

This is the Introduction; General Information; and Admissions and Student Life sections of the 1997-1999 University of Minnesota Medical School Bulletin.

# Medical School

2	<b>Introduction</b>
4	<b>General Information</b>
11	<b>Admission and Student Life</b>
26	<b>M.D. Program</b>
32	<b>Departments and Course Descriptions</b>
58	<b>Campus Maps</b>
61	<b>Index</b>
64	<b>Resource Directory</b>

### University of Minnesota Mission Statement

The University of Minnesota, founded in the belief that all people are enriched by understanding, is dedicated to the advancement of learning and the search for truth; to the sharing of this knowledge through education for a diverse community; and to the application of this knowledge to benefit the people of the state, the nation, and the world.

The University's mission, carried out on multiple campuses and throughout the state, is threefold:

- **Research and Discovery**—Generate and preserve knowledge, understanding, and creativity by conducting high-quality research, scholarship, and artistic activity that benefit students, scholars, and communities across the state, the nation, and the world.
- **Teaching and Learning**—Share that knowledge, understanding, and creativity by providing a broad range of educational programs in a strong and diverse community of learners and teachers, and prepare graduate, professional, and undergraduate students, as well as non-degree-seeking students interested in continuing education and lifelong learning, for active roles in a multiracial and multicultural world.
- **Outreach and Public Service**—Extend, apply, and exchange knowledge between the University and society by applying scholarly expertise to community problems, by helping organizations and individuals respond to their changing environments, and by making the knowledge and resources created and preserved at the University accessible to the citizens of the state, the nation, and the world.

In all of its activities, the University strives to sustain an open exchange of ideas in an environment that embodies the values of academic freedom, responsibility, integrity, and cooperation; that provides an atmosphere of mutual respect, free from racism, sexism, and other forms of prejudice and intolerance; that assists individuals, institutions, and communities in responding to a continuously changing world; that is conscious of and responsive to the needs of the many communities it is committed to serving; that creates and supports partnerships within the University, with other educational systems and institutions, and with communities to achieve common goals; and that inspires, sets high expectations for, and empowers the individuals within its community.

### Policies

**Bulletin Use**—The University of Minnesota will change to a semester-based academic calendar beginning academic year 1999-2000. This bulletin is the last quarter-based bulletin that will be produced for the Medical School. It covers academic years 1997-98 and 1998-99. Information about semester-based academic programs will be provided in the fall of 1998 in semester-transition publications.

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

This publication is available in alternative formats upon request. Please contact the Office

of Admissions, University of Minnesota, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-2008; e-mail [admissions@tc.umn.edu](mailto:admissions@tc.umn.edu)).

This bulletin also is available in electronic format on the Internet and may be accessed at <http://www.umn.edu/commpub> on the World Wide Web.

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

In adhering to this policy, the University abides by the Minnesota Human Rights Act, Minnesota Statute Ch. 363; by the Federal Civil

Rights Act, 42 U.S.C. 2000e; by the requirements of Title IX of the Education Amendments of 1972; by Sections 503 and 504 of the Rehabilitation Act of 1973; by the Americans With Disabilities Act of 1990; by Executive Order 11246, as amended; by 38 U.S.C. 2012, the Vietnam Era Veterans Readjustment Assistance Act of 1972, as amended; and by other applicable statutes and regulations relating to equality of opportunity.

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

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

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

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

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

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

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

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

## General Information



*Douglas Wangensteen, Ph.D., associate professor of pediatrics and physiology and Year One coordinator, talks with medical students Timothy Rich, Patrick Hammill, Anita Allman, Penny Swanson, Lane Callahan, and John Jalas.*

## Resources

The Admission section of this bulletin is a guide to all official policies and procedures related to application for admission to the Medical School.

The department listings of courses represent selections that are relevant primarily to the interests of medical students and, in some instances, those who plan to pursue graduate studies in certain health sciences areas.

For information about special fields or specific undergraduate or graduate degree programs, consult the appropriate University of Minnesota bulletins. Most may be obtained by visiting the Office of Admissions, 240 Williamson Hall, or by calling (612) 625-2008.

## History

The first classes in medicine at the University of Minnesota began in 1888 when three of the four private, or proprietary, medical schools in Minneapolis and St. Paul offered their charters and resources to the state. In accepting this offer, the Board of Regents assumed responsibility for medical education on behalf of the people of Minnesota. In 1908 the remaining proprietary school was incorporated into the University of Minnesota Medical School. In 1969 the legislature appropriated planning funds for a two-year medical basic science program at the

University of Minnesota, Duluth, and in 1971 provided additional support for development of the Duluth school. The charter class in Duluth's Medical School began in 1973.

In 1905 money for the construction of a hospital was offered to the University by the estate of Augustus F. Elliot. After various delays, legislative approval and additional money were obtained. The Elliot Memorial Hospital, the first unit of University Hospitals, was dedicated in 1911. The act of acceptance passed by the legislature stated that the hospital would belong to and be a part of the University, that indigent residents of Minnesota would receive free care and treatment, and that the hospital would be controlled by the University regents. The legislature provided funds for the building of the Institute of Anatomy (Jackson Hall) and Millard Hall, both completed in 1912. Additional hospital and Medical School buildings have been built with private gifts, supplemented by legislative appropriations. These include the Todd Hospital and Christian Hospitals (1925), Eustis Hospital (1929), Variety Club Heart Hospital (1950), Mayo Memorial Building (1954), Masonic Cancer Center and Veterans of Foreign Wars Cancer Research Center (1958), Diehl Hall (1960), Children's Rehabilitation Center, Dwan Variety Club Cardiovascular Research Center (1975), and the Phillips-Wangensteen Building,



*Dr. Cassius M.C. Ellis died May 15, 1997. He served on the surgical staff at North Memorial Medical Center in Robbinsdale and at Abbott Northwestern Hospital in Minneapolis; was director of the North Memorial residency program; and was clinical professor of surgery and assistant to the dean for the University of Minnesota Medical School. Throughout his career, he gave of his time freely and with enthusiasm to all.*

(1978). The main hospital services were moved into a new University Hospital in 1986. In 1996 the University Hospital—the result of nearly a century of gifts and effort—merged with the Fairview Hospital System to become the Fairview-University Medical Center.

The Medical School at Minnesota has a rich tradition of research and clinical achievements. The excellence of the Medical School's programs can be traced to the early development of strong departments in the basic medical sciences closely linked to the laboratory of the State Board of Health, and to the emergence in the 1920s of clinical departments active in clinical investigation. The pursuit of research in all departments has infused the whole school with a spirit of scientific inquiry.

