 5509 Introduction to Public Health Nursing (3 cr)
 PubH 5413 Vital and Health Statistics (1 cr)
 PubH 5414 Biometric Methods (3 cr)
 PubH 5806 Principles of Public Health Research (3 cr)
 — Elective Specialty (3 cr)
 PubH 5151 Environmental Health I, 3 cr, Extension course (or PubH 5152, Spring)
 PubH 5330 Epidemiology I (or in Winter)
 — Accounting prereq (before Spring PubH 5771)
 — Computer competency (during this year, as arranged with adviser)

Winter:

- PubH 5751 Principles of Management in Health Services Organization (3 cr)
 PubH 5502 Program Planning and Development in Public Health (3 cr)
 PubH 5330 Epidemiology I (4 cr)
 — Elective Specialty
 — Directed Research—each quarter in progress

Spring:

- PubH 5506 Public Health Leaders as Educators (3 cr)
 PubH 5576 Political Process in Public Health (3 cr)
 PubH 5771 Financial Management in Health Services Organization (3 cr)
 PubH 5152 Environmental Health (or PubH 5151 in Fall) (2 cr)
 — Elective Specialty (3 cr)
 — Directed Research—each quarter in progress

Comprehensive Examination

Summer Session I and II:

- PubH 5530 Public Health Nursing Practicum: Application and
 and 5531 Synthesis (5530, SSI and 5531, SSII) (3-5 cr)

- PubH 5532 Public Health Nursing Seminar (1 cr)
 — Directed Research (each quarter in progress)

Minimum total Credit Load for Program = 46-48 credits

Primary Faculty

- Mila A. Aroskar, Ed.D., Associate Professor
 Barbara A. Spradley, M.N., Associate Professor
 Janet Berkseth, M.S., Assistant Professor
 Debra Froberg, Ph.D., Assistant Professor
 Susan Goodwin Gerberich, Ph.D., Assistant Professor
 Sharon Ostwald, Ph.D., Assistant Professor
 Patricia McGovern, M.P.H., Instructor
 Debra Olson, M.P.H., Instructor

Affiliated Faculty

- Mary T. Absolon, M.S.N., Lecturer; Government Affairs Analyst, Minnesota Nurses Association
 Eleanor Anderson, M.P.H., Assistant Professor Emeritus
 E. Charlotte Carver, M.P.H., Associate Professor Emeritus
 Margaret M. Christensen, M.P.H., Clinical Instructor, Occupational Health Coordinator, Group Health, Inc.
 Raymond Cink, M.P.H., Lecturer; Director, Community Health Service, Ramsey County Health Department
 Frances Decker, M.P.H., Lecturer; Former Chief, Community Health Section, Minnesota Department of Health
 Carol A. Fielders, M.P.H., Adjunct Instructor; Division of Public Health Nursing, St. Louis County Health Department
 Delphie Fredlund, M.P.H., Professor Emeritus
 Nancy Hanson, R.N., Clinical Instructor
 Carolynn Hiatt, M.B.A., Adjunct Assistant Professor; President, Hiatt Associates
 Catherine M. Hunt, M.P.H., Clinical Instructor; Occupational Health Consultant
 Delores Johnson, M.S., Lecturer; Faculty, Normandale Community College
 LaVohn E. Josten, Ph.D., Adjunct Assistant Professor; Director, Public Health Nursing, Minnesota Department of Health
 Isabel McGarry, M.S., Lecturer; Director, Home Health Service, Minneapolis Combined Nursing Service
 Marilee Ann Miller, Ph.D., Adjunct Assistant Professor; Chairperson, Department of Nursing, Gustavus Adolphus College
 Catherine J. Mossefin, M.S., Lecturer; Manager, Occupational Health Program, Columbia Park Medical Center
 Elaine Richard, M.S., Adjunct Associate Professor; Director of Occupational Health Service, HealthLine, Tampa, Florida
 Elaine Sime, M.S., Adjunct Assistant Professor
 Alma Sparrow, M.S., M.P.H., Associate Professor Emerita
 Esther B. Tatley, M.P.H., Lecturer; Director, Chisago County Public Health Nursing Service
 Patricia Lentach Washick, M.P.H., Adjunct Assistant Professor

Lorene Wedeking, M.S., Lecturer; Assistant Director, Section of Public Health Nursing, Minnesota Department of Health

Mary Kay Zagaria-Sammond, M.S., Lecturer; Executive Director, Twin Cities Programs for Affordable Care

Public Health Nutrition

Major Chairperson: Patricia L. Splett, M.P.H.

Course work, 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 human nutrition-health relationships, 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 HMOs, hospitals, and private industry.

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

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

Monitoring student achievement of major objectives begins with faculty advising on 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 the second week of September and generally complete the program the following fall quarter. The sequence begins with a special session three weeks prior to the beginning of fall quarter.

Independent 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 effective nutrition administrators who incorporate principles of management in the allocation of resources and apply the latest nutrition knowledge to meet changing societal needs. 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 doctorate degrees.
2. Professional work experience.

Application deadline—May 1. Applications received after this date are considered on a space-available basis.

Degree Programs and Academic Majors

Typical Course Schedule

Interim:

PubH 5900 Introduction to Community Nutrition (3 cr)

Fall:

PubH 5806 Principles of Public Health Research (3 cr)

PubH 5413 Vital and Health Statistics (1 cr)

PubH 5902 Maternal and Child Nutrition (3 cr)

PubH 5901 Seminar: Public Health Nutrition (1 cr)

PubH 5900 Field Experience (1 cr)

Elective (3 cr)

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

Winter:

EPsy 5260 Introduction to Statistical Methods (4 cr) or PubH 5414 Biometric Methods I (3 cr)

PubH 5330 Biological Bases of Epidemiology (4 cr)

PubH 5932 Nutrition: Adults and the Elderly (3 cr)

PubH 5934 Nutrition Program Planning and Administration (3 cr)

PubH 5909 Topics: Public Health Nutrition (1 cr)

PubH 5906 Field Experience (1 cr)

Elective (3 cr)

Spring:

PubH 5914 Nutrition Intervention and Evaluation (3 cr)

PubH 5001 Philosophical Basis of Public Health (2 cr)

PubH 5901 Seminar: Public Health Nutrition (1 cr)

PubH 5909 Topics: Public Health Nutrition (2 cr)

PubH 5900 Field Experience (1 cr)

Elective (6 cr)

Summer I:

PubH 5150 Environmental Health (2 cr)

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

Summer II:

PubH 5906 Block Field Experience (6 cr)

PubH 5909 Nutrition and Health (2 cr)

Fall:

PubH 5909 Topics: Public Health Nutrition (If Plan B is incomplete, students must continually register for topics credits)

Total Credits = 67

Primary Faculty

Judith Brown, Ph.D., Associate Professor

Rebecca Mullis, Ph.D., Assistant Professor

Mary Story, Ph.D., Assistant Professor

Patricia Splett, M.P.H., Instructor

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

Ida Marilyn Buzzard, Ph.D., Research Associate

Affiliated Faculty

Irene Alton, R.D., M.S., Lecturer; Nutritionist, Maternal and Infant Care Project

Katherine Cairns, R.D., M.P.H., Lecturer; Nutritionist, St. Paul Division of Health

Katherine Clancy, Lecturer, Continuing Education and Extension; Assistant Professor, Syracuse University

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

Veterinary Public Health

Major Chairperson: Robert K. Anderson, D.V.M., M.P.H.

This major, cooperatively offered by the School of Public Health and the College of Veterinary Medicine, provides unique resources for veterinarians interested in the field of public health. The University of Minnesota is the only university in the United States that has these academic units in close proximity and provides opportunities for students to interrelate learning and research in veterinary medicine and public health.

The major is designed to meet a broad range of individual student interests as well as the needs of a variety of sponsoring agencies. Students may choose special areas of emphasis in epidemiology, food hygiene, environmental health, preventive medicine, or administration. Students who do not wish to pursue special areas of interest may elect a more general program of study to meet their individual needs.

Candidates for the M.P.H. degree are expected to satisfy the degree requirements and educational objectives of the School of Public Health (see Introduction) as well as the requirements of the elective program selected. The program of instruction normally requires a minimum of 12 months of study, but may require up to two years, depending on the student's background, career objectives, and chosen program. In individual cases, a limited number of credits may be transferred from another institution.

Individualized programs of study are designed, in consultation between the adviser and student, to meet the special interests and objectives of the student and the sponsoring agency. With appropriate planning, these programs can meet the objectives of veterinarians interested in a variety of public health and animal health programs as well as the needs of local,

state, national, and international agencies. Special programs for educators are also offered.

Students may select from a wide range of courses offered in the School of Public Health as well as of other academic units of the University such as the College of Veterinary Medicine, Medical School, College of Biological Sciences, College of Liberal Arts, and Humphrey Institute of Public Affairs.

Additional Admission Requirements (see also Introduction)

1. D.V.M. degree from an accredited institution (or receipt prior to matriculation).
2. Two certified transcripts of academic work for the D.V.M. degree and any graduate study.

Application deadline—June 1. Applications received after this date are considered on a space-available basis.

Typical Course Schedule

PubH 5414	Biometric Methods I (3 cr)
PubH 5152	Environmental Health (2 cr)
PubH 5330	Epidemiology I (4 cr)
PubH 5751	Principles of Management in Health Services Organizations (3 cr)
PubH 5310	Diseases Transmitted Between Animals and Humans (4 cr)
PubH 5315	Problems in Disease Control and Eradication (4 cr)
PubH 5301	Perspectives: Interrelationships of People and Animals in Society Today (2-3 cr)
PubH 5326	Research in Animal/Human Health (cr arranged)
PubH 5408	Biometric Methods II (3 cr)
PubH 5340	Epidemiology II: Strategies and Methods (3 cr)
PubH 5335	Epidemiology of Infections and Communicable Diseases (3 cr)
PubH 5344	Clinical Trials—Design, Operation, and Analysis (2 cr)
PubH 5392	Public Health Approaches to Health Behavior Change (3 cr)
PubH 5059	Interpersonal Behavior in Health Organizations (4 cr)
PubH 5261	General Environmental Toxicology (3 cr)
PubH 5158	Health Risk Evaluation (2 cr)
PubH 5265	Applied Environmental Toxicology (3 cr)

Total credits = 50

Primary Faculty

Robert K. Anderson, D.V.M., M.P.H., Professor

Affiliated Faculty

Pedro N. Acha, D.V.M., M.P.H., Lecturer; Pan American Health Organization, Washington, D.C.

Paul J. Cox, D.V.M., M.P.H., Lecturer; Director of Environmental Health (retired), St. Paul Bureau of Health

Stanley L. Diesch, D.V.M., M.P.H., Professor; College of Veterinary Medicine, University of Minnesota

Mylo M. Hagberg, D.V.M., M.S., Lecturer; Colonel (retired), Veterinary Corps, U.S. Army

Stanley Hendricks, D.V.M., M.P.H., Clinical Professor; Colonel (retired), Veterinary Corps, U.S. Army

Robert R. Jorgensen, D.V.M., M.P.H., Lecturer; Brigadier General and Chief, Veterinary Corps, U.S. Army

Michael M. Pullen, D.V.M., M.P.V.M., M.S., Professor; College of Veterinary Medicine, University of Minnesota

Joseph S. Quigley, D.V.M., Instructor, Associate Director of CENSHARE and Colonel (retired), Veterinary Corps, U.S. Army

Robert A. Robinson, D.V.M., M.P.H., Ph.D., Professor; College of Veterinary Medicine, University of Minnesota

Master of Hospital Administration

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

The objective of the M.H.A. 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. Students may use electives to develop an emphasis in functional and contextual areas.
2. Alternative academic study in the Independent Study Programs (ISP) for Hospital and Health Care, Long-Term Care, Ambulatory Care, or Mental Health Administration. Following completion of the ISP, students being admitted to the M.H.A. program need 15 additional quarter credits of full-

Degree Programs and Academic Majors

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.

Dual degrees in public affairs, business administration, and law are available for students who arrange an acceptable program of study and are formally accepted for admission to both units.

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—May 1 (early application recommended)

Typical Course Schedule

First Year

Fall:

- PubH 5404 Introduction to Biostatistics (4 cr)
PubH 5740 Organizational Behavior (3 cr)
PubH 5742 Management of Health Care Organizations (3 cr)
PubH 5756 Financial Accounting in Health Organizations (4 cr)
PubH 5792 Health Services Organizations in the Community (1 cr)

Winter:

- PubH 5744 Principles of Problem Solving (3 cr)
PubH 5757 Managerial Accounting in Health Organizations (4 cr)
PubH 5760 Operations Research and Control Systems (3 cr)
PubH 5791 Public Health and Medical Care Organizations (3 cr)

Spring:

- PubH 5747 Human Resources Management (3 cr)
PubH 5761 Quantitative Methods (3 cr)
PubH 5762 Evaluation Concepts and Methods (3 cr)
PubH 5749 Financial Management in Health Organizations (4 cr)

Summer:

- PubH 5746 Clerkship (3 cr)

Second Year

Fall:

- PubH 5793 Economic Aspects of Health Care (3 cr)

Winter:

- PubH 5770 Strategic Management (3 cr)
PubH 5767 Applied Field Research II (2 cr)

Spring:

- PubH 5796 Legal Considerations (3 cr)
PubH 5768 Applied Field Research III (2 cr)

Electives as desired during the second year (a minimum of 25 hours required).

Total Required Credits for Graduation = 82

Primary Faculty

Bright M. Dornblaser, M.H.A., Professor
Roger Feldman, Ph.D., Professor
John E. Kralewski, Ph.D., William Wallace Professor
Theodor J. Litman, Ph.D., Professor
Robert Veninga, Ph.D., Professor
Vernon E. Weckwerth, Ph.D., Professor
Lester E. Block, D.D.S., M.P.H., Associate Professor
Thomas Choi, Ph.D., Associate Professor
G. Kenneth Gordon, Ed.D., Associate Professor
George O. Johnson, Ph.D., Associate Professor
Ira Moscovice, Ph.D., Associate Professor
Barbara Spradley, M.S., Associate Professor
Lee D. Stauffer, M.P.H., Associate Professor
Ruth P. Stryker-Gordon, M.A., Associate Professor
Gestur B. Davidson, Ph.D., Assistant Professor
Bryan E. Dowd, Ph.D., Assistant Professor
Mary Jane Madden, Ph.D., Assistant Professor
Marie E. Manthey, M.N.A., Assistant Professor
Sharon Ostwald, Ph.D., Assistant Professor
Michael Resnick, Ph.D., Assistant Professor
Caryl Carpenter, M.P.H., Instructor
Janet Porter, M.H.A., M.B.A., Instructor

Affiliated Faculty

Jerome Bieter, M.H.A., Adjunct Assistant Professor; Vice President, Hamilton Associates
N. tor Dahl, M.B.A., Adjunct Associate Professor; Private Consultant
Michael D. Finch, M.A., Instructor
Robert Hansen, Ph.D., Associate Professor; School of Management
Gregory W. Hart, M.H.A., Clinical Assistant Professor; Senior Associate Director, University of Minnesota Hospitals and Clinics
William F. Henry, M.A., Instructor; Administrator, Diabetes Education Center, St. Louis Park Medical Center Research Foundation
Daniel McInerney, J.D., M.P.H., Adjunct Assistant Professor; Assistant Director, Health Systems Division, Minnesota Department of Health
Timothy Nantell, Ph.D., Professor; School of Management
Richard Oszustowicz, B.A., Adjunct Associate Professor; Vice President for Finance, Abbott-Northwestern Hospitals
James Rice, Lecturer; Vice President, Health Central International, Inc.
C. Edward Schwartz, M.H.A., Clinical Professor; Director, University of Minnesota Hospitals and Clinics
John Sweetland, M.H.A., Adjunct Assistant Professor; President, Hamilton Associates
Terry Tranter, Ph.D., Adjunct Assistant Professor; Assistant Director, Department of Accounting
Ronald C. Werft, M.H.A., Clinical Assistant Professor; Associate Director, University of Minnesota Hospitals and Clinics

Administrative Divisions



Administrative Divisions

The School of Public Health is organized into these six administrative divisions for teaching, research and service purposes: Biometry, 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 Biometry

Division Head: Marcus O. Kjelsberg, Ph.D.

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

Division Faculty

James R. Boen, Ph.D., Professor
Anne I. Goldman, Ph.D., Professor
Eugene A. Johnson, Ph.D., Professor
Marcus O. Kjelsberg, Ph.D., Professor
Glenn E. Bartsch, Sc.D., Associate Professor
Chap Le, Ph.D., Associate Professor
John E. Connett, Ph.D., Assistant Professor
James Neaton, Ph.D., Assistant Professor
Dorothy A. Jeffries, M.S., Public Health Specialist
Dorothee Aepli, Ph.D., Research Associate
Kathleen Daniels, M.S., Research Fellow
Gregory Grandits, M.S., Research Fellow
Bruce Lindgren, M.S., Research Fellow
Bryan Randall, M.S., Research Fellow
Kenneth Svendsen, M.S., Research Fellow
Deborah Wentworth, M.P.H., Research Fellow

Division of Environmental and Occupational Health

Division Head: Donald E. Barber, Ph.D.

This division is primarily concerned with disease prevention through the implementation of appropriate biological, chemical, engineering, and physical control measures. Focus is on agents responsible for acute and chronic diseases encountered in various environments and

in products used and consumed by human beings. Studies include the movement of these agents through environments, the populations at risk, and control measures effective in minimizing internal and external exposure.

Division Faculty

Donald E. Barber, Ph.D., Professor
Donald Vesley, Ph.D., Professor
Jack S. Mandel, Ph.D., Associate Professor
Rexford D. Singer, M.S., Associate Professor
Susan Gerberich, Ph.D., Assistant Professor
Charles E. McJilton, Ph.D., Assistant Professor
Orlando R. Ruschmeyer, Ph.D., Assistant Professor
Jeffrey B. Stevens, Ph.D., Assistant Professor
Deborah L. Swackhamer, Ph.D., Assistant Professor
Fay M. Thompson, Ph.D., Assistant Professor
Patricia McGovern, M.P.H., Instructor
Debra Olson, Ph.D., Instructor
Donald Ostrum, M.P.H., Instructor
Elizabeth N. Gerbec, Ph.D., Past-doctoral Associate
Peter Carr, M.P.H., Research Fellow
Steve Broste, M.S., Research Fellow
Anna Lawler, Research Fellow

Division of Epidemiology

Division Head: Henry Blackburn, M.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, veterinary public health, and health education. Its research activities embrace a diversity of epidemiological investigations in both human and animal populations 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 Faculty

Henry Blackburn, M.D., Professor
Arthur S. Leon, M.D., Professor
Ronald J. Prineas, M.B., B.S., Ph.D., Professor
Richard S. Crow, M.D., Associate Professor
David R. Jacobs, Ph.D., Associate Professor
Robert Jeffery, Ph.D., Associate Professor
James C. Kincannon, Ph.D., Associate Professor
Russell V. Luepker, M.D., Associate Professor
Cheryl L. Perry, Ph.D., Associate Professor
John Potter, M.B., B.S., Ph.D., Associate Professor
James Schaefer, Ph.D., Associate Professor
Robert W. Schwanke, M.P.H., Associate Professor
John Belcher, Ph.D., Assistant Professor
Gregory Burke, M.D., Assistant Professor
John Finnegan, Ph.D., Assistant Professor
Aaron Folsom, M.D., Assistant Professor
Orlando Gomez-Marin, Ph.D., Assistant Professor
Richard H. Grimm, M.D., Ph.D., Assistant Professor
Stephen R. Mascioli, M.D., Assistant Professor
Maurice Mittelmark, Ph.D., Assistant Professor
David M. Murray, Ph.D., Assistant Professor
Phyllis L. Pirie, Ph.D., Assistant Professor

David Snowdon, Ph.D., Assistant Professor
J. Michael Sprafka, Ph.D., Assistant Professor
Carolyn Williams, Ph.D., Assistant Professor
Shu-chen Ho Wu, Ph.D., Assistant Professor
James H. Rothenberger, M.P.H., Instructor
Stanley Edlavitch, Ph.D., Senior Research Associate
Julia A. Gleason, Ph.D., Research Associate
Linda Goldman, M.D., Research Associate
Peter Hannan, M.Stat., Research Associate
James Meland, Ph.D., Research Associate
Rita R. Weisbrod, Ph.D., Research Associate
Ruby Boatman, B.S.N., Research Fellow

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 Faculty

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
Lester E. Block, D.D.S., Associate Professor
G. Kenneth Gordon, Ed.D., Associate Professor
George O. Johnson, Ph.D., Associate Professor
Barbara Spradley, M.N., Associate Professor
Lee D. Stauffer, M.P.H., Associate Professor
Ruth P. Stryker-Gordon, M.A., Associate Professor
Mary J. Madden, Ph.D., Assistant Professor
Marie E. Manthey, M.N.A., Assistant Professor
Sharon Ostwald, Ph.D., Assistant Professor
Michael Resnick, Ph.D., Assistant Professor
Paul Rupprecht, Ph.D., Assistant Professor
Caryl Carpenter, M.P.H., Instructor
Janet Porter, M.P.H., Instructor
Dean McWilliams, M.S., Research Specialist

Division of Health Services Research and Policy

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

This division conducts policy research and provides teaching programs focused on the organization, financing, and management of health services. The division is particularly concerned with policy relevant research focused on the effectiveness of health care organizations and programs in meeting national, state, and local community needs and the costs associated with those programs. Faculty offer gradu-

ate course work through several academic programs in the School of Public Health and are linked to the Hubert H. Humphrey Institute of Public Affairs, the Department of Economics, the School of Management, the medical and dental schools, and the College of Pharmacy through research and teaching programs.

Division Faculty

Jon Christianson, Ph.D., Professor
Roger D. Feldman, Ph.D., Professor
John E. Kralewski, Ph.D., Professor
Mila Aroskar, Ed.D., Associate Professor
Thomas Choi, Ph.D., Associate Professor
Judith Garrard, Ph.D., Associate Professor
Ira S. Moscovice, Ph.D., Associate Professor
Gestur B. Davidson, Ph.D., Assistant Professor
Bryan E. Dowd, Ph.D., Assistant Professor
Debra Froberg, Ph.D., Assistant Professor
Michael Finch, M.A., Instructor
David McCaffrey, B.A., Research Specialist
Linda Webster, M.S., Research Fellow
Dave Wyant, M.A., M.B.A., Research Fellow

Division of Human Development and Nutrition

Division Head: Judith Brown, Ph.D.

A main priority for the Division of Human Development and Nutrition is the preparation of nurses, doctors, nutritionists, social workers and others for careers in areas of public health that concentrate on maximizing health throughout the life cycle. Research by division faculty focuses on the reduction of infant, child, and youth morbidity and mortality. Close working relationships for teaching and research are maintained among division faculty, other School of Public Health and University of Minnesota faculty, and professionals in public health agencies.

Division Faculty

Robert ten Bensel, M.D., M.P.H., Professor
Robert W. Blum, M.D. Ph.D., M.P.H., Associate Professor
Judith Brown, R.D., M.P.H., Ph.D., Associate Professor
Janet Berkseth, M.S., Assistant Professor
Barbara J. Leonard, R.N., M.S., Ph.D., Assistant Professor
Betty Lia-Hoagberg, R.N., M.S., Ph.D., Assistant Professor
Rebecca Mullis, Ph.D., Assistant Professor
Mary Story, R.D., Ph.D., Assistant Professor
Patricia Splett, R.D., M.P.H., Instructor
Martha Smith, M.A., Associate Continuing Education Specialist
Beryl Byman, M.A., Continuing Education Specialist
Ida Buzzard, Ph.D., Research Associate
Timothy Kroening-Smith, Research Fellow

Educational, Research, and Service Centers

Center to Study Human-Animal Relationships and Environments, CEN/SHARE

Director: Robert K. Anderson, D.V.M., M.P.H.

The purpose of this center, a cooperative effort of the School of Public Health and the College of Veterinary Medicine, is to provide a focus and stimulus for multidisciplinary research, education, and service on human-animal relationships and their environments. Goals include developing and maintaining research, teaching, and service on human-animal relationships and their environments; promoting and disseminating scientific findings to improve the quality of life for people through relationships with animals; assisting societies and institutions concerned with the care and well-being of people and welfare of animals; serving as a regional information clearinghouse; and acting as a resource in the development of college courses and community programs.

Center Faculty

Robert K. Anderson, D.V.M., M.P.H., Professor and Center Director, School of Public Health
Joseph S. Quigley, D.V.M., Clinical Instructor and Center Associate Director; Colonel (retired), Veterinary Corps, U.S. Army
Stanley Hendricks, D.V.M., M.P.H., Clinical Professor; Colonel (retired), Veterinary Corps, U.S. Army

Midwest Center for Occupational Health and Safety

Director: Robert O. Mulhausen, M.D.

This 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, occupational health nursing, and occupational medicine. Traineeships are available to support students.

Center Faculty

Susan G. Gerberich, Ph.D., Program Director, Safety/Injury Prevention
Paul B. Johnson, M.D., Program Director, Occupational Medicine and Assistant Professor of Medicine, St. Paul-Ramsey Medical Center
Patricia M. McGovern, M.P.H., Program Director, Occupational Health Nursing
Ruth K. McIntyre, Program Director, Continuing Education, St. Paul-Ramsey Medical Center
Charles E. McJilton, Ph.D., Program Director, Industrial Hygiene and Assistant Professor
Robert O. Mulhausen, M.D., Center Director and Professor of Medicine, St. Paul-Ramsey Medical Center
Rexford D. Singer, M.S., Deputy Center Director and Associate Professor

Course Descriptions



Course Descriptions

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 the equivalent course listed after this symbol has been taken for credit.

¶ Concurrent registration is required in the course listed after this symbol.

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

△ 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) O'Brien, Rothenberger
Fundamental principles of health conservation and disease prevention.

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

3004. BASIC CONCEPTS IN PERSONAL AND COMMUNITY HEALTH. (5 cr, §3001, §3003, §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 #)
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 public health grad student 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) Eyler
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.

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.

5006. INTRODUCTION TO COMMUNITY HEALTH. (5 cr; §5016; prereq nursing student, pharmacy student, other health professional or #) Stauffer
Lectures, discussions, seminars, and readings on critical and current issues in community health, emphasizing public health programs and controversies.

5007. HEALTH LEADERSHIP AND EFFECTING CHANGE. (4 cr; prereq PubH grad student, # or §HSU 5007)
Leadership qualities and their impact on organizational behavior. Identification of various theories of change and their practical application to the field of health. Discussion of the changing role of the health professional.

5008. WORKSHOP OR INSTITUTE IN PUBLIC HEALTH. (1-2 cr; prereq 3035 or 5035)
Special topics, nonregular program or course in public health for pre-service or in-service helping professionals.

5013. INTERDISCIPLINARY TEAM TRAINING IN HEALTH SERVICES DELIVERY. (3 cr, §HSU 5001, §HSU 5003; prereq #) Schwanke, Cohn
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.

5015. TOPICS IN INTERDISCIPLINARY STUDIES. (Cr ar; prereq #) Staff

Individualized, directed instruction. Selected readings in interdisciplinary studies with discussion based on these readings.

5016. INTRODUCTION TO PUBLIC AND COMMUNITY HEALTH. (3 cr, §5006, §SW 5131; prereq pharmacy, dental hygiene or public health grad student or #)

The historical evolution of public and community health, status of the organization and delivery of health services. Future organizational changes and innovative models for health services and for prevention. Emphasis on the epidemiology and prevention of communicable and chronic diseases, chemical dependency, mental health, and measurement of community health status. May include health problems and service needs of the poor, minorities, and women, and a group or individual project interview with community health professionals.

5020. PUBLIC HEALTH SOCIAL WORK INTEGRATIVE SEMINAR. (2 cr, §SW 5020, sec 1; prereq beginning level MSW/MPH student) Schwanke, Bracht, staff

Assists students in dual-degree program to develop an integrated public health social work identity. Synthesizes from both fields the common historical and philosophical developments, roles and functions, trends, professional values, and knowledge and research bases.

5021. HUMAN SEXUALITY FOR HEALTH AND HELPING PROFESSIONALS I. (3-4 cr, §HSU

5025, §FSoS 5240, §SW 5021; prereq enrollment in health sciences, public health, grad program in FSoS or #) Larson, Maddock

Multidisciplinary approach to human sexuality from perspective of public and social health and well-being of individuals, the community, and society. Develops personal skills for imparting sexual knowledge to other health professions and consumers. For 3 credits, complete regular course grading requirements. For 4 credits, do the above PLUS attend a 13-hour Sexual Attitude Reassessment workshop scheduled during the quarter.

5022. HUMAN SEXUALITY FOR HEALTH AND HELPING PROFESSIONALS II. (3 cr, §HSU 5027,

FSoS 5240, SW 5022; prereq 5021, SW 5021, HSU 5025, FSoS 5240 or #) Maddock, Larson

Examination of rationales for sexual health care and methods of intervention into sex-related problems of various publics. Focus on methods of assessment, creation of comfortable climate for exploration of concerns, provision of sex-related information, techniques for behavior change, and treatment referrals.

5040. DYING AND DEATH IN CONTEMPORARY SOCIETY. (3 cr, §Mort 5040, §HSU 5040; prereq health science major, public health grad student, education sr, certified teacher, 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 sr, public health or grad student) Kincannon, Schenk

Lectures and readings examine the scientific, socio-cultural, 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. DEVELOPMENT AND PREVENTION OF ADOLESCENT DRUG ABUSE. (3 cr, §HSU 5035;

prereq PubH 5043; HSU 5033 or #) Murray, Perry
Lectures and readings to help health professionals understand the various pharmacological, genetic, behavioral, psychological, sociological, and cultural contributors to alcohol and drug problems. Theories of drug problem causation.

5047. INTERVENTION/SECONDARY PREVENTION OF DRUG ABUSE IN ADULTS. (3 cr, §HSU 5037; prereq PubH 5043; HSU 5033 or #) Kincannon, 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.

5053. COMMUNICATION IN HEALTH EDUCATION. (3 cr; prereq grad student in health education) Veninga

The role of communication in health education practice. Students analyze communication models applicable to health education practice, develop skills in analyzing small group behavior, and examine the role of mass communication in health education programs.

5054. FOUNDATIONS OF PUBLIC HEALTH EDUCATION. (3 cr; prereq students in health education only) Staff

Social, behavioral, and educational aspects of disease. Theoretical bases of health education. History of health education. Ethical issues related to planned change.

Course Descriptions

5055. HEALTH EDUCATION METHODS AND THE CURRENT EMPHASIS ON HEALTH AND WELLNESS. (3 cr; prereq health education major or #) Staff

Educational strategies affecting behavior and their application to the individual and community. Recent approaches to and intervention points and strategies for promoting health and preventing disease.

5056. HEALTH EDUCATIONAL APPROACHES TO CHANGE THROUGH PLANNING. (3 cr; prereq 5055, health science grad student or #)

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 5055, health science grad student or #) Staff

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

5059. INTERPERSONAL BEHAVIOR IN HEALTH ORGANIZATIONS. (4 cr; §HSU 5010)

Veninga

Application of research and theory from the social sciences to organizational problems in hospitals and public health agencies. Focus on organizational behavior and what health professionals can do to improve organizational performance. Leadership behavior, conflict resolution strategies, committee effectiveness, and management of change.

5060. HEALTH OPTIONS FOR THE INDIVIDUAL AND THE COMMUNITY. (3 cr) Rothenberger

Overview of current health education practice. Basic principles, methods, and techniques of health education.

5064. THE TEACHING-LEARNING PROCESS IN THE HEALTH CARE SETTING. (3 cr, §HSU 5011; prereq #) Garloff, staff

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

5065. HEALTH IN THE WORKPLACE: A HEALTH EDUCATION PERSPECTIVE. (3 cr)

Veninga

Relationship of work and health. Examination of relationship of work to onset of disease, effects of stress (information overload and underload, shift work, role conflict, quality control mechanisms) and its effect on employee health, and health education programs designed to prevent occupationally related illnesses.

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

Restricted to students specializing in area of health education. In-depth analysis of current practices and future directions of health education designed to improve health behavior.

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

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

5093. SEMINAR—HEALTH EDUCATION IN THE WORKPLACE. (2 cr; prereq grad student in health sciences) Veninga

Restricted to students specializing in this area. In-depth analysis of current practices and future directions of job-related education designed to improve health behavior.

5095. RESEARCH AND PRACTICE IN HEALTH EDUCATION—ADVANCED SEMINAR. (2 cr; prereq health education student) Staff

Current research in health and education related to the profession of health education. Site visits and data analysis when applicable.

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

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

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

Study of a topic in health education not covered in available courses.

5150. TOPICS IN ENVIRONMENTAL HEALTH. (Cr ar; prereq #) Barber, staff

Selected readings and discussions of problems in environmental 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.

5154. FIELD EXPERIENCE IN ENVIRONMENTAL HEALTH. (1-6 cr; prereq EH student) Staff

Assignments to work with organizations with environmental health concerns under the joint supervision of a faculty adviser and staff of the organization.

5156. ENVIRONMENTAL HEALTH I. (2 cr; pre-req environmental health student or #) Thompson, staff

Biological, chemical, and physical aspects of natural and artificially produced environments. Mechanisms by which environmental components reach and affect people.

5157. ENVIRONMENTAL HEALTH II. (2 cr; pre-req environmental health student or #) Thompson, staff

Environmental health prevention and control strategies, measurements, monitoring, surveillance, dose-response relationships, and remedial actions.

5158. HEALTH RISK EVALUATION. (2 cr; prereq env health majors or #) Stevens
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.

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

5177. PUBLIC HEALTH BIOLOGY. (3 cr; prereq environmental health student or #) Ruschmeyer
Introduction to plant and animal forms important in environmental health; biological aspects of water supply, waste treatment, stream pollution, and special phenomena related to human disease transmission.

5181. AIR POLLUTION. (3 cr; prereq general chemistry or #)
Overview of current air pollution problems; chemistry of air pollutants and polluted atmospheres; potential human health effects; air pollution control technology; laws regulating air pollution.

5184. AIR ANALYSIS. (3 cr; prereq 5211, #) Thompson
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 general chemistry and organic chemistry or #) Swackhamer
Chemical and physical properties of pollutants that determine distribution and persistence; environmental fate testing; trace analysis of pollutants in the environment.

5194. OCCUPATIONAL SAFETY. (2 cr) McJilton
Occupational safety procedures, environmental controls to reduce injuries on and off the job, safety program development and administration.