## University Regents

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 JoAnne G. Jackson, Senior Vice President  
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## Medical School Administrators

Alfred F. Michael, Dean of the Medical School  
 Gregory M. Vercellotti, M.D.,  
 Senior Associate Dean  
 E. Wayne Drehmel, Ph.D., Associate Dean  
 Helene M. Horwitz, Ph.D., Associate Dean  
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 Robert J. McCollister, M.D., Associate Dean  
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 James G. White, M.D., Associate Dean  
 Charles F. Moldow, M.D., Assistant Dean  
 Paul G. Quie, M.D., Associate to the Dean  
 Barton W. Galle, Ph.D.,  
 Director of Continuing Medical Education

The Medical School is one of several health science units organized through the Office of the Provost for the Academic Health Center. The other units are the School of Dentistry; School of Nursing; College of Pharmacy; School of Public Health; College of Veterinary Medicine; University of Minnesota, Duluth School of Medicine; and the Fairview-University Medical Center. The chief administrative officer of the Medical School is the dean. The dean is assisted by several associate and assistant deans in carrying out the policies developed by the faculty to achieve the goals set forth in the Board of Regents Statement of the Mission of the Health Sciences, as it pertains to the Medical School. The school's administrative offices are in Owre and Jackson Halls on the Minneapolis campus.

The dean's office is responsible for general administration of the Medical School, administration of selected aspects of graduate education programs, and school budget and fiscal matters. Those involved in these activities include Dean Alfred F. Michael, Senior Associate Dean Gregory M. Vercellotti, Associate Dean E. Wayne Drehmel, Associate Dean Robert B. Howe, and the dean's office unit directors. Special administrative support is provided for the Rural Physician Associate Program, Program on the History of Medicine, Program in Emergency Medicine, Center of American Indian and Minority Health (CAIMH), M.D./Ph.D. Program, Office of Minority Affairs, and other special programs. Assistant Dean Charles F. Moldow serves as administrative liaison with the Veterans Affairs Medical Center.

The Student Affairs and Admissions office is concerned with admissions, student counseling, student records, and student progress toward graduation. Those responsible for these activities include Associate Dean Helene M. Horwitz, Associate Dean Donald W. Robertson, and Associate to the Dean Paul G. Quie.

The Curriculum Affairs office provides support for faculty teaching activities, assists in curriculum administration and evaluation, and aids in development of all aspects of undergraduate educational programs. It is responsible for central class scheduling and student registration for elective courses. The office is administered by Associate Dean Robert J. McCollister.

The Continuing Education office develops a variety of educational programs for physicians of the state. It is supervised by Barton W. Galle, Director of Continuing Medical Education.

## Faculty

The Medical School has about 1,398 full-time faculty. The executive faculty, consisting of full-time and associate professors, is the governing body responsible for education policy making on education matters. The executive faculty has delegated to its appropriate committees the responsibility for determining student qualifications for admission and readmission, decisions pertaining to student scholastic standing and dismissal from the Medical School, and reviewing the Medical School curriculum.

The Medical School Admissions Committee selects each year's entering class and considers applications for transfer or readmission to the Medical School. The Student Scholastic Standing Committee evaluates each student's academic and clinical performance and developing personal and professional attributes periodically throughout the course of medical study in light of the requirements expected of a practicing physician. Each year this committee decides which students are permitted to progress to the succeeding class. The committee reviews each student's academic record for satisfactory completion of all required and elective coursework and of other school requirements before recommending that the M.D. degree be granted by the University. Students may appeal decisions made by this committee. The Educational



*Michael Armstrong, M.D./Ph.D. student, at work in a lab.*

Policy Committee develops or reviews and evaluates components of the program leading to the M.D. degree and conducts ongoing curriculum review. Committee recommendations for curriculum change are submitted for discussion and final approval by the executive faculty. Each of these major committees includes within its membership at least one student representative.

## Research

Throughout its history the Medical School has emphasized basic biomedical research and its translation into clinical advances. That emphasis has nurtured research pioneers whose efforts continue to advance medical science. In this environment of discovery and innovation, medical students are exposed to the work of internationally renowned researchers in a variety of fields. These include:

**Biomedical Engineering**—The Biomedical Engineering Center includes staff from the Medical School and Institute of Technology, who join with Minnesota's leading biomedical technology firms to develop, test, and generate biomedical products. To date, such products have included pacemakers, nerve stimulators, and hearing and visual aids.

*Biomedical Ethics*—New technology, spiraling health care costs, and judgments about when life begins and ends pose ethical concerns to the medical community. To prepare for such challenges, medical students take courses through the Medical School's Center for Biomedical Ethics.

*Cancer*—Bone marrow transplantation, tumor-focused radiology, and monoclonal antibody-enhanced chemotherapy have improved cancer recovery rates dramatically. These treatments are also the result of coordinated basic and applied research efforts at the Medical School. The new Cancer Center promises to accelerate these developments.

*Diabetes*—Heart disease, blindness, kidney disease, circulatory problems, and disorders of the nervous system are among the risks associated with diabetes. At the Diabetes Center, patients receive care and participate in a wide variety of research programs, including the 10-year Diabetes Control and Complications Trial. The center is also a magnet for researchers pursuing cures and improved treatments for the various types of diabetes.

*Human Genetics*—As both a research center and resource for scientists throughout the University, the school's Institute of Human Genetics brings together students, scientists, and clinicians to investigate the molecular basis for genetic disorders and apply findings to the diagnosis and management of disease.

*Minnesota Heart and Lung Institute*—Building on decades of progress as a world leader in cardiovascular disease research and treatment, the Minnesota Heart and Lung Institute studies circulatory diseases, emphysema, hypertension, emergency care, and congestive heart failure. New treatment methods include lung and heart-lung transplantation.

*Neurosciences*—The cellular and biochemical bases for learning disorders, multiple sclerosis, Alzheimer's disease, schizophrenia, stroke, and many other dysfunctions are among the areas of research in this cross-disciplinary approach to the study of the nervous system.

*Nutrition*—The role of diet in the prevention and treatment of disease is the focus of joint research efforts by the Medical School and the colleges of Agriculture, Food, and

Environmental Sciences and Human Ecology. Efforts also are underway to combine with statewide agencies to promote healthful living through wise eating choices.