5201. RADIATION PROTECTION AND MEASUREMENT. (3 cr lect and lab; 2 cr lect only) Barber
Ionizing radiation sources, detection and measurement, protection principles, health implications.

5209. SEMINAR: HEALTH PHYSICS. (1 cr) Barber
Review and discussion of current health physics problems.

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

5213. ERGONOMICS IN OCCUPATIONAL HEALTH. (2 cr; prereq #) McJilton
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.

5214. AGRICULTURAL OCCUPATIONAL HEALTH. (3 cr) McJilton
Occupational health problems of agricultural workers, practical and available preventive measures, educational and administrative needs.

5215. APPLIED OCCUPATIONAL TOXICOLOGY. (3 cr; prereq 5261 or #) Willard
Basic toxicology and physiology with emphasis on environmental contaminants. Inhalation toxicology of the work environment and air pollution.

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

5231. ENVIRONMENTAL HEALTH AND SAFETY IN HEALTH CARE FACILITIES. (4 cr; prereq #)
Environmental health concepts and problems related to isolation techniques; cleaning, disinfection, and sterilization; laundry processes; food service; critical care environments; interdepartmental relationships.

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.

Course Descriptions

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.

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) Stevens
Application of basic biochemical, anatomical, and physiological principles, assessment of potential health hazards, approaches to solution of problems.

5262. TOXICOKINETICS AND METABOLISM OF ENVIRONMENTAL AGENTS. (3 cr; prereq 5261 or #) Stevens
Toxicokinetic models for chemical distribution and fate; quantitative toxicological relationships; bioavailability; chemical monitoring.

5268. SEMINAR: TOXICOLOGY AND HUMAN POPULATIONS. (1 cr; prereq env health student or #) Stevens, Mandel
Scientific evaluation of epidemiological studies that deal exclusively with human exposure to toxic agents; classroom presentations.

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: interrelationship 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. \$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 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 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 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 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) Snowdon
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 basic epidemiology and biostatistics and #) Anderson, Osterholm
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 5333 or #) Frineas
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.

5342. PUBLIC HEALTH LABORATORY PRACTICE. (3 cr; prereq MicB 5216, 5232, 5234 and #)

Stickle

Overview of microbiological, biochemical, and laboratory improvement procedures of modern public health laboratory. In-depth laboratory experience taught at Minnesota Department of Health.

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 and #) 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 biometry major or #) 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.

5385. PHYSIOLOGY OF EXERCISE. (Cr ar; prereq Phsl 5101 or equiv, #) Leon, Crow

Effects of exercise conditioning and deconditioning on body composition, metabolism, and function.

5386. THE PUBLIC HEALTH ASPECTS OF CARDIOVASCULAR DISEASES. (3 cr; prereq basic epidemiology and biostatistics) Luepker, Pirie

Evaluation of population studies and trials on cardiovascular diseases; modifiable risk factors for coronary heart disease; prevention of other types of heart disease.

5391. INTRODUCTION TO BEHAVIORAL EPIDEMIOLOGY. (3 cr; prereq public health or health science student, professional in health-related discipline, grad student in social or behavioral science or #) Mittelmark

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 grad standing or #) Perry

Introduction to public health approaches to health behavior change. 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 grad standing 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.

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.

5396. EPIDEMIOLOGIC SURVEY METHODS.

(3 cr; prereq 5330 and 5450, 5451, and 5452 or equiv statistics courses, or #) Folsom, Gomez, Pirie
Design and implementation of epidemiologic surveys, including issues of sampling and sample size determination, interview and questionnaire standardization, and organization and analysis of health survey research.

5399. SEMINAR: TOPICS IN EPIDEMIOLOGY. (2 cr; prereq basic epidemiology and biometry or #) Staff

One or more topics of current epidemiologic interest.

5400. INTRODUCTION TO BIostatistical METHODS IN THE BIOLOGIC AND HEALTH SCIENCES. (4 cr; prereq Biol 1009, Chem 1004-1005, Math 1111 or Math 1201 or #) Le

Basic biostatistical methods for design and analysis of clinical laboratory studies in biological and health sciences. A condensed and accelerated course intended for advanced undergraduate and graduate students or those training for careers in health professions or biological sciences.

5403. COMPUTER APPLICATIONS IN HEALTH SERVICES ADMINISTRATION. (4 cr; prereq non-biometry student, health science regis or #) Finkelstein

Survey of current applications of digital computers for health services, clinical algorithms, and health-related information systems. Costs, benefits, and interrelationships between data acquisition, reduction, storage, interpretation, and dissemination for health services. Stress on administrative needs for planning, personnel, backup, and evaluation. Applications illustrated through use of the BASIC computing language and package computer programs.

Course Descriptions

5404. INTRODUCTION TO BIOSTATISTICS AND STATISTICAL DECISION. (4 cr) 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. BIOMETRY IN CLINICAL STUDIES. (3 cr; prereq DDS, MD, DVM, PharmD, 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 utilizing 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. BIOMETRIC METHODS I. (3 cr; prereq public health or grad school regis or #) Boen, Goldman
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 X^2 tests of significance.

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

5420. STATISTICAL COMPUTING I—USING STATISTICAL PACKAGES. (3 cr; prereq PubH 5450 or 15450 or #) Goldman, Wu
Use of three popular statistical computer packages: SPSS, BMDP, and SAS for analysis of biomedical data using the CDC-Cyber and IBM-4341 mainframe computers. File management capabilities of the packages. A case-study approach.

5430. BIOMEDICAL COMPUTING I. (4 cr; prereq algebra or #) Ellis
Introduction to digital computers and their use in biology and medicine through an interactive programming language such as BASIC. Simple algorithms for data processing and data quality assurance; using and modifying statistical and graphical library programs; elements of conversational programming.

5431. BIOMEDICAL COMPUTING II. (4 cr; prereq 5430 or #) Ellis
Additional health-related applications of digital computers using FORTRAN. Computer organization; magnetic disc and tape file processing; statistical and analytical package programs; sequential and hierarchical file management.

5432. BIOMEDICAL COMPUTING III. (4 cr; prereq 5431 or #) Ellis
Survey of health information systems for inpatient, outpatient, and clinical research use, including status of current systems, costs and benefits, and legal/ethical considerations. System 2000 used for class problems.

5433. COMPUTER METHODOLOGY IN THE DELIVERY OF HEALTH CARE I: PHYSIOLOGICAL MONITORING AND TESTING. (3 cr, \$LMed 5196; prereq 5432 or #) Finkelstein

Role of the computer in monitoring and testing patients; hardware and software requirements for processing clinically significant signals; comparison and evaluation of currently available systems.

5434. COMPUTER METHODOLOGY IN THE DELIVERY OF HEALTH CARE II: INTRODUCTION TO MEDICAL DECISION-MAKING TECHNIQUES. (3 cr, \$LMed 5197; prereq 5432 and 5452 or #) Connelly

Introduction to biometrical concepts and techniques that can be used to support the medical decision process including test efficacy, decision analysis, Bayes theorem, and multivariate analysis. Current studies of the medical problem-solving process, and computer-based medical decision support systems.

5435. COMPUTER METHODOLOGY IN THE DELIVERY OF HEALTH CARE III: DEVELOPMENT OF CLINICAL INFORMATION SYSTEMS. (3 cr, \$LMed 5198; prereq 5432 or #) Finkelstein, staff

Selected topics in clinical information systems, with emphasis on systems development in clinical laboratory, pharmacy, nursing, and medical records systems.

5436. ANALYTICAL TECHNIQUES FOR HEALTH DELIVERY SYSTEMS. (3 cr; prereq 5452 and FORTRAN or #) Gatewood
Operations research and systems analysis techniques applied to health service systems. Emphasis on applications of linear programming, theory of queues, activity networks, and inventory models in health care systems.

5446. BIOCOMPUTING CONSULTING SEMINAR. (3 cr; prereq biometry major, 5432, 5452 or #) Gatewood

Overview of computer hardware, operating systems, languages, and program packages for health science applications. Roles and responsibilities of project manager in analyzing requirements of health science client, designing and specifying computer interfaces, and supervising development, training, documentation, and evaluation for implementation of effort.

5450. BIOMETRY I. (4 cr; prereq familiarity with basic calculus or #) Jeffries
Probability models, including the binomial, Poisson, and Gaussian, with applications in the biological and health sciences; hypothesis testing and interval estimation for the Gaussian model, using SPSS for computations.

5452. BIOMETRY II. (4 cr; prereq 5450) Jeffries
Inference for binomial and Poisson probability models, with health science applications; chi square applied to frequency data; regression and correlation techniques, with applications in bioassay; one-way analysis of variance and multiple comparison techniques.

5454. BIOMETRY III. (4 cr; prereq 5452 or #) Le
Multiple regression and analysis of variance techniques for biological and health science data; including topics on model selection, randomized blocks, covariance, the relationship of regression and ANOVA. Use of SPSS computer package for analysis.

5456. BIOMETRY CONSULTING SEMINAR.
(Cr ar; prereq biometry student) Boen
Consultant and client interaction; communication and formulation of the biometric problem. Role and responsibilities of the biometrician. Robustness and relevance of frequently used analytical techniques. Internship experiences.

5459. INTRODUCTION TO MATHEMATICAL THEORY IN BIOMETRY. (3 cr; prereq 2 qtrs calculus or 15452) Jeffries
Generating functions, curve fitting, iterative estimation, tests, propagation of error, and related topics with illustrations from epidemics and population growth, bioassay, clinical trials, demography, and other bio-health science areas.

5460. DEMOGRAPHY AND HEALTH. (2 cr, §Soc 5561; prereq biometry or epidemiology major or #) Staff
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. BIOMETRIC TOPICS IN EPIDEMIOLOGY. (3 cr; prereq PubH 5452) Connett
Relative risk; summarization of rates; misclassification; matching designs; incidence as a function of several variables; selection; clustering; familial aggregation.

5462. CLINICAL TRIALS I. (3 cr; prereq biometry, 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 BIOMETRY. (Cr ar; prereq #)
Selected readings with discussion based on these readings.

5471. BIOMETRY LITERATURE SEMINAR. (2 cr; biometry major or #; offered alternate years) Staff
Basic journals and references of biometry. Orientation to current biometric research problems. Use of online literature retrieval methods and bibliographic references such as Index Medicus. Preparation and delivery of technical presentations.

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

5502. PROGRAM PLANNING AND DEVELOPMENT IN PUBLIC HEALTH NURSING. (3 cr; prereq grad status, 5806 or equiv)
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.

5506. PUBLIC HEALTH LEADERS AS EDUCATORS. (3 cr; prereq 5509, grad status) Ostwald
Perspectives on education and persons as teachers/learners. Transformational learning and leadership for public health leaders.

5509. INTRODUCTION TO PUBLIC HEALTH NURSING. (3 cr; prereq public health nursing student) Spradley, Aroskar
Knowledge, theories, models, and frameworks relating to public health nursing. Includes philosophical, historical and contemporary perspectives. Links public health nursing with public health, management, and other sciences and disciplines.

5510. RESEARCH METHODOLOGY IN PUBLIC HEALTH NURSING. (1-3 cr; prereq #) Staff
Guidance in development of study design, implementation, and analysis.

5511. HEALTHY ADULTS: A PUBLIC HEALTH PERSPECTIVE. (3 cr) Ostwald
Models and theories of health and wellness critiqued: how they relate to the adult population in a pluralistic society. Educational, engineering, and enforcement interventions used in primary prevention analyzed in terms of ethical considerations, compliance rates, and economic implications.

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

5514. SEMINAR: APPLICATIONS OF RESEARCH METHODOLOGY IN PUBLIC HEALTH NURSING. (3 cr; prereq PubH 5806, PubH 5509, or #) Froberg
Discussion of research design in public health nursing; application of research principles to individual projects, development of a research proposal through a peer review process.

Course Descriptions

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

5517. THE ELDERLY: A HIGH RISK POPULATION. (3 cr) Ostwald
Focus on characteristics that place the over 65 age group at high risk for disability, institutionalization, and death. Health maintenance, rehabilitation, and alternatives to institutionalization.

5520. TOPICS: MULTIDISCIPLINARY PERSPECTIVES ON AGING. (4 cr)
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.

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

5530. PUBLIC HEALTH NURSING PRACTICUM. (1-4 cr; prereq #) Aroskar, Berkseth
Guided application of education and/or management concepts and theories to the delivery of indirect public health nursing services in community-based settings.

5531. PUBLIC HEALTH NURSING PRACTICUM. (1-4 cr; prereq #) Aroskar, Berkseth
Continued application of education and/or management concepts and theories to the delivery of indirect public health nursing services in community-based settings begun in PubH 5530.

5532. PUBLIC HEALTH NURSING SEMINAR II: RESEARCH STUDIES IN PUBLIC HEALTH NURSING. (1 cr; prereq #) Staff
Presentation and critique of completed research. Required of all public health nursing (MPH) students.

5544. HEALTH OF CHILDREN IN DAY CARE. (3 cr; prereq upper division or grad-level student in health sciences or related field and #) 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.

5550. NURSING ADMINISTRATION SEMINAR I. (3 cr) Spradley
Introduction to and analysis of management and organizational concepts and theories applied to public health nursing administration.

5551. NURSING ADMINISTRATION SEMINAR II. (3 cr) Spradley
Analysis of selected organizational and management issues with application to public health nursing administration practice.

5552. NURSING ADMINISTRATION SEMINAR III. (1-3 cr) Spradley
Analysis of the "state of the art" of nursing administration in the context of the external organizational environment. Synthesis with public health practice.

5575. TOPICS: PUBLIC HEALTH NURSING. (Cr ar; prereq #) Staff
Individualized learning experiences arranged with public health nursing faculty.

5576. THE POLITICAL PROCESS IN PUBLIC HEALTH. (3 cr; prereq public health nursing student or #)
Preparation for assuming leadership in health policy arena. Emphasis on policy development; political, legislative, and regulatory processes; and political strategies in public health.

5590. THEORY AND PRACTICE OF OCCUPATIONAL HEALTH NURSING. (1-4 cr; prereq public health nursing student, occupational health and safety student) Olson, McGovern
Introduction to major concepts and issues in occupational health and safety. Students identify a conceptual framework for working with aggregate populations of workers. Correlated field experiences included.

5592. PLANNING AND COORDINATING AN EMPLOYEE HEALTH SERVICE PROGRAM. (3 cr; prereq occupational health nursing student) McGovern
Role development of occupational health nurse specialists related to various organizational structures, employee benefits program, and health needs of workers. Students participate in evaluation component of an employee health program.

5593. TOPICS IN OCCUPATIONAL HEALTH AND ILLNESS. (2 cr; prereq graduate or MPH student or #) Gerberich, McGovern
Comprehensive overview of major occupational health problems and the tools utilized in their prevention and/or management. Interdisciplinary course for students in occupational health programs of medicine, nursing, industrial hygiene, and industrial safety. Applicable to programs of study in toxicology, epidemiology, and other areas of environmental and public health.

5594. INJURY PREVENTION IN THE WORKPLACE, COMMUNITY, AND HOME. (3 cr) Gerberich
Analysis of injury problems affecting the public in the workplace, community, and home; strategies for prevention and control—an epidemiologic approach.

5595. SEMINAR: SAFETY IN THE WORK-PLACE. (1 cr) Gerberich

Safety problems in the workplace; hazard analysis and prevention and control of injuries to the worker.

5596. PROBLEMS: SAFETY IN THE WORK-PLACE. (2 cr; prereq occupational health and safety student, graduate or MPH student or #) Gerberich

An interdisciplinary approach to systematize and analyze data relevant to hazards in the workplace. A forum format provides the opportunity for students to further synthesize and evaluate their findings.

5597. TOPICS: INJURY PREVENTION IN THE WORKPLACE, COMMUNITY, AND HOME.

(1-3 cr; prereq #) Gerberich

Selected projects: provides an opportunity for students to pursue projects relevant to injury problems.

5610. PRINCIPLES IN MATERNAL AND CHILD HEALTH. (3 cr) tenBensel, 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.

5611. PROGRAMS IN MATERNAL AND CHILD HEALTH. (3 cr) tenBensel, MCH staff

Current programs including C&Y, MIC, family planning, nutrition, dental, EPSDT, neonatal intensive care, genetics, and school health. Community program leaders participate in class discussion.

5612. HUMAN GENETICS AND PUBLIC HEALTH. (3 cr; prereq #) Schacht

Evaluation of current studies in human genetics and applications to community health.

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 student) 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 student or #) St. Germaine

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.

5618. YOUTH AND HEALTH: AN INTRODUCTION. (3 cr, §YoSt 5133) Baizerman

Age-specific morbidity and mortality data regarding youth used as basis for class discussion and individual work on health topics important to a youth population. Introduction of a youth development concept for use in problem analysis.

5620. CHRONIC AND HANDICAPPING CONDITIONS OF CHILDREN: PREDICTION AND INTERVENTION WITH HIGH RISK INFANTS AND YOUNG CHILDREN. (3 cr) 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. (1-3 cr; prereq MCH grad student) Staff

Weekly discussion group allowing interaction between MCH students and faculty. MCH faculty members act as resource persons.

5623. MATERNAL HEALTH. (3 cr; prereq #)

Lia-Hoagberg

Examination of maternal needs, services, and issues (adult and adolescent pregnancy, reproductive health and family health). Emphasis on preventive health, high risk problems, and care systems for childbearing women in the context of sociocultural, economic, and environmental factors.

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.

5628. ADOLESCENT ABUSE. (3 cr; prereq 5616, 5640, 5641, 5643 or professional experience with child abuse issues) Blum

Focus on issues related to physical and sexual abuse of teenagers; physical and psychological manifestations of abuse, incest, and sexual assault, sexual abuse of males, consequences of abuse, treatment approaches, legal and ethical issues.

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. FAMILY PLANNING ISSUES IN MATERNAL AND CHILD 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.

5634. HEALTH PROBLEMS AND HEALTH PROMOTION OF YOUTH. (3 cr) Blum
For health planners and health care providers who work with youth. Review of major health problems from multiple perspectives: morbidity and mortality data, public health professionals and youth. Suicide and accidents, pregnancy, sexuality, drug use and abuse, depression and loneliness. Framework for developing prevention program.

5649. TOPICS: MATERNAL AND CHILD HEALTH. (Cr ar; prereq #) Staff
Selected readings and problems.

5700. PUBLIC HEALTH ADMINISTRATION I. (3 cr ar; prereq public health administration student or #) Block
Structure, functions, activities, and problems of state public health agencies.

5701. PUBLIC HEALTH ADMINISTRATION II. (2 cr; prereq public health administration student, 5700 or #) Block
Issues, problems, structure, and activities of local and federal public health agencies.

5702. PUBLIC HEALTH ADMINISTRATION III. (2 cr; prereq public health administration student, 5701 or #) Block
Issues, problems, structure, and activities of other agencies that influence public health, their relationship to public health 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 #)
Independent study, under tutorial guidance, of selected problems and current issues in public health administration.

5711. PUBLIC HEALTH LAW. (4 cr; prereq student in public health 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 #) Rupprecht
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 student, 5712 or #) Rupprecht
Management of HMOs, prepaid group practices, and ambulatory care centers. Topics include: quality assurance, legal and ethical concerns, financial aspects, public health implications, and the impact of national health insurance; international perspectives; impact of various payment mechanisms and systems.

5715. ADMINISTRATIVE DECISION MAKING IN PUBLIC HEALTH AGENCIES. (2 cr; prereq public health administration student or #)
Process of public or governmental decision making from an administrative perspective. Case studies involving public health issues and decision making based on state government situations. Case study analysis, group discussion, student presentations, interviews with public health decision makers and their staffs.

5720. INTERPERSONAL EFFECTIVENESS IN HEALTH ADMINISTRATION. (2 cr; prereq public health administration student or #) Veninga
Skill development examining the health services organization as a social system and the manner in which the administrator can most effectively function; diagnosing the health of organizations, performance review, employee interviews; develop and evaluate résumés, delegate authority, and determine effective forms of organization, management of time, and supervision techniques. Political realities of organizational behavior.

5723. ADMINISTRATIVE RESIDENCY. (Cr ar; prereq public health administration student or #)
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.

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

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 IN THE DELIVERY OF HEALTH SERVICES: A PUBLIC HEALTH PERSPECTIVE. (3 cr; prereq grad students, public health students; health related professionals or #) Block

Emergence of competition as a major factor in the delivery of health services and examination of current trends, proposals, regulatory alternatives, alternative delivery system, reactions and behavior of providers, advertising and marketing, role of antitrust agencies and the courts related to competition with a focus on public health implications of these activities.

5739. TOPICS: PUBLIC HEALTH ADMINISTRATION. (Cr ar; prereq student in public health administration or #)

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

5740. ORGANIZATIONAL BEHAVIOR. (3 cr; prereq 5742 and 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 MHA student or #) Johnson

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. (3 cr; sec 1, prereq hospital administration students only; sec 2, prereq grad-level students and #) Dornblaser, Sweetland

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. (3 cr; prereq 5744) Dornblaser, Sweetland

Solution of specific administrative case problems.

5746. CLERKSHIP. (3 cr; prereq 5744; hospital administration students) Bieter, staff

Survey and solution of management problems within a local health services organization, preparation of formal management report. Stryker-Gordon

5747. HUMAN RESOURCES MANAGEMENT. (3 cr; prereq MHA student or #)

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. ADMINISTRATION OF SERVICES TO AN AGING CLIENTELE. (3 cr) Stryker-Gordon

Management within long-term care organizations, emphasis on institutional living in nursing homes. Lectures, field visits, and research papers.

5751. PRINCIPLES OF MANAGEMENT IN HEALTH SERVICES ORGANIZATIONS. (3 cr; prereq grad student) 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 MHA student or #) Sweetland, Bieter

Aspects of institutional planning with emphasis on role of program and physical facilities planning.

5753. STRATEGIC MANAGEMENT IN THE HEALTHCARE INDUSTRY. (3 cr; prereq Hosp. Admin and PubH Admin. student or #) Porter

Seminar in strategic management to evaluate the application of organizational theory, organizational analysis, organizational behavior, competitive analysis and game theory to providers, suppliers and insurers in the healthcare industry.

Course Descriptions

5754. MARKETING HEALTH SERVICES. (4 cr; prereq Hosp Admin student or #) Hansen
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 MHA student or #) Tranter
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, MHA student or #) Tranter
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 and 5757 or #) Nantell
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 #) Dowd
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 MHA student or #) Fifer
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 #) Litman, Weckwerth, Resnick
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. (3 cr; prereq 5767) Litman, 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) Carpenter
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, Schwartz
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 grad student)
Resnick
Sociopolitical, economic, and moral/ethical issues confronting the public health and medical care system in the U.S. 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 MHA student)
Henry
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 student or #) Davidson
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 MHA student or #) Kralewski, Greenberg
Development and present status of selected public policy issues in social, economic, and political contexts. Alternative courses of possible public action review.

5796. LEGAL CONSIDERATIONS IN HEALTH SERVICES ORGANIZATIONS. (3 cr; prereq MHA 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.

5803. MENTAL HEALTH PROMOTION AND THE PREVENTION OF MENTAL DYSFUNCTION. (3 cr; prereq grad student in public health, social, behavioral, or health sciences or #) Williams
Specific mental dysfunctions, their causes and prevention, as well as factors likely to promote and enhance competency and positive mental health.

5804. FUNDAMENTALS OF HEALTH BEHAVIOR CHANGE. (3 cr; prereq #) 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, and self-regulation).

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.

5807. CROSS-CULTURAL PERSPECTIVES ON HEALTH BEHAVIORS. (3 cr) Williams
Introduces cross-cultural issues (both international and sub-cultural) that influence the health behaviors of people. Consideration of what constitutes culture and how cross-cultural factors are studied.

5852. PROGRAM EVALUATION IN HEALTH AND MENTAL HEALTH SETTINGS. (4 cr, \$HSU 5026; prereq 5806 or equivalent research methods course, and equiv basic statistics course) Garrard
For advanced undergraduate and graduate students in fields related to health or mental health. 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.

5900. FIELD COURSE I: PUBLIC HEALTH NUTRITION. (1-4 cr; prereq public health nutrition student) Splett
Placement in an approved agency with opportunity for experience in nutritional aspects of public health programs.

5901. SEMINAR: PUBLIC HEALTH NUTRITION. (1-6 cr; prereq public health nutrition student) Staff

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

5906. FIELD EXPERIENCE: PUBLIC HEALTH NUTRITION. (1-8 cr; prereq public health nutrition student) Splett
For students desiring more than one concurrent field placement. Placement in a second approved agency with opportunity for experience in nutritional aspects of public health programs.

5932. NUTRITION: ADOLESCENTS, ADULTS, AND THE ELDERLY. (3 cr; prereq 3000-level nutrition course or equiv or #) Mullis
Review of current literature and research on nutrient needs and factors affecting nutritional status of adolescents, adults, and the elderly.

Course Descriptions

5933. NUTRITION AND HEALTH DISEASE RELATIONSHIPS. (3 cr; prereq nutrition—normal and clinical; fundamentals of epidemiology; statistics; biochemistry) Brown

Designed for teachers, nurses, physicians, social service workers, dietitians, and others dealing with nutrition and health. Nutrition and its role in achieving optimum health and physical fitness. Nutrition needs throughout the life cycle, relationship between the quality of diet and diseases in later life, update of present knowledge on nutrient requirements, functions, and availability. Students will assess their eating behaviors and diets and develop strategies for applying health and fitness information in professional practice.

5934. ADMINISTRATIVE SKILL BUILDING FOR NUTRITIONISTS AND DIETITIANS.

(1-3 cr; prereq dietitian or #) Splett

Designed to enable students to assess the processes and effectiveness of their leadership style; apply financial management, marketing, networking, and decisionmaking skills; and implement and evaluate nutrition information management systems.

5935. ADOLESCENT NUTRITION. (3 cr; prereq basic nutrition course or #) Story

Current issues in adolescent nutrition; nutritional requirements, food behavior, eating disorders, food faddism, nutritional needs of special groups (athletes, pregnant and chronically ill adolescents), nutrition education/counseling techniques.

8150. RESEARCH: ENVIRONMENTAL 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 #)

Application of principles of analytical chemistry to the analysis of toxic chemicals in tissues and fluids, the environment, the workplace and in environmental health research; survey of instrumental methods (gas and liquid chromatography, mass spectrometry, and atomic and molecular spectroscopy); interpretation of results; analytical quality control.

8261. MOLECULAR TOXICOLOGY FOR THE ENVIRONMENTAL SCIENTIST. (3 cr, \$Phel 8214; prereq 5261 or #) Stevens

Toxic effects and mechanisms of environmental chemicals; emphasis on current animal model research.

8263. PATHOPHYSIOLOGY FOR THE ENVIRONMENTAL SCIENTIST. (3 cr; prereq 8261 or #) Garry

General mechanisms of environmentally-induced tissue injury; compensatory mechanisms and repair processes; acute and chronic pathophysiology; tissue specificity of toxic agents; mutagenesis; teratogenesis.

8269. SEMINAR: ENVIRONMENTAL AND OCCUPATIONAL TOXICOLOGY. (1 cr; prereq 8261 or #) Stevens

Scientific evaluation of toxicological studies that deal exclusively with animal model research; classroom presentations.

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 and #) Staff

Readings in current research articles in epidemiology.

8340. EPIDEMIOLOGIC ASPECTS OF CANCER. (3 cr; prereq 5330) Staff

Magnitude of problem, epidemiologic background for current research, examples from cancers of selected sites. Emphasis on studies of those factors offering the best potential for cancer prevention.

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: TOPICS IN HEALTH BEHAVIOR SCIENCE. (3 cr; prereq physiological hygiene major, #) Staff

Current theoretical measurement and research issues in behavioral medicine with emphasis on cardiovascular diseases. Topics drawn from physiological hygiene, psychology, sociology, anthropology, and medicine.

8400. SEMINAR IN BIOMETRY. (Cr ar)

8405-8406-8407. ADVANCED TOPICS IN HEALTH COMPUTER SCIENCE I, II, III. (3 cr per qtr; prereq 5432, 5435, 5452, or #) Finkelstein, staff

Selected topics that may include computer systems design for the health sciences, small computer concepts and utilization, computers for clinical services, computer-aided medical decision making, biomedical image processing and pattern recognition, and other areas of current interest. All discussions treat techniques and incorporate examples of case studies from the health sciences.

8420. ADVANCED BIOMETRIC METHODS I: SURVIVAL ANALYSIS. (3 cr; prereq PubH 5454 or equivalent, PubH 5459 or equivalent, knowledge of FORTRAN)

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. ADVANCED BIOMETRIC METHODS II: CATEGORICAL ANALYSIS IN PUBLIC HEALTH. (3 cr; prereq PubH 5454 or equivalent, PubH 5459 or equivalent, knowledge of FORTRAN) 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. ADVANCED BIOMETRIC METHODS III: CLASSIFICATION, SEQUENTIAL METHODS. (3 cr; prereq PubH 5454 or equivalent, PubH 5459 or equivalent, knowledge of FORTRAN) Linear, quadratic and nearest neighbor discriminant models; design problems for estimating parameters for non-linear models; sequential evaluation of clinical trial data. Topics introduced and compared to others by Monte Carlo investigations.

8430-8431-8432. ADVANCED BIOMETRIC ANALYSIS I, II, III. (3 cr per qtr; prereq 8422, advanced calculus, theoretical statistics; offered when appropriate) Staff
Randomization theory in clinical and laboratory trials. Biometric theory of epidemiologic case-control and cohort studies. Nonparametric and parametric survivorship analysis, including censoring and competing risks. Biometric models in demography, medical genetics, and screening and detection of disease. Radioimmunoassay and generalized bioassay models.

8443w. ADVANCED EPIDEMETRICS. (3 cr; prereq 5330 or 5333 and 5340 and 5461) Mathematical modeling of parameters and research designs in observational and experimental epidemiology. Emphasis on logical problems of etiologic inference from observational data in presence of bias and confounding.

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

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

8510. DIRECTED RESEARCH. (Cr ar; prereq #) Staff
Guided study in research designs.

8511. DIRECTED RESEARCH. (3 cr; prereq #) Staff
Guided completion of a research study.

8597. RESEARCH: INJURY PREVENTION IN THE WORKPLACE, COMMUNITY, AND HOME. (3-6 cr; prereq #) Gerberich
Provides opportunity for students to develop independent and comprehensive research efforts relevant to injury problems.

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 PhD student in hospital administration) 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 8760) Staff

8762. CONTEMPORARY PROBLEMS OF HOSPITAL AND RELATED HEALTH SERVICES. (3 cr; offered alt yrs) 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 PhD students in hospital administration) 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 PubH 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 5795; 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; offered alt yrs) Weckwerth
Survey and analysis of the application of nonparametric statistics to health care research.

8781. SEMINAR: RESEARCH STUDIES IN HEALTH CARE. (3 cr; prereq PhD student in hospital administration or #) Finch, staff
Review and appraisal of design, measuring instruments, research methodology, and findings of contemporary studies in the field of health care.

8782. RESEARCH PRACTICUM. (3 cr per qtr [max 6 cr]; prereq PhD student in hospital administration) Litman, Weckwerth, staff
Summer field experience in health care research. Supervised independent and team research on selected topics and problems in the field of health care.

Course Descriptions

8790. SEMINAR: POLITICAL ASPECTS OF HEALTH CARE. (3 cr; prereq PhD student in hospital administration or #; offered alt yrs) Litman, Kralewski

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.

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 Graduate Summer Session in Epidemiology, 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.

5003. FUNDAMENTALS OF ALCOHOL AND DRUG ABUSE. (2 cr, \$PubH 3003, \$HSU 3003, 5032; prereq sr, post baccalaureate adult special or graduate student) Kincannon
See description for PubH 3003.

5023. IMPLEMENTATION OF SEXUAL HEALTH PROGRAMS AND POLICIES. (3 cr, FSoS 5001 or FSoS 5240 or #) Maddock, Larson
Issues, controversies, alternative approaches to preventive programs, policies. Ethical/legal aspects, sexual normalcy, variants/deviance, and health care. Emphasizes sexual health education for adults, children.

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
A 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 & Safety Institute

5241. ENVIRONMENTAL HEALTH ASPECTS OF WATER SUPPLY. (3 cr) Straub
Role of water in human health; physical, chemical, and biological characteristics; evaluation of source, treatment, and distribution systems.

5244. ENVIRONMENTAL HEALTH ASPECTS OF WASTEWATER SYSTEMS. (3 cr) Straub
Role of liquid wastes in human health; physical, chemical, and biological characteristics; evaluation of source, treatment, and disposal facilities.

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) Stevens
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

5267. ENVIRONMENTAL AND OCCUPATIONAL TOXICOLOGY. (3 cr) Stevens
Basic principles of toxicology (absorption, distribution, metabolism, excretion, and site of action); tissue specificity of chemical injury; risk assessment. (This course cannot be used as a prerequisite for 8261, 8263 or 8269.)
Summer—Graduate Occupational Health & Safety Institute

5275. EPIDEMIOLOGY AND THE LAW. (1 cr) Mandel, Shindell
Selected basic principles and methods of epidemiology and the use of epidemiologic studies in legal proceedings. Mortality and morbidity rates, case-control and cohort studies, measurement of risk, confounding, bias, association and causation, confidentiality of epidemiologic data, medical vs. legal causation and specific legal case histories.
Summer—Graduate Occupational Health & Safety Institute

5331. FUNDAMENTALS OF BIostatISTICS. (3 cr) Visiting lecturers
Rates, probability methods, statistical inference, sampling distributions.

5332. FUNDAMENTALS OF EPIDEMIOLOGY. (3 cr) Visiting lecturers
Basic epidemiologic concepts and methods of investigation of diseases.

5336. INFECTIOUS DISEASE EPIDEMIOLOGY. (3 cr; prereq basic epidemiology and biostatistics) Visiting lecturers
Factors involved in epidemic occurrence, zoonotic response to infection, impact on humans of zoonoses, immunologic responses, vaccine evaluation.

5337. METHODS IN HOSPITAL INFECTION CONTROL. (2 cr; prereq basic epidemiology and biostatistics) Visiting lecturers
Current topics and methods in hospital infection control.

5339. EPIDEMIOLOGY OF ADVERSE DRUG REACTIONS. (2 cr; prereq basic epidemiology and biostatistics) Visiting lecturers
Methods of detection and surveillance of adverse drug effects using case control, cohort and hospital surveillance methods.

5341. EPIDEMIOLOGY OF AIDS. (2 cr; prereq basic epidemiology and biostatistics) Visiting lecturers
Discussion of the biologic, immunologic, epidemiologic, social and policy aspects of this unusual epidemic.