*Osteoarthritis*—Of the 36 million Americans who have disorders of the joint and connective tissue, about 16 million have osteoarthritis, the most common form of arthritis. Searching for the causes and treatments for osteoarthritis, scientists study spinal arthritis, the role of joint damage on muscles, and threshold injury in joints.

*Transplantation*—The Medical School's transplantation program has achieved some of the world's highest one-year and five-year survival records for kidney, liver, and pancreas transplantation patients.

## Facilities

The basic sciences complex and Medical School administrative offices are in a quadrangle of buildings adjacent and connected to the Mayo Memorial Building, Moos Health Sciences Tower, and the Phillips-Wangensteen Building. A new Basic Sciences/Biomedical Engineering Building was completed in October 1996. Within Moos Tower are health sciences classrooms and seminar rooms, health sciences student areas, a cafeteria (Sostanza), and laboratories as well as Medical School, School of Public Health, and School of Dentistry offices. In the Phillips-Wangensteen Building are outpatient clinics, a clinical amphitheater, the Health Sciences Learning Center, a cafeteria (Outside In), audiovisual support units, as well as Medical School department offices and laboratories. Other units connected with the complex are the Fairview-University Medical Center, Variety Club Heart and Research Center, Masonic Cancer Center, Veterans of Foreign Wars Cancer Research Center, Children's Rehabilitation Center, Paul F. Dwan Cardiovascular Research Center, and the Jackson/Owre/Millard/Lyon complex.

The close physical relationship of the Medical School and its associated units facilitates professional and scientific communication. The Medical School also maintains affiliate relationships with many hospitals in the Twin Cities metropolitan area that provide extensive resources for clinical teaching and access to patients with a variety of medical problems.

**Bio-Medical Library**—The Bio-Medical Library, located in Diehl Hall, supports the teaching, research, and service programs of the health sciences. The library is one of the major units within the University Libraries and serves as a resource library for the Greater Midwest Region of the National Network of Libraries of Medicine.

The Bio-Medical Library contains materials covering medicine, nursing, dentistry, public health, pharmacy, mortuary science, allied health, and the basic life sciences. The collection contains more than 428,000 volumes, 4,394 current journal subscriptions, and 1,194 audiovisual and 223 computer programs. More than 61,918 rare and historical books and journals dating from the 15th century to 1920 can be found in the Wangensteen Historical Library of Biology and Medicine. The Drug Information Service (DIS), in the Bio-Medical Library, houses a collection of journals, books, and government monographs on the educational, psychosocial, and biomedical aspects of alcohol, tobacco, and other drug use/abuse. Access to the collection is available through Druginfo, a database on LUMINA (the University Libraries' on-line system).

The reference department (Level 2) provides a variety of print reference materials and core textbooks. It houses more than 50 computers, both IBM and Macintosh, for accessing databases, e-mail, and the Internet. Databases available include MEDLINE, Current Contents, BIOSIS, HealthSTAR, Cancerlit, International Pharmaceutical Abstracts, among others. MNCAT, the automated catalog for the University Libraries, as well as the databases may be searched from personal computers at home or offices and in the library. An increasing number of full textbooks and journals can be accessed in the reference department. Curriculum-related and self-instructional media and computer software are available for student study and faculty teaching. A Novell network makes possible simultaneous use of many of these education technology programs.

Bio-Medical Library staff provide instruction in library use, database searching, information access and management, and the Internet. Reference assistance may be requested at the Reference Desk or by telephone or e-mail. The library maintains a Web site (<http://www.biomed.lib.umn.edu>) that

features information about the library, electronic forms for requesting services, and links to other Internet resources. Word processing facilities, reserve collections, and interlibrary loan, photoduplicating, and database search services are available. Interaction rooms (Level 2) are available for group study and education technology use.

## Minnesota Medical Foundation

Brad Choate, President and Chief Executive Officer  
Robert W. Groves, Vice President, Development  
David W. Johnson, Ph.D., Vice President, Programs  
Daniel P. Saftig, Vice President,  
Marketing and Communications  
Cindy J. Kaiser, Vice President, Finance

**Mission**—The Minnesota Medical Foundation (MMF) is an independent organization formed in 1939 to encourage private support of medical research and education at the University of Minnesota. The foundation raises, manages, and distributes private funds for our tax-assisted Medical Schools at Minneapolis and Duluth.

Medical students obtain critical financial help from the foundation's extensive program of student loans and scholarships.

Medical scientists have access to more than \$800,000 granted annually by MMF for medical research aimed at new and better knowledge about disease and health.

Alumni receive news of the Medical School through the *University of Minnesota Medical Bulletin*, published by the foundation, which also sponsors a variety of events linking graduates, students, parents, faculty, and the administration.

To underwrite this work, the foundation solicits contributions from friends of medicine everywhere, particularly alumni of the Medical School. MMF receives and acknowledges gifts, manages special purpose donations, and generally serves as a link between people and medicine at the University.

MMF policies are set by a 40-member Board of Trustees. The foundation is located at 535 Diehl Hall (612/625-1440).

**Student Aid**—MMF's student aid program is coordinated with the Medical School's financial aid program.

MMF provides extended term loans to qualified students that are repayable within the

first five years after graduation at 6 percent simple annual interest. The average loan is \$2,500.

Interim loans from the foundation afford medical students an opportunity to obtain ready cash on brief notice, without interest charges, for educational expenses. Interim loans are limited to \$600 and must be repaid within 90 days.

MMF awards more than \$450,000 in scholarships annually. Recipients are chosen on the basis of their qualifications for a particular scholarship and are encouraged to pledge restoration of the funds by future gifts. Almost all scholarships are awarded based on financial need.

**Awards**—Medical Student Achievement Awards of \$1,000 are offered each year to students who demonstrate exceptional accomplishment in academic work, community service, or student leadership. Several other annual prizes are conferred on students for achievement in biomedical research. Distinguished Teaching Awards are bestowed on faculty members whose teaching ability has been recognized by the student body or the medical school community.

**Research Opportunities**—For students with a serious interest in biomedical research and potential for the field of academic medicine, the foundation offers \$1,800 stipends for full-time twelve-week research endeavors that are conducted during free or elective periods. Both basic and clinical research projects are supported. Research is done under the supervision of Medical School faculty.

**Publications**—The foundation is publisher of the *University of Minnesota Medical Bulletin*, a quarterly magazine circulated to alumni of the Medical School, donors, students, faculty, and parents. An annual report of MMF activities is also published, as well as a *Directory of Medical Students*.