5343. SURVEILLANCE AND CONTROL OF COMMUNICABLE DISEASES. (2 cr; prereq basic epidemiology and biostatistics) Visiting lecturers
A review of current concepts and epidemiologic aspects of communicable diseases.

5344. CLINICAL TRIALS—DESIGN AND CONDUCT. (2 cr; prereq basic epidemiology and biostatistics) Visiting lecturers
The theoretical and practical challenges of conducting a clinical trial will be considered. Emphasis is on strategy and interpretation.

5345. EPIDEMIOLOGY OF CANCER. (3 cr; prereq basic epidemiology and biostatistics, 5357 or 5357) Visiting lecturers
Epidemiology of selected cancer sites. Emphasis on existing gaps in knowledge.

5346. EPIDEMIOLOGY OF CARDIOVASCULAR DISEASES. (3 cr; prereq basic epidemiology and biostatistics, 5357 or 5357) Visiting lecturers
Epidemiologic aspects of various types of cardiovascular disease with emphasis on multivariate setting of etiologies.

5350. EPIDEMIOLOGY AND HEALTH POLICY. (3 cr; prereq fundamentals of epidemiology and fundamentals of biostatistics or equiv) Visiting lecturers
Application of epidemiologic methods and principles to the workings of health services for the ultimate purpose of setting health policies.

5353. NUTRITIONAL FACTORS AND THE ETIOLOGY OF CHRONIC DISEASES. (3 cr; prereq fundamentals of epidemiology and biostatistics or their equiv) Visiting lecturers
Methods for estimating nutrient intake in individuals and groups. Role of nutritional factors in the etiology of selected chronic diseases such as arteriosclerosis, hypertension, cancer, and diabetes.

5354. ENVIRONMENTAL EPIDEMIOLOGY. (3 cr; prereq 5331, 5332) Visiting lecturers
Epidemiologic evaluation of potential health effects of non-occupational environmental exposures. Data from recent studies on chemical wastes, radiation exposure, and natural disasters. Practical field approaches to conducting epidemiologic investigations in settings of great community concern. Acute and chronic health effects, with emphasis on dose-response relationships, latency, and multiple causation of disease.

5356. EPIDEMIOLOGY OF AGING. (2 cr; prereq basic epidemiology and biostatistics) Visiting lecturers
An epidemiologic approach to the broad range of health problems of the free-living and institutionalized elderly.

5360. EPIDEMIOLOGY OF INJURIES. (3 cr; prereq basic epidemiology and biostatistics) Visiting lecturers
Characteristics of accidents, homicide, suicide, and disasters, and application of epidemiologic principles to their control.

5364. CLINICAL EPIDEMIOLOGY. (2 cr; prereq M.D. degree or strong working relationship with clinicians) Visiting lecturers
Traditional clinical questions discussed in light of how the scientific methods of epidemiology contribute to an understanding of clinical medicine.

5367. METHODS IN OCCUPATIONAL EPIDEMIOLOGY. (2 cr; prereq epidemiology and biostatistics) Visiting lecturers
Methods used in occupational epidemiology and evaluations of occupational epidemiology studies. Specific attention to the following items: cohort, proportional mortality, nested case-control studies, cross-sectional surveys, surveillance and historical exposure reconstruction.

5368. CLINICAL TRIALS: ANALYSIS AND INTERPRETATION. (2 cr; prereq basic epidemiology and biostatistics) Visiting lecturers
Major techniques for estimating, testing and modelling the measures most frequently used to analyze response and survival data generated in Phase II and Phase III clinical trials.

5372. EPIDEMIOLOGY FOR DEVELOPING COUNTRIES. (2 cr; prereq basic epidemiology and biostatistics) Visiting lecturers
General strategies for the application of epidemiologic principles to the prevention and control of disease prevalent in developing countries.

5376. ADVANCED STATISTICAL METHODS IN EPIDEMIOLOGY—CATEGORICAL ANALYSIS. (3 cr; prereq PubH 5331 and 5332 or equiv) Visiting lecturers
General overview of epidemiologic research and role of case-control studies; measurement of relative risk, confidence limits and tests of significance; concepts of attributable risk; selection of controls and matching in case-control studies; multiple logistic models; other miscellaneous topics involving bias, reliability, and errors of misclassification.

5377. ADVANCED STATISTICAL METHODS IN EPIDEMIOLOGY—STATISTICAL REGRESSION. (3 cr; prereq fundamentals of epidemiology and fundamentals of biostatistics) Visiting lecturers
Methods for analyzing the results of epidemiological studies when the response variable is quantitative. Multiple linear regression analysis presented as a general data analytic strategy with the analysis of variance and covariance as well as two group discriminate analyses as special cases. The strengths and weaknesses of such study designs as matching and stratification.

Course Descriptions

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

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.

5622. WOMEN'S HEALTH: ISSUES AND CONTROVERSIES. (4 cr; prereq #) 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 underserved women in the population.

5625. WORKING WITH ADOLESCENTS (WORKSHOP). (1 cr) Blum

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.

5631. HEALTH NEEDS AND PROBLEMS OF ADOLESCENT FEMALES. (4 cr) Weiner

Major health concerns, developmental risks, and health behavior socialization patterns among adolescent females analyzed from public health, youthwork, and ecological perspectives. Implementation of preventive approaches, effective models of care, youth advocacy services, and professional/parent education emphasized.

5638. SPECIAL TOPICS: SEMINAR ON ADOLESCENT CHILDBEARING-CHILDBEARING. (3 cr) Weiner

Overview of major research findings, outcome trends, and program models relevant to adolescent fertility, childbearing, and childrearing. Analysis of pregnancy prevention, risk reduction, perinatal health, psychosocial development, family support, and parent education.

5639. PREVENTION: THEORY, PRACTICE, AND APPLICATION IN PUBLIC HEALTH SERVICE. (4 cr; prereq #) Shanedling

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 Bense!

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 Bense!

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 Bense!

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) Shanedling, ten Bense!

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.

5647. HEALTHY ADOLESCENT DEVELOPMENT. (3 cr) Blum, Resnick

For interdisciplinary audience of health professionals. Physical, sexual, cognitive, moral, and identity development; discussions about the social contexts or adolescent including family, peer groups, school, workplace, and culture.

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

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 and #) Carpenter
A 12-month program of on-campus study. (2 weeks) and independent 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) Carpenter

A 12-month program of on-campus study. (2 weeks) and independent 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 (two weeks) and off-campus independent 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 (two weeks) and off-campus independent 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 (two weeks) and off-campus study that includes three seminars covering financing, human resources, organizing, social policy, and project planning and design. Requires a project that can be either a management study or a research thesis. Each student must present and defend the project at a week-long symposium at end of course.

5778. PATIENT CARE MANAGEMENT AND ORGANIZATION WITHIN THE HOSPITAL AND HEALTH CARE ORGANIZATION. (25 cr; prereq present employment as administrator of patient care [director of nursing or equiv] or #) Manthey

A 12-month program of on-campus residential sessions (three 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. (Cr ar; prereq present employment as administrator of patient care [director of nursing or equiv], 5778 or #) Manthey

A 12-month program of on-campus (three weeks) and independent study that begins with a one-week introductory residential session each August. 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) McInerney

A 12-week course combining five 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) Stryker-Gordon, staff

A 12-week course combining five days of on-campus seminars with independent study. Psychosocial gerontology as base for planning and identifying services and programs in longterm 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) 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. Four written assignments and a final exam are required.

5785. INTERNAL OPERATIONS OF A MENTAL HEALTH FACILITY. (15 cr; prereq one yr experience as mental health facility administrator or #) Weckwerth, staff

A 12-month program of on-campus residential (two weeks) and off-campus independent study that includes periodic seminars and monthly classes under program preceptors; principles of management, organizational behavior, personnel, problem solving and decision making, financial management, mental health professionals and paraprofessionals, and mental health programs and services.

5786. EXTERNAL RELATIONSHIPS AFFECTING THE ROLE AND FUNCTION OF THE MENTAL HEALTH FACILITY. (15 cr; prereq 5785) Weckwerth, staff

A 12-month program of on-campus residential (two weeks) and off-campus independent study that includes periodic seminars and monthly classes under program preceptors; governance, legal aspects, public education and information, evaluation of mental health programs, prevention and primary treatment in mental health, current trends and concepts, biostatistics and quantitative methods.

5787. ADMINISTRATION OF THE LONG-TERM CARE ORGANIZATION. (15 cr; prereq #) Gordon, Stryker-Gordon

A 10-month program of on-campus classes and independent study.

Course Descriptions

5788. PROGRAM MANAGEMENT FOR LONG-TERM CARE. (15 cr) Gordon, Stryker-Gordon, staff
A 10-month program of on-campus classes and independent study.

5789. WORK-STUDY SEMINAR FOR LONG-TERM CARE ADMINISTRATORS. (3 cr; prereq 5782 or licensed administrator or director of nursing) Gordon, staff

On-the-job training designed for the less experienced administrator that includes project assignments and six monthly seminars. Financial management, personnel management, relationships with the community, residents, families, board. Program evaluation.

5936. MANAGEMENT AND ORGANIZATION OF NUTRITION PROGRAMS. (15 cr; present employment in management of nutrition program or #) Splett

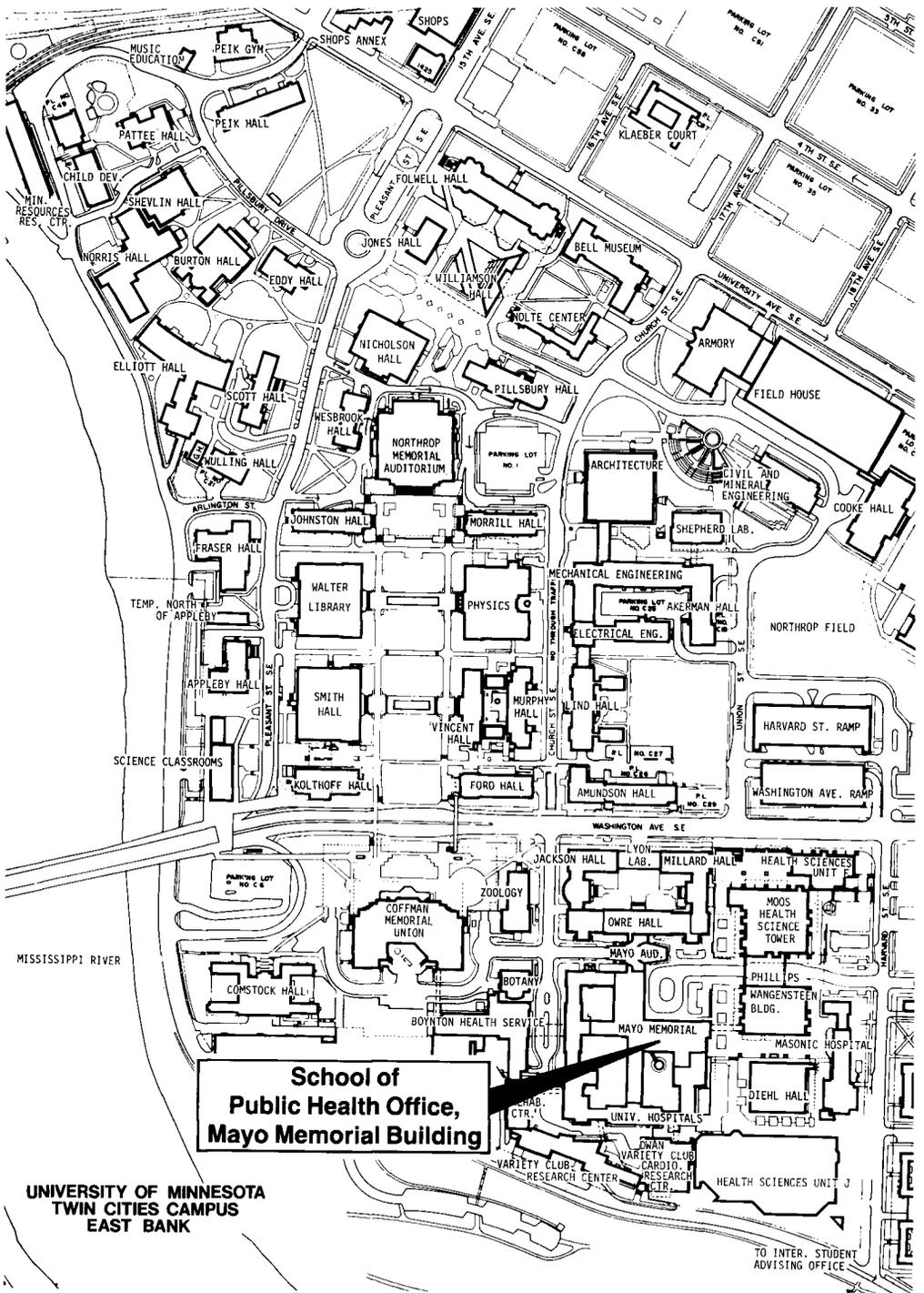
A 12-month program consisting of on-campus residential (two week) and off-campus independent study that includes a seminar and monthly classes under program preceptors. Theoretical and conceptual basis for management and its application to nutrition program delivery. Topics include management process, 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 PubH 5936) Splett

A 12-month program consisting of on-campus residential (two week) 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





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

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

TO INTER. STUDENT
ADVISING OFFICE

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University of Minnesota • Public Health

Dentistry

University of Minnesota Bulletin

1986-88



Dentistry

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Introduction

Location

The School of Dentistry is headquartered on the East Bank of the University of Minnesota's Twin Cities campus. Its main administrative office is in room 15-209 of the Malcolm Moos Health Sciences Tower, 515 Delaware Street S.E., Minneapolis, MN 55455.

Publications

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

Class Schedule—This quarterly publication lists University day school courses complete with hours, rooms, instructors, prerequisites, registration instructions, tuition and fees, maps, grading definitions, and other pertinent information.

Other Bulletins—The annual *General Information Bulletin* provides a brief overview of the Twin Cities campus and basic costs and regulations. Separate biennial bulletins are printed for the College of Biological Sciences, Medical School, and other University units. Most may be obtained by visiting the Information Booth on the upper concourse of Williamson Hall.

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, or veteran status. In adhering to this policy, the University abides 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 (612/373-7969); 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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The Campus and Community

On the Twin Cities campus, School of Dentistry students enjoy the vast academic and cultural opportunities of a major university as well as those of a major metropolitan area.

Two Campuses in One—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 a couple 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 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. Just a few minutes away, across the river, is the West Bank, home of the main University library and other sleek brick buildings. Maroon buses sporting a large gold "M" transport students between the West Bank, East Bank, and St. Paul campus, free of charge.

Urban Diversity—The nearby Stadium Village, Dinkytown, and Cedar-Riverside neighborhoods all feature stores and restaurants tailored to students' interests and budgets. Also close are newly renovated festival markets like St. Anthony Main, Riverplace, and Bandana Square. 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. Focal points of a unique, progressive metropolitan area of 2 million people, the two downtowns offer myriad opportunities for sightseeing, entertainment, research, volunteer or part-time work, internships, and eventual careers.

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, Garrison Keillor's Prairie Home Companion, and Dudley Riggs' Brave New Workshop. Northrop Auditorium, the campus centerpiece, hosts performances by the Metropolitan Opera, popular musical and dance artists, and outstanding University bands and ensembles. Students can see or star in plays at the Rarig Center, the summertime Showboat, and the Punchinello Players' North Hall Theatre. Or they can savor the University Art Museum or the Minneapolis Institute of Arts, the Apple Valley or Como Park zoo, the Renaissance Festival or Valleyfair, the Aquatennial or Winter Carnival.

Recreation—Students can balance their academic work with a wide variety of recreational endeavors. Besides the picturesque central Mall and the River Flats along the Mississippi, the campus features lots of open space for everything from frisbee tossing to just plain relaxing. Outdoor enthusiasts can also 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 staring. The gentle warmth of spring, sunny greenery of summer, and bright crisp colors of autumn do give way to at least three months of winter snow, but even then, daytime temperatures generally average a quite bearable and invigorating 10 to 30 degrees above.

Sports—The Rec Sports program, one of 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 view Golden Gopher or Viking football and Twins baseball at the Dome, North Stars hockey or Strikers soccer at the Met Sports Center, and professional horse racing at Canterbury Downs. Numerous 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 celebrates 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 numerous institutions throughout the nation and the world. Since the School of Dentistry is located in a large, highly populated metropolitan center, students are able to treat patients with a vast array of dental health problems.

Rich Curriculum—The professional D.D.S. program, with a very favorable student-teacher ratio, features diversified course offerings in the preclinical and clinical disciplines, basic medical sciences, ecological aspects of dental care, and practice management. Two one-year advanced programs in general dentistry are also offered. All eight dental specialties are available in accredited, high-quality programs at the master's degree level—seven through the Graduate School, one through the School of Public Health. In addition, students may pursue Ph.D. degrees in oral biology, basic medical sciences, and related fields through the Graduate School.

The dental hygiene program—started in 1919—has an illustrious record of accomplishment and innovation; today's graduate is much better educated than in years past, with more pre-hygiene college study, expanded clinical experience, and stronger background in dental health education and nutritional counseling for patients.

Important Research—Vital clinical and basic research, conducted by the faculty in superb research facilities, includes work in such areas as oral microbiology; fluoride chemistry; bone substitutes; genetic study of viruses; dental restorative materials in a simulated,

computerized artificial mouth; and microcirculation. Dental students benefit from this research through new information provided by the faculty as well as opportunities to conduct summer projects 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 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 of Dentistry as visiting or appointed professors and students.