**Fund Raising**—The foundation coordinates extensive fund-raising programs on behalf of the Medical School, encouraging alumni gifts to the annual fund of the Medical School, and broadly promotes the cause of private support. MMF also coordinates fund-raising activities for a number of affiliate organizations and medical school departments. A full range of development activities are conducted, including annual giving, planned giving, deferred giving, memorial giving, and capital campaigns.

**Outreach Programs**—The foundation promotes public understanding and support of medicine by sponsoring several events at the Medical School: a welcome day for entering students, Parents' Day, a graduation day reception, and other informal gatherings. Medical School alumni reunions at the University and in other states are also supported in concert with the Medical Alumni Society.

## Continuing Medical Education

Earning a degree in any profession is only one milestone in a continuum of education. Physicians faced with rapid advances in medical science and applied clinical knowledge are obliged to continue as students of medicine for the duration of their professional careers. Recognition of this important educational need led, in 1936, to the opening of the Center for Continuation Study, unique for its time, at the University of Minnesota. In 1937 this nation's first organized Department of Continuing Medical Education was founded to regularly offer a recurring program of short postgraduate courses for physicians.

Today the Office of Continuing Medical Education serves the educational needs of physicians and lifelong students of medicine through its annual series of programs taught by faculty in various disciplines in the Academic Health Center and guest faculty from around the world.

Each year about 90 individual courses are conducted for more than 10,000 physicians. Sixty percent of the physicians come from Minnesota but many courses attract national or international audiences. Instructional methods include lectures, workshops, laboratories, live cases, panels, seminars, and individual instruction. Innovative programs are being developed to meet the changing needs of members of the medical profession and use technological advances in educational media. Overall emphasis is on high-quality education and practical, up-to-date content.

Close liaison with other medical organizations and health care facilities in the state and region allows the Medical School to offer a program that is well rounded, strong, and complementary to other continuing education opportunities so that physicians may select those most appropriate to their own educational goals.

## Admission and Student Life



Students organized the VALS (Variety, Assistance, Love & Support) Run for Kids to aid a children's clinic. Pictured, from left, are Leslie Lancaster and medical students Kevin Engel, Alex Doerfler, Alex Beuning (with daughter Kelsi), Tim Bollom, Kathy Tweedy, and Troy Duinick.

## Information Sources

Office of Admissions and Student Affairs staff are prepared to discuss premedical programs with students, college teachers, and advisers, either in person or through correspondence.

*Medical School Admission Requirements (MSAR)*, published by the Association of American Medical Colleges and revised each year in April, is a useful reference booklet that provides general information about applying to medical schools and summarizes the admission requirements of each of the medical schools in the United States and Canada. For a personal copy, send \$30.00 (includes shipping and handling), to the Association of American Medical Colleges (AAMC), Department 66, Washington, DC 20055 (202/828-0416; fax 202/828-1123). It is also available in most college reference libraries.

For more information about the Medical School, contact the Office of Admissions and Student Affairs, University of Minnesota Medical School, 3-100 Owre Hall, Box 293, 420 Delaware Street S.E., Minneapolis, MN 55455-0310 (612/624-1122; fax 612/626-4200).

## Academic Requirements

Although academic excellence is necessary to complete studies in the Medical School, neither high grades nor high MCAT scores alone are sufficient to gain admission. In selecting applicants, the Admissions Committee emphasizes those qualities of motivation, intellect, and character essential to the physician. Consideration is given to candidates who possess personal integrity, high ethical standards, motivation, intellectual curiosity, enthusiasm, and the ability to work with other professionals. Because physicians must be able to offer care to those who are sick, applicants should give evidence of their capacity to deal effectively with those people who may be ill. They must also be able to organize their activities, set priorities, accept responsibility, and function under stress.

Students *must* earn a bachelor's degree before entering the Medical School.

The undergraduate years provide a unique educational opportunity and those who are planning a career in medicine are encouraged to

choose courses and independent study according to their interests. The Admissions Committee has no preference regarding the area of concentration—whether it be in the natural sciences, social and behavioral sciences, humanities, or the arts. Students should approach their chosen field in a scholarly fashion and demonstrate excellence in whatever course of study they pursue.

Medicine depends on scientific knowledge. Therefore, applicants must be capable of and comfortable working in the sciences and to be familiar with the basic principles of biology, chemistry, physics, and mathematics. Because physicians have an increasing responsibility to understand and deal with social, cultural, and psychological forces that may adversely affect their patients, studies in the humanities, social and behavioral sciences, and English language and literature are required for admission, in addition to preparation in the physical and biological sciences.

Applicants must have competence in writing, speaking, and reading the English language such that they have the ability to write intelligent, expository prose that is clearly organized and free of major errors in grammar, punctuation, and spelling. They should be able to present material orally with appropriate fluency and be able to read critically and appraise general and technical writing. Basic familiarity with computers is advised because of the importance of computer science in essentially all areas of medicine.

Because physicians take on special responsibilities as community leaders, applicants should acquire an education that leads to continuing lifelong learning—not only in their professional field, but also in those things that will assure well-informed contributions to the general society in which we live.

The table on page 13 lists minimum course and credit requirements. Students will complete additional courses and credits, depending on their own special interests, baccalaureate degree or the other college requirements, and the counsel of their college advisers. Those students with special interests in basic science, research, or careers in academic medicine are encouraged to complete advanced level coursework in the sciences in preparation for entering Medical School.

## Course Requirements

	Semester Credits	Quarter Credits
General Biology or Zoology ..... Must include laboratory exercises	7	10
Chemistry ..... General or inorganic, organic, and biochemistry required (must include lab exercises). A course in both physical chemistry and quantitative analysis is recommended.	16	25
English and Literature ..... (one year) Exemption from freshman composition does not fulfill requirement		
Mathematics Introductory calculus or upper-level statistics required		
Physics ..... Must include lab exercises	8	12
Social and Behavioral Sciences and Humanities ..... Examples: psychology, anthropology, history, sociology, economics, philosophy, or a modern or classical language	18	27
Additional academic courses to complete degree requirements		

Because of the Medical School's obligation to ensure patients receive the best medical care possible, candidates for admission and the M.D. degree must meet the following technical standards.

### Medical School Technical Standards

Candidates for the M.D. degree must have abilities and skills of five varieties, including observation; communication; motor; conceptual, integrative, and quantitative; and behavioral and social. Technological compensation can be made for some handicaps in some of these areas, but candidates should be able to perform in a reasonably independent manner. The use of a trained intermediary means that candidates' judgment must be mediated by someone else's power of selection and observation.

**I. Observation:** Candidates must be able to observe demonstrations and experiments in the basic sciences, including but not limited to physiologic and pharmacologic demonstrations in animals, microbiologic cultures, and microscopic studies of microorganisms and tissues in normal and pathologic states. Candidates must be able to observe a patient

accurately at a distance and close at hand. Observation necessitates the functional use of vision and somatic sensation. It is enhanced by the functional use of smell.

**II. Communication:** This skill includes speech, reading, and writing. Candidates should be able to speak to, hear, and observe patients in order to elicit information, describe changes in mood, activity, and posture, and perceive nonverbal communications. Candidates must be able to communicate effectively and sensitively with patients and communicate with all members of the health care team in both oral and written form.

**III. Motor:** Candidates should have sufficient motor function to elicit information from patients by palpation, auscultation, percussion, and other diagnostic maneuvers. Candidates should be able to do basic laboratory tests (e.g., urinalysis, CBC), carry out diagnostic procedures (e.g., proctoscopy, paracentesis), and read EKGs and X-rays. Candidates should be able to execute motor movements reasonably required to provide general care and emergency treatment to patients. Examples of emergency treatment reasonably required of physicians are cardiopulmonary resuscitation, administration of pressure to stop bleeding, opening obstructed airways, suturing simple wounds, and the performance of simple obstetrical maneuvers. Such actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of touch and vision.

**IV. Intellectual, Conceptual, Integrative, and Quantitative Abilities:** These abilities include measurement, calculation, reasoning analysis, and synthesis. Problem solving, the critical skill demanded of physicians, requires all of these intellectual abilities. In addition, candidates should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures.

**V. Behavioral and Social Attributes:** Candidates must possess the emotional health required for full use of their intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities attendant to the diagnosis and care of patients, and the development of mature, sensitive, and effective relationships with patients. Candidates must be able to tolerate physically taxing

workloads and function effectively under stress. They must be able to adapt to changing environments, display flexibility, and learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities that are assessed during the admissions and education processes.

## Background Study Requirement

Minnesota law requires that all students who provide services involving unsupervised direct contact with patients or residents at hospitals, nursing homes, or other health care facilities licensed by the Minnesota Department of Health have a background study conducted by the state. The study covers a range of criminal convictions and civil agency findings related to the maltreatment of children or vulnerable adults. Students disqualified from having direct patient contact as a result of the background study, and whose disqualification is not waived by the commissioner of health, may not be permitted to participate in a clinical placement in these licensed health care facilities. Failure to pass the background study is grounds for revocation of admission or dismissal from this program.

All applicants who are accepted and matriculate into the University Medical School must undergo this background check. If students fail to undergo this check or are disqualified, they will not be allowed to continue.

## Residence and Reciprocity

**Residence**—Because the University is a state institution, Minnesota residents pay lower tuition than nonresidents and, in many programs, receive priority consideration for admission. To qualify for resident status, students must reside in Minnesota for at least one calendar year before the first day of class attendance. For more information, contact the Resident Classification and Reciprocity Office, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-6330), or the residency office on your campus.

**Reciprocity**—The University has reciprocity agreements with North Dakota and South Dakota, which includes the medical school. If you are a resident of one of these states, you may qualify for reciprocity tuition rates, which are lower than nonresident tuition rates and, in some cases, comparable to resident rates. There are some exceptions: Wisconsin students enrolled in the School of Dentistry, Medical School, College of Veterinary Medicine, or School of Medicine, Duluth are not eligible for reciprocity. For more information, contact the Resident Classification and Reciprocity Office, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-6330), or the residency office on your campus.

## Policy for Foreign Citizens\* Applying to Medical School

1. To be eligible to apply to the University of Minnesota Medical School, foreign citizens must:
  - a. Have a baccalaureate degree from their country of origin, plus two or more years of postbaccalaureate education in an accredited U.S. school;  
*or*  
Have a baccalaureate degree from an accredited U.S. school located in the continental United States, Hawaii, or Alaska.
  - b. Have taken the Medical College Admission Test (MCAT).
  - c. Be able to demonstrate proficiency (spoken and written) in the English language.
2. Foreign citizens may apply either through the Early Decision Program or the regular admission process.
3. Foreign citizen applicants are responsible for obtaining appropriate visa status in the United States.
4. Foreign citizen applicants are expected to assume total responsibility for financing their medical education. They should be prepared to present detailed financial plans of how they will meet expenses, including tuition at the nonresident rate.

\* "Foreign citizen," for the purpose of this policy, is defined as one who does not have U.S. citizenship or permanent residence or other immigrant status.

## Application Procedures

The University of Minnesota Medical School participates in the American Medical College Application Service (AMCAS), which is sponsored by the Association of American Medical Colleges. *All applications to the Medical School for the entering freshman class must be processed through AMCAS.*

Application forms with detailed instructions can be obtained from AMCAS, 2501 M. Street NW, LBBY-26, Washington, DC 20037-1300. Applications should be completed and returned to AMCAS between June 1 and November 15 of the *calendar year before* the student plans to enter the Medical School. Since all first-year students begin the course of study in September, the application is thus made a little more than a year before matriculation. Additional information concerning letters of evaluation will be provided to applicants *after* the completed application forms have been sent to the school by AMCAS. There is an application fee of \$50.00 for all applicants who are sent supplemental material.

All regular applicants for the freshman class are required to take the Medical College Admission Test (MCAT). This test measures candidates' factual knowledge of the sciences, their reading skills, and their ability to solve problems. It also helps the Admissions Committee learn more about an individual's aptitudes and suitability for a career in medicine.

Premedical students must make their own arrangements to take the Medical College Admission Test. A booklet detailing application deadlines, dates of the tests, sample questions, and testing centers can be obtained by writing to the MCAT Program Office, PO Box 4056, Iowa City, IA 52243-4056 (319/337-1357). This booklet is also available from college premedical advisers. The test is given throughout the country at many colleges in April and August of each year. It is strongly suggested that applicants take the MCAT in the spring before submitting their applications for admission. The test results are sent to the student. There is a fee for the examination, which entitles the student to have the scores sent to several medical schools.

In accordance with the acceptance procedures approved by the Association of American Medical Colleges, applicants are notified of the Admissions Committee's decision between October 15 and May 15 before matriculation. Applicants participating in the Early Decision Program will be notified by October 1.