Excellent 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 in the University. Outside financial support comes from the School of Dentistry's Century Club and Dean's Club and the University's President's Club for educational programs, and from government and private sources for research activities.

The Dental Profession

Respect and Satisfaction—Dentistry is a highly respected profession, as revealed in a Harris Poll that ranked it second in the public's confidence and in a Gallup Poll that ranked it third in standards of

honesty and ethics. A people-oriented profession, dentistry is a meaningful and gratifying career choice, with varied and unique opportunities in practice, education, and research. The principal mission of dentistry in the United States is to provide high-quality dental services for the public in a skilled and caring manner and to bring better oral health to the people of this nation and beyond.

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

Types of Practice—There are approximately 126,000 active dentists in the United States today. 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. Fewer dentists are now going into solo practice; more are forming partnerships and other group practices. Of practicing dentists, 87% are in general dentistry while 13% are in a dental specialty.

Income—A 1984 study in a national magazine, quoting government sources, lists dentistry 6th of the 87 highest paying careers in the 80s. The average net income of all practicing dentists in the United States in 1984 was over \$60,000; the average net income of dental specialists was about \$85,000. One report shows the average net income of practicing Minnesota dentists in 1983 was \$56,000.

Dental Students

Personal Traits—A career in dentistry is attractive to an individual who wants to help people and (1) has some interest and ability in science; (2) likes the idea of flexibility, hard work, and independence that can come from owning one's own business; (3) has good manual dexterity; (4) wants to be part of a profession that has prestige and respect; (5) has an interest in being part of a changing profession that is expanding its scope of services and developing new methods to care for a rapidly aging population; (6) wants security with a comfortable income; and (7) is willing to accept the responsibilities of providing health care.

Undergraduate Study—For the D.D.S. program at Minnesota, no specific undergraduate major is required, but about 80% of incoming students are science majors—the largest share in biology, followed by chemistry. Majors in business, psychology, art, and computer science are increasingly popular and valuable. In recent years, there has been an increase in the percentage of students applying and being accepted at Minnesota with three years of college instead of four or more.

Class Statistics—At Minnesota, the size of the entering dental class was 104 in 1984 and 1985.

The average grade point average of the entering class has ranged from 3.15 to 3.35 since 1975, with 3.27 the average over these years.

On the Dental Admission Test, the 1985 entering class averaged scores of 4.81 (academic) and 5.16 (perceptual ability)—above the national 1984 averages of 4.45 (academic) and 4.55 (perceptual ability).

The number of women dental students enrolled at Minnesota has increased from 8 in 1971, to 122 in 1985. Women comprised 25% of the dental student body in 1985.

Introduction

Minnesota welcomes applications from racial minority students. Despite a significant increase in the number of racial minority graduates from Minnesota in the last decade, racial minority dentists are still underrepresented both regionally and nationally compared to the general population.

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 objectives of the School of Dentistry include the following:

Teaching

To prepare undergraduates for high quality professional practice through the acquisition of skills, knowledge, and attitudes essential to the practice of dentistry.

To conduct educational programs based on a strong foundation of scientific and biological principles that gives students an understanding of the patient's total health and teaches them to plan, execute, and direct oral health treatment and preventive measures as part of general health care.

To inculcate in students a community-conscious attitude, an understanding of the sociological and psychological aspects of health and disease, and an appreciation for the obligations of a professional person in general and a member of a health profession in particular.

To provide students with experience in working with auxiliary personnel and practicing TEAM dentistry.

To prepare dental auxiliary personnel to assist the practicing dentist and to perform clinical duties consistent with their skills and training.

To provide graduate-level training for the preparation of individuals interested in careers in research, academic dentistry, and specialty practice.

To teach undergraduate and graduate students the essentials of practicing dentistry in hospitals and community health centers.

To stimulate students to conduct research, to think critically, and to understand public health needs and preventive dentistry.

To utilize the most advanced teaching methods in a curriculum subject to constant review.

To promote needed programs of continuing education for dental practitioners and related health professionals.

To integrate the teaching programs of the school with those of the other health sciences and the community.

To provide other health science workers and the University community with insight into the importance of oral health.

To inform and influence the community and society about the benefits of good oral health.

Research

To advance the knowledge of oral health with an active, expanding fundamental and applied research program.

To investigate various educational methods and to develop new techniques and measurements for evaluating educational programs to determine the need for change and improvement.

To investigate community oral health problems, causes of oral disease, and methods of preventive care.

To develop an environment conducive to full and open inquiry into all facets of health, disease, and education applicable to the role of dentistry in total health care.

Service

To provide exemplary care for patients treated in the clinics.

To provide prompt and efficient consultative services to dental practitioners, medical practitioners, and other health science professionals.

To promote and cooperate with communities on oral health service projects consistent with the mission of the dental school.

To demonstrate an attitude of social responsibility and sensitivity while undertaking and carrying out the school's service programs.

To share and disseminate oral health knowledge with dental practitioners, other health science workers, and the public.

Facilities

The School of Dentistry is based in the Malcom Moos Health Sciences Tower south of Washington Avenue, between Union and Harvard Streets, on the Twin Cities campus. The address is 515 Delaware Street S.E., Minneapolis, Minnesota 55455, with the main administrative office in room 15-209. Constructed with state and federal funds, the building provides a flexible, innovative environment for teaching and practicing dentistry 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 the use of dental 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 will be granted to School of Dentistry students who satisfy course requirements for three years of pre-dental liberal arts work and two years

of dental study. The B.S. is optional, but must be applied for before students complete the D.D.S. In accordance with all-University liberal education distribution requirements, students must fulfill the following (at least 48 credits):

Group A—Language, Logic, Mathematics, and the Study of Argument
8 to 10 credits (normally two courses)

Group B—The Physical and Biological Universe

12 to 15 credits (normally three courses; one to include a laboratory)

Group C—The Individual and Society
16 to 20 credits (normally four courses)

Group D—Literary and Artistic Expression
12 to 15 credits (normally three courses)

The B.S. degree may be awarded with the honors "with distinction" or "with high distinction."

Dental Hygiene—The degree of graduate dental hygienist (G.D.H.) in dental hygiene is offered through the Dental Auxiliaries Department. Consult the *Undergraduate Health Sciences Bulletin* or contact Kathleen Newell, acting chair, Dental Auxiliaries Department, 5-164 Malcolm Moos Health Sciences Tower.

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 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*.

General Information

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

Charles F. McGuiggan, Marshall, Chair
David M. Lebedoff, Minneapolis, Vice Chair
Wendell R. Anderson, Wayzata
Charles H. Casey, West Concord
Willis K. Drake, Edina
Erwin L. Goldfine, Duluth
Wally Hilke, St. Paul
Verne E. Long, Pipestone
Wenda W. Moore, Minneapolis
David K. Roe, Minneapolis
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David M. Lilly, Vice President for Finance and Operations
V. Rama Murthy, Acting Vice President for Academic Affairs and Provost of the Twin Cities Campus
Richard J. Sauer, Vice President for Agriculture, Forestry, and Home Economics
Neal A. Vanselow, Vice President for Health Sciences
Frank B. Wilderson, Vice President for Student Affairs

School of Dentistry Administrators

Richard C. Oliver, D.D.S., M.S., Dean
Harvey L. Colman, D.D.S., M.S.D., Associate Dean for Clinical Affairs
Mellor R. Holland, D.D.S., M.S.D., Associate Dean for Student Affairs

James R. Jensen, D.D.S., M.S.D., Associate Dean for Academic Affairs
Nicholas N. Molitor, M.B.A., M.P.A., Assistant Dean for Administration and Finance

Student Activities

Each year, undergraduates elect the School of Dentistry Council of Students, which discusses matters of mutual interest with faculty advisers and promotes numerous projects and activities. Undergraduates also have representatives with voting privileges on School of Dentistry committees pertaining to admission of students, educational policy, student affairs, and clinical affairs. The Student Affairs Committee, composed of both 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 on the House of Delegates of the Minnesota Dental Association.

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

Undergraduates 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. Some Minnesota students are active in the Council of Students of the AADS.

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 for 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, or handicap. It is committed to improving the educational and professional career opportunities in dentistry 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 prepare properly for the pre dental and dental programs. Course work 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 a regionally accredited college are required. A limit of 96 quarter credits from community or junior colleges will be applied to the 130 required quarter credits, or to the 180 quarter credits of a four-year college program. (One semester credit is equivalent to 1½ quarter credits.) While acceptance is based primarily

on quality of performance, applicants with a broad liberal education are looked upon with favor.

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 course work in areas of study other than those related to the biological and physical sciences. Pre dental students are urged to plan their course work 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 should 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 course work 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 prior to 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. It must also be emphasized that incomplete grades are looked upon with disfavor by the Admissions Committee. Any incomplete grades and any 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. The course content must include study of both the aliphatic and aromatic series. One-semester courses do not generally carry sufficient credits and are not of sufficient depth to be acceptable.
6. Applied Human Psychology—4½ quarter credits (3 semester credits). Fewer than 4½ quarter credits (3 semester credits) are not acceptable. Examples of appropriate courses are general human psychology, child and adolescent human psychology, and abnormal human psychology.
7. 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.

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, micro-

scopic 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 direct 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

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

Personal Interview—Candidates may be requested to appear for an interview at the discretion of the Admissions Committee. Prospective students may request an appointment if they wish to discuss matters relative to their application and their pre dental course of study. It is suggested that candidates write or call for an appointment to assure that a faculty member will be available. Contact the Office of Student Affairs, 15-106 Malcolm Moos Health Sciences Tower, University of Minnesota, 515 Delaware Street S.E., Minneapolis, MN 55455 (612/373-3454).

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. Application materials may be obtained from the 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. After the application materials are completed, they should be mailed to the 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 information:

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 course work.

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 could 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.

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

Tuition and Fees

The figures below were charged for the 1985-86 academic year. Increases are possible for 1986-87 and 1987-88.

Tuition

Full-time students (per quarter)	
Residents	\$1,538.00
Nonresidents	3,076.00

Students carrying fewer than 12 credits (per credit)	
Residents	128.16
Nonresidents	256.32

Record Service Fee

(applicable only to students new to the University of Minnesota) 6.00

Student Services Fee (per quarter) 91.00

Graduation Fee (Diploma) 16.00

Application Fee for 1986 entering class 20.00

Credit by Special Examination (only upon approval of appropriate committee) 30.00

Instrument Usage Fee (per quarter) 220.00

Precious Metals Second year—fall 700.00

Typodonts First year—three needed 240.00

Gowns Purchase in first year 34.00

Books

First year	587.00
Second year	469.00
Third year	355.00
Fourth year	30.00

Other Fees—See the current *Class Schedule* for information on late registration, late payment, and installment payment fees.

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 \$220 for the 1985-86 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 diversity 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 (373-3454) or the University's Office of Student Financial Aid, 210 Fraser Hall (376-8686).

The Student Employment Center, 120 Fraser Hall (373-3674), 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 few research assistantships are occasionally available in the School of Dentistry.

Counseling

The class committee chair serves as the major adviser for each class. Counseling is also available through the dean's office in the School of Dentistry, the Department of Health Ecology, University Counseling Services, and faculty members of the student's own choice.

A special counseling program assigns a full-time or part-time faculty member to advise each dental student during the entire year. This informal counseling system gives students a faculty member with whom they can discuss academic or personal matters on an unofficial basis.

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 grade point average 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

Students are evaluated by written tests, practical examinations, and observation of daily work and clinical performance. All prerequisite course work must be completed with a passing grade before students may begin clinical patient care. Students must attain passing grades in all required courses and clinical assignments and attain a minimum grade point aver-

age of 2.00 before graduation. The University's grading systems of A-B-C- D-N or S-N are used.

Class committees make quarterly evaluations of each student's academic achievement and personal conduct. Recommendations on a student's status and promotion are transmitted to the Council on Administration for action.

A 2.00 grade point average is generally required for promotion between academic years. Students with grade point deficiencies are considered for promotion, individually, by the committees and Council on Administration.

Students are expected to act as mature, professional individuals. A personal conduct code, written by a student-faculty committee, stipulates guidelines for student behavior. It prescribes respect for school property and certain other rules and regulations. 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 the individual patient.

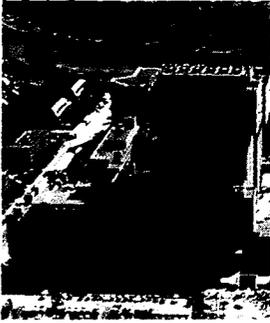


FOUNDED IN THE UNIVERSITY OF MINNESOTA
DEDICATED TO THE FAITH THAT MEN ARE ENLIGHTENED BY UNDERSTANDING
BLVD TO THE ADVANCEMENT OF LEARNING AND THE SEARCH FOR TRUTH
BLVD TO THE INSTRUCTION OF YOUTH AND THE WELFARE OF THE STATE









Health Sciences Center



Self-Learning



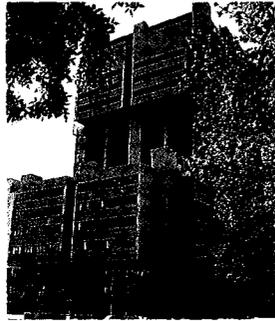
Team Dentistry



A Caring Profession



Biomaterials Research



Moos Tower

Program in Dentistry (D.D.S.)

First Year

<i>Fall Quarter</i>	Credits
Dent 5092—Professional Problem Solving	0
Dent 5649—Oral Anatomy	6
Dent 5670—Introduction to Oral Biology	1
Dent 5725—Oral Histology and Embryology	3
Anat 5105—Dental Microscopic Anatomy	8
MdBc 5202—Biochemistry for Dental Students	6
	24

Winter Quarter

Dent 5026—Introduction to Dental Care Delivery	2
Dent 5093—Professional Problem Solving	0
Dent 5600—Introduction to Biomaterials I	1
Dent 5750—Occlusion I	3
Anat 5108—Gross Human Anatomy for Dental Students	7
Phsl 5101—Human Physiology	5
	18

Spring Quarter

Dent 5094—Professional Problem Solving	1
Dent 5150—Operative Dentistry I	2
Dent 5153—Operative Dentistry Laboratory	2
Dent 5401—Pediatric Dentistry I	1
Dent 5601—Introduction to Biomaterials II	3
Dent 5775—Oral Radiology I	3
Anat 5109—Gross Human Anatomy for Dental Students	7
Anat 5110—Neuroscience for Dental Students	2
Phsl 5100—Neuroscience for Dental Students	2
	23

Second Year

Fall Quarter

Dent 5001—Fixed Prosthodontics Technique	4
Dent 5151—Operative Dentistry I	2
Dent 5154—Operative Dentistry Laboratory	3
Dent 5317—Anesthesia	2
Dent 5402—Pediatric Dentistry II	1
Dent 5463—Periodontology Technique	0
Dent 5623—Endodontic Technique	1
Dent 5776—Oral Radiology II	2
MdBc 5203—Topics: Dental Biochemistry	3
MicB 5201—Microbiology for Dental Students	7
	25

Winter Quarter

Dent 5002—Fixed Prosthodontics Technique	3
Dent 5027—Epidemiology, Prevention and Public Health	3
Dent 5100—Introduction to Genetics	1
Dent 5152—Operative Dentistry I	1
Dent 5155—Operative Dentistry Laboratory	2
Dent 5260—Introduction to Oral Pathology	2
Dent 5451—Periodontology I	3
Dent 5464—Periodontology Technique	1

Dent 5550—Removable Prosthodontics I	5
Dent 5624—Endodontic Technique	1
Dent 5808—Patient Management I	2
	24

Spring Quarter

Dent 5003—Fixed Prosthodontics Technique	3
Dent 5050—Dental Ergonomics and Auxiliary Utilization	1
Dent 5156—Introduction to Operative Dentistry Clinic	1
Dent 5452—Periodontology II	3
Dent 5465—Periodontology Clinic	1
Dent 5555—Removable Prosthodontics II and Laboratory	4
Dent 5751—Occlusion II	3
Dent 5809—Patient Management II	3
LaMP 5100—Pathology for Dental Students	4
	23

Third Year

Fall Quarter

Dent 5010—Fixed Prosthodontics Clinic	3
Dent 5036—Organization and Management of Dental Practice I	3
Dent 5052—Dental Auxiliary Utilization Clinic (DAU I, II)	0
Dent 5161—Operative Dentistry Clinic	3
Dent 5310—Oral Surgery	1
Dent 5371—Orthodontics I	3
Dent 5409—Pediatric Dentistry Clinic	0
Dent 5466—Periodontology Clinic	1
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
	25

Winter Quarter

Dent 5006—Fixed Prosthodontics I	1
Dent 5011—Fixed Prosthodontics Clinic	3
Dent 5043—Organization and Management of Dental Practice II	0
Dent 5053—Dental Auxiliary Utilization Clinic (DAU I, II)	0
Dent 5162—Operative Dentistry Clinic	3
Dent 5251—Oral Pathology	3
Dent 5311—Oral Surgery II	1
Dent 5410—Pediatric Dentistry Clinic	1
Dent 5467—Periodontology Clinic	1
Dent 5563—Removable Prosthodontics Clinic	3
Dent 5777—Oral Radiology II	1
Dent 5779—Oral Radiology Clinic	1
Dent 5801—Initial Examination Clinic II	1
Phcl 5104—Pharmacology for Dental Students	4
	23

Spring Quarter

Dent 5007—Fixed Prosthodontics II	1
Dent 5012—Fixed Prosthodontics Clinic	3
Dent 5044—Organization and Management of Dental Practice II	1

Doctor of Dental Surgery Program

Dent 5054—Dental Auxiliary Utilization Clinic (DAU I, II)	2
Dent 5090—The Business and Legal Aspects of Dental Practice	2
Dent 5160—Operative Dentistry II	2
Dent 5163—Operative Dentistry Clinic	3
Dent 5252—Oral Pathology	3
Dent 5315—Oral Surgery III	1
Dent 5372—Orthodontics II	2
Dent 5411—Pediatric Dentistry Clinic	1
Dent 5468—Periodontology Clinic	2
Dent 5564—Removable Prosthodontics Clinic	2
Dent 5780—Oral Radiology Clinic	2
Dent 5802—Initial Examination Clinic II	1
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	28

Fourth Year

Fall Quarter

Dent 5015—Fixed Prosthodontics Clinic	3
Dent 5030—Health Ecology: Update	2
Dent 5091—The Business and Legal Aspects of Dental Practice	3
Dent 5095—Professional Problem Solving	0
Dent 5165—Operative Dentistry Clinic	3
Dent 5316—Oral Surgery Clinic	1
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
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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 5326—Medical and Dental Office Emergencies	2
Dent 5404—Pediatric Dentistry III	1
Dent 5414—Pediatric Dentistry Clinic	1
Dent 5470—Periodontology Clinic	1
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
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	18

Spring Quarter

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
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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 Coordinator of Student Support Services, 260e Williamson Hall (612/373-2106).