## Early Decision Program

The Medical School participates in the Early Decision Program (EDP) sponsored by the Association of American Medical Colleges, in which early acceptance is granted to students choosing to apply *only* to this medical school. Both Minnesotans and nonresidents are encouraged to apply for EDP. Applicants must have exceptional academic and nonacademic qualifications, including a grade point average (GPA) of 3.50 or above and MCAT scores of 10 or above, and must follow the rules set forth for application to this program. Application deadline is August 1. Information about EDP application procedures is available from the American Medical College Application Service and the Medical School Office of Admissions and Student Affairs.

## Transfers

The Medical School in Minneapolis accepts all students from the accredited two-year branch of the University of Minnesota, Duluth School of Medicine who have successfully completed their curriculum and passed Step 1 of the United States Medical Licensing Examination (USMLE).

Transfers from other four-year Liaison Committee on Medical Education-accredited medical schools in the United States are considered on a very limited basis and only after they have satisfactorily completed their first two years of medical school and Step 1 of the United States Medical Licensing Examination (USMLE).

## Tuition and Fees

*For up-to-date information on tuition and fees, contact the Medical School Financial Aid Office, 535 Diehl Hall (612/625-4998).*

Estimated tuition per quarter for the academic year 1997-98 for students enrolled in the Medical School in Minneapolis is as follows:

<i>Residents</i>	<i>Nonresidents</i>
\$4,016	\$7,460

Estimated student service fees of \$157 per quarter is required of both residents and nonresidents. *Tuition and fees are subject to change by the Board of Regents.* Students who complete the four-year Medical School curriculum and make satisfactory progress may arrange two free or vacation quarters during the third and fourth years. During this eight-quarter continuum, tuition will be charged for the first six quarters, regardless of the number of actual credits in which the student is enrolled. Student services fees will be charged for all quarters students are enrolled.

Books, instruments, and other necessary equipment must be provided by the student. Information about required items and microscope rental is sent to all entering students during the summer before medical school begins.

## Financial Aid

Financial aid is available to medical students in health professions in the form of federal, state, and institutional loan and grant programs. A number of scholarships are available to entering as well as continuing students based on merit or a combination of academic excellence and need. The Medical School Financial Aid Office coordinates the programs administered by the University's Office of Student Financial Aid with those of the Minnesota Medical Foundation. For further information, contact the Medical School Financial Aid Office (612/625-4998).

The grants are given for full-time research over a 12-week period.

## Minority Student Information

The University of Minnesota is committed to providing equal opportunity to students from minority groups and educationally disadvantaged backgrounds. The Medical School encourages members of professionally underrepresented minority groups to seek admission to its programs.

**Financial Aid**—The Medical School offers students a combined loan/grant package. Grants are available to meet 10 to 15 percent of financial need (for underrepresented minority students) depending on funding availability. Nonresident students of color, with an undergraduate GPA of 3.00 or above, receive tuition waiver for the nonresident portion of the Medical School tuition.

**Center of American Indian and Minority Health (CAIMH)**—This center provides culturally sensitive support services to increase the number of American Indian/Alaskan Native physicians practicing in Native American communities. The center is at 2221 University Avenue S.E., Suite 100, Minneapolis, MN 55414-3074 (612/626-2075).

**Multicultural Institute (formerly the Health Sciences Minority Program)**—The institute's mission is to increase the number of practicing health professionals from underrepresented communities. The institute is in 1-125 Moos Tower, 515 Delaware Street S.E., Minneapolis, MN 55455-0348 (612/624-9400).

**Office of Minority Affairs**—This newly developed office at the Medical School is working towards having a diverse community of students, staff, faculty, and administrators. The office is committed to providing equal opportunity to students from minority groups and strongly encourage students to apply to the Medical School. For more information, contact Mary Tate, Director of Minority Affairs, University of Minnesota Medical School, 3-110 Owre Hall, Box 293, 420 Delaware Street S.E., Minneapolis, MN 55455-0310 (612/625-1494, fax 612/626-4200, e-mail tate001@maroon.tc.umn.edu).

## Research Grants

A number of student research grants are available for vacation or free-time work in several Medical School departments or under the auspices of the Minnesota Medical Foundation. These grants support students who are pursuing medical or basic science research interests. Medical School faculty members provide advice and counsel for student investigative work. Students with training in education may be able to pursue special projects in medical education and curriculum evaluation.

## Honors and Awards

*American Red Cross Transfusion Sciences Research Award*—Recognizes exceptional research in transfusion medicine.

*Wallace D. Armstrong Award*—Memorializes Dr. Armstrong, former chair of the Department of Biochemistry, by recognizing outstanding achievement in first-year biochemistry.

*Bacaner Awards*—Memorialize Jacob and Minnie Bacaner by recognizing creative research by graduate students in the basic sciences.

*Cyrus P. Barnum Memorial Teaching Fellowships*—Recognize outstanding teaching by graduate students in biochemistry.

*Leonard P. Burke Memorial Award*—Memorializes Dr. Burke by honoring an outstanding graduate resident in the Department of Family Practice and Community Health.

*Daniel A. Coyle Award*—Recognizes an outstanding woman medical student in obstetrics and gynecology.

*Kenneth F. Ernst Award*—Honors Dr. Ernst, a 1930 graduate of the Medical School, by providing an annual award for research by an outstanding resident in anatomical pathology.

*Richard C. Horns Memorial Award*—Memorializes Dr. Horns, former professor of ophthalmology, by recognizing a senior medical student who has shown outstanding clinical promise.

*J. Jacob Kaplan Research Award*—Established by Dr. Kaplan to recognize, on an annual rotating basis, the best research papers in cardiology, gastroenterology, and immunology in the diagnosis and treatment of cancer.

*Lifson/Johnson Memorial Award*—Memorializes Drs. Nathan Lifson and John A. Johnson by recognizing outstanding teaching by a graduate student in the Department of Physiology.

*J. Thomas Livermore Award*—Recognizes outstanding original research in hematology.

*Medical Student Achievement Awards*—Minnesota Medical Foundation-funded awards that recognize graduating seniors who have excelled in student leadership, community service, academic achievement, and research.

*Medical Student International Study Fellowships*—Established by Drs. Sarah J. and N.L. Gault, Jr. to help medical students enrich their education through international clinical experiences.

*Metropolitan-Mount Sinai Outstanding Medical Student Awards*—Recognize students who show promise of becoming superior physicians and clinicians.

*Mary Bizal Peterson Memorial Award*—Established by Dr. Edward Peterson in honor of his wife to recognize a meritorious student starting a first-year residency in neurology at the University of Minnesota Medical School.