Course Descriptions



Course Descriptions

Dentistry (Dent)

Department of Endodontics

Professor

James R. Jensen, D.D.S., M.S.D.

Harold H. Messer, B.D.Sc., M.D.Sc., Ph.D., *acting chair*

Associate Professor

Mahmoud ElDeeb, B.D.S., M.S.

Associate Clinical Specialist

Dinh Quan, M.S.D., Ch.D.

5623. ENDODONTIC TECHNIQUE. (Cr ar) Quan
Seminars and laboratory exercises.

5624. ENDODONTIC TECHNIQUE. (Cr ar) Quan
Seminars and laboratory exercises.

5625. ENDODONTICS. (2 cr; 20 lect hrs) Messer
Pulp biology, diagnosis and treatment of pulp and periapically involved teeth.

5626-5627-5628. ENDODONTICS CLINIC. (1 cr per qtr) Quan
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.

Department of Fixed Prosthodontics

Professor

Harvey L. Colman, D.D.S., M.S.D., *acting chair*

Frederick W. Noble, D.D.S., *director, Oral Anatomy Program*

Associate Professor

James L. Donahue, D.D.S.

James R. Holtan, D.D.S.

Assistant Professor

Paul S. Olin, D.D.S.

5001-5002-5003. FIXED PROSTHODONTICS TECHNIQUE. (Cr ar) Holtan, Olin
Lectures, seminars, and demonstrations on clinical and laboratory procedures. Exercises in casting, soldering, and the construction of a mandibular hygienic bridge, maxillary posterior bridge, maxillary and mandibular anterior bridges, and porcelain crowns. An illustrated syllabus aids students in carrying out each project. Weekly lectures on laboratory techniques and fundamental principles.

5005. FIXED PROSTHODONTICS: INDEPENDENT STUDY. (Cr and hrs ar)

5006. FIXED PROSTHODONTICS I. (1 cr; 10 lect hrs) Donahue, Colman

Nomenclature and definitions, and diagnosis and treatment planning as they relate to types of abutments, retainers, and pontics used in Fixed Prosthodontics.

5007. FIXED PROSTHODONTICS II. (1 cr; 10 lect hrs) Donahue, Colman

Design principles for porcelain fused to metal, restorations, pontic designs, occlusion in fixed prosthodontics. Review of the literature in fixed prosthodontics. Lectures, slides, movies, and seminar discussions.

5010-5011-5012. FIXED PROSTHODONTICS CLINIC. (3 cr per qtr) Colman

Instruction in the diagnosis, design, and construction of fixed prosthodontic cases.

5015-5016-5017. FIXED PROSTHODONTICS CLINIC. (Cr ar) Colman

5649. ORAL ANATOMY. (6 cr) Noble
Nomenclature; classification, identification, and methods of charting the human dentition, primary and permanent; detailed study of tooth morphology and arrangement; and calcification and eruption sequences as they pertain to the growth and development of the oral cavity. Laboratory exercises designed to reinforce lecture material as well as develop the knowledge and manual skills necessary to reproduce fine tooth detail.

5654. ORAL ANATOMY: INDEPENDENT STUDY. (Cr and hrs ar)

Department of Health Ecology

Professor

Leslie V. Martens, D.D.S., M.P.H., *chair*

David O. Born, Ph.D., *associate chair*

Michael J. Loupe, Ph.D.

Associate Professor

Muriel J. Bebeau, Ph.D.

Lester E. Block, D.D.S., M.P.H.

P. Jean Frazier, M.P.H.

Assistant Professor

James R. Gambucci, D.D.S., M.P.H.

Mark S. Simmons, D.D.S., M.A.

Barbara J. Smith, M.P.H.

Health ecology is a multidisciplinary unit whose broad purpose is to enable dental professionals to relate effectively to their social and economic environment. 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 that influence the availability and utilization of health services and preventive oral health proce-

dures and methods. An elective option offers extended study in a variety of individualized areas.

5026. INTRODUCTION TO DENTAL CARE DELIVERY. (2 cr)

History of dentistry as a profession, in context of health professions. Public need and demand for dental services, variety of forms of practice and personnel in U.S. and internationally. Concepts related to oral disease prevention and control.

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

Introduction to scientific method in dentistry, oral disease assessment, testing of effectiveness of preventive methods, treatment planning and public policy, social factors and evaluation of information, and current methods of oral disease prevention and control by individuals, dental practitioners, and the community.

5030. HEALTH ECOLOGY: UPDATE. (2 cr)

Recent developments in various special patient care and practitioner concerns. Current topics include 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)

Designed to help students develop skills in planning, organizing, leading, and controlling the human environment of the dental practice. Emphasis on the effective use of available human resources in dental care delivery. The theory and application of an accountability management planning system (AMPS). Concepts of TEAM building, setting goals and objectives, accountability techniques, performance appraisal, identification and management of stress and related problems.

5042-5043-5044. ORGANIZATION AND MANAGEMENT OF DENTAL PRACTICE II. (1 cr total)

A three-day training seminar in management for third-year students. Through small group interaction, individual work, discussions, and simulations, students gain proficiency in a variety of management skills that involve interpersonal or professional management problems.

5050. DENTAL ERGONOMICS AND AUXILIARY UTILIZATION. (1 cr)

Lectures and clinical seminars on the principles of ergonomics. Emphasis on how recognition of these principles in dentistry increases productivity and quality, and enhances human values such as health, safety, and comfort for the dental operating team and patient. Course serves as a preparation for participation in the Dental Auxiliary Utilization Clinic.

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 utilization of chairside dental assistants. Through seminars, demonstrations, and clinical practice, students work daily with trained dental assisting teaching specialists in providing restorative dental services.

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. Under the guidance of experienced dental practitioners, students acquire skills in performing initial exams, developing treatment plans, completing treatment, working and communicating with dental laboratories, and determining appropriate recall intervals for patients. Students provide routine restorative, endodontic, and periodontic care.

5070. HEALTH ECOLOGY ELECTIVE. (Cr ar)

Allows highly motivated students to undertake study and receive academic credit for activities in special-interest areas. Individual offerings depend on student needs and staff specialization. Areas in which student work has been done include advanced preventive dentistry, patient management, biostatistics, community health problems, American Sign Language, and the rural preceptorship program. Considerable flexibility exists in structuring this course.

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. Extension of previous practice management studies.

5080. DENTAL AUXILIARY UTILIZATION CLINIC (DAU III). (1 cr; prereq 5054; 35 clinic hrs; elective)

Students train a dental auxiliary student in effective chairside assisting with emphasis on four-handed dentistry techniques. Through clinic and evaluation sessions supervised by experienced DAU personnel, students develop a structured method to efficiently train auxiliaries.

5090-5091. THE BUSINESS AND LEGAL ASPECTS OF DENTAL PRACTICE. (5 cr)

Lectures, discussions. 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. Small group seminars.

Course Descriptions

5095-5096-5097. PROFESSIONAL PROBLEM SOLVING. (1 cr)

Issues, rights, responsibilities, codes, and consequences in resolving recurrent ethical dilemmas of the profession. Small group seminars.

5760. PUBLIC COMMUNICATION. (1 cr; elective) Smith

Designed to increase the dental student's knowledge and understanding of people and communication (verbal and nonverbal) and to help the student become a better speaker and listener.

Department of Operative Dentistry

Professor

William H. Douglas, B.D.S., M.S., Ph.D., *director, Biomaterials Program*

Ronald E. Geistfeld, D.D.S., *chair*
Anna T. Hampel, D.D.S., M.S.D.

Associate Professor

Gary L. Hill, D.D.S., M.S.

Thomas D. Larson, D.D.S., M.S.D.

Assistant Professor

Richard T. Ford, D.D.S., M.A.

Franklin A. Messinger, D.D.S.

Craig B. Phair, D.D.S., M.S.

Chester J. Schultz, D.D.S., M.S.

5150-5151-5152. OPERATIVE DENTISTRY I. (2/2/1 cr) Hill and faculty

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) Hill and faculty

The techniques and principles of cavity preparation, manipulation of restorative materials, and instrumentation.

5156. INTRODUCTION TO OPERATIVE DENTISTRY CLINIC. (1 cr) Geistfeld and faculty

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; 20 lect hrs) Larson and faculty

Advanced clinical techniques with emphasis on the concepts and modifications of cavity design as well as the biological and technical considerations in the application of new materials in operative dentistry.

5161-5162-5163. OPERATIVE DENTISTRY CLINIC. (3 cr per qtr; 270 clin hrs) Geistfeld, Larson, and faculty

Students gain experience and acquire efficiency in the practice of operative dentistry on assigned patients under close supervision.

5165-5166-5167. OPERATIVE DENTISTRY CLINIC. (Cr ar) Geistfeld, Larson, and faculty

5170. SEMINAR: OPERATIVE DENTISTRY. (1 cr) Geistfeld

A series of seminar topics (to be selected by students) on clinical aspects of various types of restorative materials and procedures.

5173. CLERKSHIP IN OPERATIVE DENTISTRY. (2 cr)

Assist preclinical faculty in teaching techniques and procedures utilized in operative dentistry.

5600. INTRODUCTION TO BIOMATERIALS I. (1 cr) Douglas and faculty

Introduction to physical, chemical, and mechanical properties of materials used in dentistry.

5601. INTRODUCTION TO BIOMATERIALS II. (3 cr) Hampel and faculty

Continuation of Introduction to Biomaterials I with accompanying laboratory exercise.

5602. BIOMATERIALS: INDEPENDENT STUDY. (Cr and hrs ar)

Department of Oral Biology

Professor

Burton L. Shapiro, D.D.S., M.S., Ph.D., *chair*

Greg R. Germaine, Ph.D.

Harold H. Messer, M.D.Sc., Ph.D.

Quenton T. Smith, Ph.D.

Associate Professor

Robert J. Feigal, D.D.S., Ph.D.

Mark C. Herzberg, D.D.S., Ph.D.

Assistant Professor

Joel D. Rudney, Ph.D., M.S.

5670. INTRODUCTION TO ORAL BIOLOGY. (1 cr)

Major biological and pathological issues relevant to dentistry. Biological principles fundamental to dental practice.

5675. ORAL BIOLOGY: FUNDAMENTAL AND APPLIED. (2 cr; 20 lect hrs)

Discussions of major and current problems of dentistry and oral biology conducted by specialists.

5677. DENTAL RESEARCH TRAINING. (3 cr; hrs ar; elective) Basic science and clinical faculty

Undergraduate dental students are given an opportunity to work on a research project in the laboratory or clinic with a faculty member. 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)

Department of Oral Diagnosis and Radiology

Professor

James W. Little, D.M.D., M.S., *chair*
Frederick W. Noble, D.D.S.

Associate Professor

Ramesh K. Kuba, D.D.S., M.S.D., *director, Oral Radiology Program*
John K. Schulte, D.D.S., M.S.D., *director, Occlusion Program*

Thomas J. Smith, D.D.S., M.S.

Assistant Professor

Gary C. Anderson, D.D.S., M.S.
John W. Brand, D.D.S.
Valerie A. Murrah, D.M.D., M.S.
Nelson L. Rhodus, B.S., D.M.D.

5750. OCCLUSION I. (3 cr; 10 lect, 30 lab, 30 clin hrs) Noble and interdisciplinary faculty
Principles of occlusion including articulators and articulation of casts, face bow transfer, occlusal analysis, mandibular movements, and effects of mandibular movement on occlusal morphology. Laboratory exercise in the wax-added technique of developing occlusal morphology.

5751. OCCLUSION II. (3 cr; 10 lect, 20 lab, 20 clin hrs) Anderson
Examination, diagnosis, and treatment of patients with occlusal problems. Lectures and clinic demonstrations. Introduction to occlusal modulates of selective grinding and occlusal splints. Experience in the use of a semiaadjustable articulator.

5755. OCCLUSION: INDEPENDENT STUDY. (Cr and hrs ar)

5775. ORAL RADIOLOGY I. (3 cr) Kuba
Films, roentgenograms, cassettes, and grids used in dentistry; intraoral roentgenographic surveys; roentgenographic density and contrast; geometry of image formation and application to intraoral techniques; roentgenographic quality analysis; film processing; and theory of atomic structure.

5776. ORAL RADIOLOGY II. (2 cr; 20 lect hrs) Kuba
Roentgenographic anatomy, applications 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; 10 lect hrs) Kuba
In-depth study of interpretation of intraoral and extraoral roentgenograms emphasizing the establishment of differential and definitive diagnosis. Roentgenograms of a broad spectrum of developmental and acquired diseases examined.

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

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

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

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

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

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

5804-5805-5806. EMERGENCY CLINIC II. (4 cr total) Little
Planning treatment and providing emergency dental care.

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

5808. PATIENT MANAGEMENT I. (3 cr; prereq concurrent regis in 5260) Rhodus
A systematic approach to the evaluation of the dental patient, including techniques of interviewing, examination, and diagnosis. Lectures and clinical seminars.

5809. PATIENT MANAGEMENT II. (3 cr) Smith
Patient admission, use of dental record, phase I treatment planning, billing and accounting, and patient assignment. Lectures and seminars.

Department 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.
Mark T. Jaspers, D.D.S., M.S., *acting chair*

Assistant Professor

James R. Friction, D.D.S., M.S.
Daniel J. Gatto, D.D.S.
Hak Joo Kwon, D.D.S.

HOSPITAL DENTISTRY PROGRAM

Regents' Professor

Robert J. Gorlin, D.D.S., M.S.

Professor

Carl L. Bandt, D.D.S., M.S.D., M.S.
Ronald E. Geistfeld, D.D.S.
James R. Jensen, D.D.S., M.S.D.
Andrew T. Morstad, D.D.S., M.S.

Course Descriptions

Richard C. Oliver, D.D.S., M.S.D.
Michael J. Till, D.D.S., Ph.D.
Robert A. Vickers, D.D.S., M.S.D.
Carl J. Witkop, D.D.S., M.S.

Associate Professor

Mohamed ElDeeb, B.D.S., D.O.S., M.S.
James E. Hinrichs, D.D.S., M.S.
Mark T. Jaspers, D.D.S., M.S., *acting chief*
Thomas D. Larson, D.D.S., M.S.D.
Bruce L. Pihlstrom, D.D.S., M.S.
Paul O. Walker, D.D.S., M.S.D.

Assistant Professor

David J. Clay, D.D.S., M.S.D.
Sandra Cole, D.D.S.
Richard T. Ford, D.D.S., M.A.
Daniel J. Gatto, D.D.S.
Hak Joo Kwon, D.D.S.
Herbert W. Schulte, D.D.S.

5310. ORAL SURGERY I. (1 cr; 10 lect hrs) Kwon and faculty

Principles of surgery; armamentarium; asepsis; fundamentals of exodontia; mucoperiosteal flap design; biopsy technique; multiple extraction; alveoloplasty; and complicated exodontia.

5311. ORAL SURGERY II. (1 cr; prereq 5310; 10 lect hrs) Jaspers and faculty

Complications in oral surgery; minor preprosthetic surgery; immediate dentures; cysts; and postoperative sequella.

5315. ORAL SURGERY III. (1 cr; prereq 5311; 10 lect hrs) ElDeeb and faculty

TMJ; salivary glands; trauma; developmental deformities; oral malignancies; and facial space infections.

5316-5318-5319. ORAL SURGERY CLINIC ROTATION. (1 cr per qtr; prereq 5311) Jaspers and faculty

Clinical experience in the Oral Surgery Clinic of the School of Dentistry. Two sessions: 1) clinical assistant—exposure to clinic procedures, aseptic technique, and chairside oral surgical assisting; and 2) student operator—experience in performing exodontia, alveoloplasty, minor preprosthetic surgery, soft tissue correction, and biopsy techniques. Postoperative treatment of surgical complications. Application of related basic science principles of anatomy, pharmacology, physiology, local anesthesia, and oral surgery.

5317. ANESTHESIA. (2 cr; 20 lect hrs) Gatto and faculty

Lectures and demonstrations on the use of local and general anesthetic agents in the practice of dentistry. Theory and administration of local anesthetics as well as the principles of sedation and analgesia with inhalation, intramuscular, and intravenous drugs.

5320. ORAL SURGERY: INDEPENDENT STUDY. (Cr and hr ar)

5326. MEDICAL AND DENTAL OFFICE EMERGENCIES. (Cr ar) Gatto

Current concepts in medicine dealing with subjects ranging from medical history and examination to specific organ systems and related diseases. Dental office emergencies related to specific medical problems, patient evaluation, monitoring systems, and therapeutic measures.

5330. NITROUS OXIDE INHALATION ANALGESIA/EMERGENCY DRUG UTILIZATION. (1 cr) Schulte, Jaspers

Designed to provide instruction and demonstration in the use of nitrous oxide and emergency drugs.

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

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

Department of Oral Pathology and Genetics

Regents' Professor

Robert J. Gorlin, D.D.S., M.S., *chair*

Professor

Jaroslav Cervenka, M.D., C.Sc., *director, Cytogenetics and Cell Genetics Division*

Heddie O. Sedano, D.D.S., Dr.O.

Burton L. Shapiro, 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., *director, Human Genetics Division*

Associate Professor

Kathleen M. Keenan, Ph.D.

Assistant Professor

DeWayne Townsend, M.S., Ph.D.

5100. GENETICS: AN INTRODUCTION FOR DENTAL STUDENTS. (1 cr; 10 hrs) Shapiro

Lectures on the chemical basis of heredity; cytogenetics, genetic ratios, methodology of human genetics, heredity and environment, and mutation and radiation. Genetic principles related to specific problems in dentistry.

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)

Sedano

Diseases of oral and paraoral tissues and teeth including embryologic considerations. Special pathology of the oral region as well as the relation of local pathologic findings to systemic conditions and to general pathology. Lectures, laboratory assignments, and autotutorial clinical laboratory sessions.

Department of Pediatric Dentistry

Professor

Michael J. Till, D.D.S., Ph.D., *chair*
Louise B. Messer, B.D.Sc., M.D.Sc.
Karlind T. Moller, Ph.D., *director, Cleft Palate Program*

Associate Professor

Robert J. Feigal, D.D.S., Ph.D.
Paul O. Walker, D.D.S., M.S.D.

Assistant Professor

Monica A. Jungbluth, D.D.S.
Patricia C. Kubes, B.D.S.

5401. PEDIATRIC DENTISTRY I. (1 cr; 10 lect hrs) Till and faculty

Development of the dentition; restorative dentistry and pulpal therapy in the primary dentition; and principles of preventive dentistry.

5402. PEDIATRIC DENTISTRY II. (1 cr; 10 lect hrs) Till and faculty

Physical and emotional development of the child; patient management; treatment of congenital disorders and traumatic dental injuries; and clinical aspects of preventive, interceptive, and corrective orthodontics in the primary and mixed dentitions.

5404. PEDIATRIC DENTISTRY III. (1 cr; 10 lect hrs) Till and faculty

Handicapping conditions frequently encountered by the general practitioner, including significant dental aspects, and medical management during dental treatment.

5405. PEDIATRIC HOSPITAL DENTISTRY. (1 cr; elective) Walker

Clinical dental treatment of special children in the outpatient clinics and operating rooms of University and community hospitals. Seminars and directed experiences related to the care of the special child.

5407. MINOR TOOTH MOVEMENT. (1 cr; hrs ar; elective) Walker

Discussions of 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. (2 cr total) Till and faculty

A clinic-seminar program reviewing clinical topics and techniques and treating selected patients under supervision.

5413-5414-5415. PEDIATRIC DENTISTRY CLINIC. (2 cr total) Till and faculty

Students perform diagnostic, treatment planning, and restorative procedures on children aged 2 to 12 years. Careful patient selection and allocation to ensure that each student acquires a broad experience in all phases of pediatric dentistry.

5420. PEDIATRIC DENTISTRY: INDEPENDENT STUDY. (Cr and hrs ar) Till and faculty

5260. ORAL PATHOLOGY INTRODUCTION. (2

cr; prereq concurrent regis in 5808) Gorlin
Introduction to oral diagnosis. Basic methods of oral and facial examination and diagnosis. Review of normal anatomy and details of normal variations. Clinical aspects of common pathological conditions and medical terminology used to describe oral lesions. Demonstrations and practical sessions.

5725. ORAL HISTOLOGY AND EMBRYOLOGY.

(3 cr) Sedano
Lectures and self-taught laboratory sessions in the embryology and histology of human oral structures and other parts of the head and neck region. Histology and embryology of teeth, mandible, maxilla, palate, tongue, and salivary glands correlated with abnormalities of development. Basic electron microscopy of hard dental tissues.

Department of Orthodontics

Professor

T. Michael Speidel, D.D.S., M.S.D., *chair*

Assistant Professor

Kevin L. Denis, D.D.S., M.S.D.
Mark F. Holmberg, B.D.S., M.S.
E. Diane Rekow, B.S., B.M.E., M.B.A., M.S., M.E., D.D.S.

5371. ORTHODONTICS I. (3 cr; 30 lect hrs) Speidel

Lectures on 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; 20 lect hrs)

Speidel
Lectures on clinical management of specific orthodontic problems.

5376. ORTHODONTIC LABORATORY. (1 cr; 20 lab hrs; elective) Speidel

Practical applications of analysis of developing occlusions. Fundamentals of orthodontic appliances.

5380. ORTHODONTICS. (Cr and hrs ar; elective) Bevis

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) Cavanaugh
Vascular supply and innervation, facial planes and their relationship to the spread of infection, and radiographic anomalies.

5385. ORTHODONTICS: INDEPENDENT STUDY. (Cr and hrs ar)

Course Descriptions

Department of Periodontics

Professor

M. Bashar Bakdash, D.D.S., M.P.H., M.S.D.

Carl L. Bandt, D.D.S., M.S.D., M.S., *chair*

Richard C. Oliver, D.D.S., M.S., *dean*,

School of Dentistry

Erwin M. Schaffer, D.D.S., M.S.D.

Associate Professor

Mark C. Herzberg, D.D.S., Ph.D.

James E. Hinrichs, D.D.S., M.S.

Bruce L. Pihlstrom, D.D.S., M.S.

Larry F. Wolff, Ph.D., D.D.S.

Assistant Professor

George C. Lawther, D.D.S., M.S.D.

5451. PERIODONTOLOGY I. (3 cr; 30 lectures)

Bakdash and faculty

Ecological impact of periodontal disease on oral health. Anatomy, physiology, and etiology of periodontal diseases. Clinical, histopathological, and pathogenic aspects of gingivitis and periodontitis, as well as the role of occlusion and systemic disorders. Clinical procedures associated with diagnosis, prognosis, treatment planning, and initial phase of periodontal therapy.

5452. PERIODONTOLOGY II. (3 cr; 30 lectures)

Bakdash and faculty

Clinical procedures associated with surgical phase of periodontal therapy. Evaluation of periodontal treatment, maintenance phase, and relationship between periodontics and other disciplines in dentistry. Auxiliary utilization, dental insurance reporting, clinical research, and interrelations between the generalist and the periodontist.

5460. PERIODONTICS: INDEPENDENT STUDY. (Cr and hrs ar)

Pihlstrom and faculty

5463-5464. PERIODONTOLOGY TECHNIQUE (LAB). (1 cr total)

Carlson and faculty

Designed to familiarize the student with presurgical procedures in periodontics.

5465. PERIODONTOLOGY CLINIC. (1 cr)

Bakdash and faculty

Small group clinical seminars designed to simulate various aspects of periodontal clinical examination, diagnosis, prognosis, treatment planning, and instrumentation related to patient's total care.

5466-5467-5468. PERIODONTOLOGY CLINIC. (1 cr per qtr)

Bakdash and faculty

Experience in diagnosis and treatment of diseases affecting the investing tissues of the teeth.

5469-5470-5471. PERIODONTOLOGY CLINIC. (3 cr total)

Bakdash and faculty

Opportunity to gain further experience in surgical treatment of periodontal disease, evaluation of periodontal therapy, and implementation of maintenance programs.

Department of Removable Prosthodontics

Professor

Andrew T. Morstad, D.D.S., M.S., *chair*

Richard J. Goodkind, D.M.D., M.S.

Associate Professor

James L. Baker, D.D.S., M.S.D.

Assistant Professor

David J. Clay, D.D.S., M.S.D.

Todd Lund, D.D.S.

Instructor

John Look, D.D.S.

5550. REMOVABLE PROSTHODONTICS I. (5 cr)

Clay

Lectures, demonstrations, and laboratory instruction on various phases of complete denture prosthetics; manipulation and use of prosthetic dental materials, fundamental principles of complete denture construction including primary and final impressions, pouring casts, establishing jaw relationships, arrangement of denture teeth, and principles of occlusion; prescription writing and the student relationship with dental laboratories.

5553. REMOVABLE PROSTHODONTICS: INDEPENDENT STUDY. (Cr and hrs ar)

5555. REMOVABLE PROSTHODONTICS II AND LABORATORY. (4 cr)

Baker, Anderson

A series of lectures introducing the design of partial dentures laboratory instruction, coordinated with knowledge acquired from basic science courses. Laboratory includes construction of cast removable partial dentures on models.

5560. REMOVABLE PROSTHODONTICS III. (1 cr)

Clay

Lectures on complete denture prosthesis correlated to students' accumulated knowledge from basic and clinical sciences. Designed to enable students to carry out procedures and solve problems associated with removable denture prosthesis.

5562-5563-5564. REMOVABLE PROSTHODONTICS CLINIC. (3 cr per qtr; 180 clin hrs)

Baker, Morstad, Clay

Clinical practice in complete and partial removable denture prosthodontics. Biomechanical aspects of dental prosthesis. Proper and efficient use of auxiliary dental personnel such as the laboratory technician.

5565-5566-5567. REMOVABLE PROSTHODONTICS CLINIC. (Cr ar)

Morstad, Baker, Clay

5568. REVIEW OF PARTIAL REMOVABLE PROSTHETICS. (1 cr; hrs ar; elective)

Baker

Treatment planning, case analysis, use of precision attachments, and overlay dentures.

5569. REMOVABLE PROSTHETICS. (Cr ar)

Baker, Clay

Recent advances in removable prosthetic dentistry.

5570. SEMINAR: RESTORATIVE DENTISTRY.

(Cr ar) Baker, Clay, Morstad

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) Morstad

Endosseous and subperiosteal implants used today. Indications for their use, surgical procedures, and prosthodontic restorations. Slides showing actual clinical cases.

5577. REVIEW OF COMPLETE DENTURE PROSTHETICS. (1 cr; elective) Clay

Various phases of complete denture prosthetics.

Course Descriptions

Contributing Departments

Anatomy (Anat)

5105. DENTAL MICROSCOPIC ANATOMY. (8 cr; 100 hrs; prereq regis in School of Dentistry) Bauer
Minute structure of cells, tissues, and organs of the human body.

5108. GROSS HUMAN ANATOMY FOR DENTAL STUDENTS. (7 cr; 120 hrs; prereq #) Bauer
Lectures on and dissection of thorax, extremities, abdomen, and pelvis.

5109. GROSS HUMAN ANATOMY FOR DENTAL STUDENTS. (7 cr; 120 hrs; prereq #) Sorenson
Lectures on and dissection of head and neck.

5110. NEUROSCIENCE FOR DENTAL STUDENTS. (2 cr; prereq regis dent fr or #, concurrent regis in Phsl 5100) Elde
Introduction to structure and function of central nervous system. Correlation between morphology and physiology.

Biochemistry (MdBc)

5202. BIOCHEMISTRY FOR DENTAL STUDENTS. (6 cr; 59 lect hrs) Singer and faculty

5203. TOPICS IN DENTAL BIOCHEMISTRY. (3 cr; 30 lect hrs) Singer and faculty

Microbiology (MicB)

5201. MICROBIOLOGY FOR DENTAL STUDENTS. (7 cr) Anderson, Liljemark, Reilly
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)

5100. PATHOLOGY FOR DENTAL STUDENTS (4 cr; 36 lect hrs and self-study of microfiches; prereq courses in human anatomy, microscopic anatomy, biochemistry, human physiology, genetics, and microbiology) Runge and faculty
Basic pathologic processes and disorders. Specific diseases of various organ systems. Histopathology with reference to gross changes.

Pharmacology (Phcl)

5103-5104. PHARMACOLOGY FOR DENTAL STUDENTS. (5/4 cr) Wilcox
Lectures and laboratory exercises on the action and fate of drugs.

Physiology (Phsl)

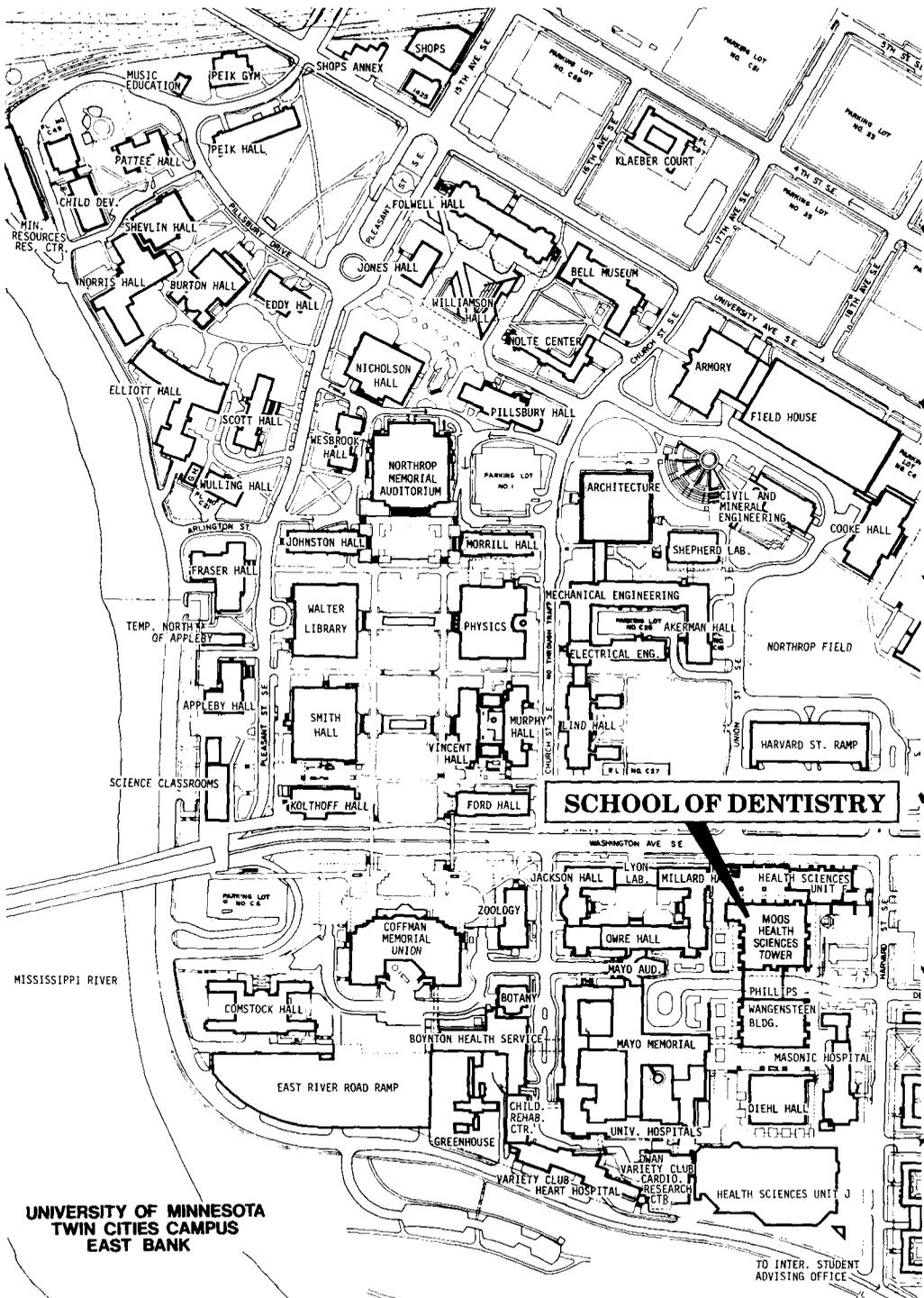
5100. NEUROSCIENCE FOR DENTAL STUDENTS. (2 cr; concurrent regis in Anat 5110 required; prereq courses in biochemistry and human anatomy; 3 lect, 3 lab hrs per wk)
Basic principles of nervous function studied through neuroanatomy and neurophysiology.

5101. HUMAN PHYSIOLOGY. (5 cr; for dental students; prereq biochemistry; 4 lect, 2 lab hrs per wk)
Principles of physiology, circulation, respiration, digestion, excretion, metabolism, and endocrine gland function.

5102. PHYSIOLOGY AND DENTISTRY. (1 cr; for dental students only; prereq Phsl 5101; elective)
Meyer and faculty
Lecture-conference course to integrate physiology and dentistry.

Campus Map





UNIVERSITY OF MINNESOTA
TWIN CITIES CAMPUS
EAST BANK

TO INTER. STUDENT
ADVISING OFFICE

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