*Steer-Johnson Award*—Recognizes outstanding research by a graduate student in the fields of general, pulmonary or cardiovascular physiology.

*Undergraduate Research Awards*—Minnesota Medical Foundation-funded awards recognizing meritorious research papers written by graduating seniors.

*Veneziale-Steer Award*—Recognizes outstanding basic scientific research by a graduate student or a medical student in the field of cellular growth regulation.

*Cecil J. Watson Award*—Established in honor of Dr. Watson, Regents' Professor of Medicine, to recognize outstanding research by a resident in clinical medicine.

*Yussim Award*—Recognizes outstanding basic scientific research by a graduate student or a medical student in the field of diabetes mellitus.

*Zagaria Fellowship Research Award*—Recognizes original research in cardiology and oncology by an undergraduate woman medical student.

## Scholarship Funds

The following funds are awarded to students who demonstrate superior academic achievement and/or financial need. Some funds have additional selection criteria.

*Alpha Epsilon Iota Scholarships*—Established by Alpha Epsilon Iota, which since 1901 has served as a support organization for women medical students and alumni.

*Alpha Omega Alpha Scholarships*—Established by the Minneapolis Chapter of Alpha Omega Alpha, an honorary medical society.

*American Cancer Society Scholarships*— Provided by annual grants from the American Cancer Society.

*Fritjof H. Arestad Scholarships*—Established by bequest of Dr. Arestad, a Medical School alumnus, Class of 1924.

*Charles and Ruth Bagley Scholarships*— Established by Dr. and Mrs. Bagley to benefit second-year medical students at the University of Minnesota, Duluth.

*Dr. A.B. Baker Memorial Scholarships*— Established in memory of Dr. Baker, a leading educator in neurology and a Medical School alumnus, Class of 1931.

*Russell L. Baker, M.D. and Harry R. Baker, M.D. Scholarship*—Established by Dr. Russell Baker, a Medical School alumnus, Class of 1934, in memory of his father.

*Dr. Henry H. and Pauline E. Blaustone Scholarship*—Established by bequest of Dr. Blaustone, a Medical School alumnus, Class of 1920, and his wife, Pauline.

*Ruth Boynton Scholarships*—Honor Dr. Boynton, former director of the University of Minnesota Health Service and a Medical School alumna, Class of 1920.

*Hampton and Isabella Brown Scholarship*— Established by Catherine Lowe, a Medical School alumna, Class of 1976, in honor of her parents.

*Dr. Richard and Mari Carlson Scholarship*— Established by Dr. Carlson, a Medical School alumnus, Class of 1972, and his wife, Mari.

*Dr. H. Mead and June S. Cavert Scholarships*— Established in recognition of Dr. Cavert's many years of service to the Medical School and the University.

*Centennial Scholarships*—Established in commemoration of the Medical School's 100th anniversary.

*Class of 1931 Scholarship*—Established by the Class of 1931 in commemoration of their 50th reunion.

*Class of 1937 Scholarship*—Established by the Class of 1937 in commemoration of their 50th reunion.



*Heather Thompson, medical student recipient of the 1996-97 Sarah J. Gault Scholarship.*

*Class of 1942 Scholarship*—Established by the Class of 1942 in commemoration of their 50th reunion.

*Class of 1943 (March) Scholarship*— Established by the Class of 1943 (March) in commemoration of their 50th reunion.

*Class of 1943 (December) Scholarship*— Established by the Class of 1943 (December) in commemoration of their 50th reunion.

*Class of 1944 Scholarship*—Established by the Class of 1944 in commemoration of their 50th reunion.

*Class of 1945 Scholarship*—Established by the Class of 1945 in commemoration of their 50th reunion.

*Class of 1968 Scholarship*—Established by the Class of 1968 in commemoration of their 25th reunion.

*Thomas P. Cook Scholarship*—Established in memory of Mr. Cook, long-time executive director of the Hennepin County Medical Association Foundation.

*Dr. George M. and Anita Cowan Scholarship*— Established by Dr. Cowan, a Medical School alumnus, Class of 1936, and his wife, Anita.

*Dr. Robert W. Cranston Scholarship*—Recognizes Dr. Cranston’s appreciation for the medical education he received at the University.

*Dr. and Mrs. Stanley B. Crosbie Scholarships*—Established in honor of the University of Minnesota Medical School, Dr. Crosbie’s alma mater, Class of 1941.

*Dr. Luther Forest Davis Memorial Scholarship*—Established in memory of Dr. Davis, a general practitioner from Wadena, Minnesota.

*Roger Dell Memorial Scholarships*—Funded by the Roger L. and Agnes C. Dell Charitable Trust.

*Margaret Dowell-Gravatt Scholarship*—Established by Dr. Dowell-Gravatt, a Medical School alumna, Class of 1944.

*H. E. “Tiny” and Violet C. Drill Scholarships*—Established by Dr. Drill, past president of the Minnesota Medical Foundation and a Medical School alumnus, Class of 1929.

*Duluth Clinic Scholarships*—Funded by physicians at the Duluth Clinic to benefit University of Minnesota, Duluth medical students.

*David A. Dunshee Scholarship*—Established in memory of David Dunshee, a member of the Class of 1996, by his family, classmates, and friends.

*Eunice L. Dwan Scholarships*—Established by a gift from the Eunice L. Dwan 1991 Irrevocable Trust.

*Robert Dyar Scholarships*—Established by bequest of Dr. Dyar, a Medical School alumnus, Class of 1934.

*Dan Gall Human Spirit Scholarship*—Established in memory of Dr. Gall, a Medical School alumnus, Class of 1989.

*N.L. Gault, Jr., M.D. Scholarship*—Established by bequest of Royal C. Gray, M.D., a Medical School alumnus, Class of 1923, in honor of Dr. Gault, a Medical School alumnus, Class of 1950, and former Dean.

*Sarah J. Gault Scholarship*—Established by N.L. Gault, Jr., M.D., in memory of his wife, Sarah, a Medical School alumna, Class of 1950.

*Dr. Bob and Mary Giebink Scholarship*—Established by Dr. Giebink, a Medical School alumnus, Class of 1942.

*Royal C. and Mary H. Gray Scholarship*—Established by bequest of Dr. Gray.

*Barry E. Greimann Memorial Scholarship*—Established to benefit medical students at the University of Minnesota, Duluth.

*Half-Century Club Scholarship*—Established by members of the Half-Century Club in recognition of their Medical School training.

*Dr. Harry B. Hall Scholarship*—Established by Dr. Hall, a Medical School alumnus, Class of 1935, and his wife, Betty.

*Allan Hemingway Scholarship*—Established in memory of Dr. Hemingway, long-time member of the Medical School Department of Physiology.

*Delia Tenille Hobbs Scholarship*—Established by John Hobbs, M.D., a Medical School alumnus, Class of 1975, in honor of his daughter.

*James and Janelle House Scholarship*—Established by Dr. House, a Medical School alumnus, Class of 1963, and his wife, Janelle.

*James T. Housewright U.F.C.W. Scholarship*—Established by the United Food and Commercial Workers International Union.

*Ludolf J. and Inez F. Hoyer Memorial Scholarship*—Established in memory of Dr. Hoyer, a Medical School alumnus, Class of 1932, and his wife, Inez, by their son, Leon, a Medical School alumnus, Class of 1962.

*Chester and Charlotte Johanson Scholarships*—Established in memory of Mr. Johanson’s parents, Christine and Per Johanson, who were pioneer homesteaders in Traverse County, Minnesota.

*Robert Wood Johnson Scholarships*—Provided by funds from the Robert Wood Johnson Foundation.

*Dr. Thomas J. Kinsella Scholarships*—Established by bequest of Thomas J. Kinsella, M.D., a Medical School alumnus, Class of 1919.

*Knobloch Scholarships*—Established by William H. Knobloch, M.D., and his wife, Donna.

*James Lillehei, M.D. Scholarship*—Established by the Aspen Medical Group of St. Paul to honor the professional contributions of their colleague James Lillehei, a Medical School alumnus, Class of 1947.

*Walter and Elva Lovell Scholarships*—Established from a gift from Elva Lovell.

*Dr. Thomas Lowry Scholarship for Women Medical Students*—Established by Elizabeth C. Lowry, M.D., in memory of her husband.

*Medical Alley Scholarship*—Established by the Minnesota Medical Alley Association.

*Sidney H. Medof, M.D. Scholarship*—Established by the family of Dr. Medof, a Medical School alumnus, Class of 1935.

*Metropolitan-Mount Sinai Scholarship*—Established by the medical staff of the former Metropolitan-Mount Sinai Hospital in recognition and remembrance of its contributions.

*Minority Higher Ability Scholarships*—Awarded for academic achievement and financial need.

*Mixer Family Scholarship*—Established by Dr. Harry Mixer, a Medical School alumnus, Class of 1944, and his wife, Delores.

*Lester W. and Lois P. Netz Scholarships*—Established by Dr. Netz, a Medical School alumnus, Class of 1926, and his wife, Lois.

*Nicolette Norton Memorial Scholarship*—Established by Mr. Thomas Grossman and the Metropolitan Corporation in memory of Nicolette Norton.

*William A. O'Brien and Rose Mary S. O'Brien Scholarship*—Honors the memory of Drs. O'Brien, Minnesota public health physicians and educators.

*Ben and Jean Overman Scholarships*—Established by the Ben and Jean Overman Charitable Trust to benefit medical students at the University of Minnesota, Duluth.

*Parents' Scholarship*—Established by Medical School parents in conjunction with the Centennial Scholarship Campaign.

*Park Nicollet Clinic Founders Scholarships*—Established by the Park Nicollet Medical Center.

*Malcolm and Ruth Pearson Scholarship*—Established by Dr. Pearson, a Medical School alumnus, Class of 1935, and his wife, Ruth.

*Phi Delta Epsilon Jewish Medical Fraternity Scholarship*—Established through a grant from the fraternity.

*Samuel J. Ravitch Scholarships*—Established by bequest of Samuel J. Ravitch, M.D., a Medical School alumnus, Class of 1926, and his wife, Louise.

*Dr. Albert E. Ritt Endowed Scholarships*—Established by Dr. Ritt, a Medical School alumnus, Class of 1932.

*John George Ross Scholarships*—Established by bequest of John George Ross.

*Jean Covert Sauer and Carolyn Patrice Sauer Scholarship*—Established by Dr. Jean Sauer, a Medical School alumna, Class of 1956, to honor Carolyn P. Sauer, her daughter.

*Linda Shriro Schenck, M.D., Women Medical Student Scholarships*—Established by Carlos H. Schenck, M.D., in memory of his wife, Linda.

*Dr. Burtrum and Evelyn Schiele Scholarships*—Established by Dr. Schiele, professor emeritus, psychiatry, and his wife, Evelyn.

*Dr. Vernon D.E. Smith Scholarships*—Established in memory of Dr. Smith, a St. Paul surgeon and a founder of the Minnesota Medical Foundation.

*Eugene S. Strout, M.D., Family Practice Scholarship*—Established by Dr. Strout, a Medical School alumnus, Class of 1964.

*Albert Sullivan Scholarship*—Honors the memory of Dr. Sullivan, associate dean of the Medical School and faculty member for 34 years.

*Luigi Taddeini Scholarship*—Established in memory of Dr. Taddeini, who served as chairman and president of Ramsey Clinic in St. Paul.

*Dr. Hulda Thelander Scholarships*—Established by Dr. Thelander, a Medical School alumna, Class of 1924.

*UMD Scholarships*—Established to benefit medical students at the University of Minnesota, Duluth.

*Victor and Robert Vaughn Scholarships*—Established by bequest of Victor Vaughn, M.D.

*Vines Scholarships*—Established in memory of Harold Thomas Vines by Lillian Vines.

*Harold and Rhea Walder Memorial Scholarship*—Established through a trust created by Harold Walder to benefit medical students at the University of Minnesota, Duluth.

*George E. Williams Scholarships*—Established in memory of Dr. Williams, former professor of psychiatry and assistant dean of student affairs.

*George H. and Lillian K. Williams Scholarships*—Established by George and Lillian Williams.

The following medical school scholarship funds are awarded on the basis of financial need: General Medical Student Scholarship, Schoberg Medical Student Scholarship, American Medical Association Education and Research Foundation (AMA-ERF) Scholarships, Wetzel Medical Fellowships, and Dr. Robert Christian Strand Scholarship.

## Student Life

**The Adytum and Other Facilities**—A major center of medical student activities is the Medical Student Adytum. The word adytum is a transliteration of the Greek word meaning an innermost sanctuary; hence the Medical School Adytum is an area to be used *only* by medical students and their guests. This spacious, comfortable area is centrally located on the first floor of the Mayo Memorial Building. It is a place for students to eat and relax, and it has a quiet room for study. Funds for constructing and equipping the Adytum were donated by the Minnesota Medical Alumni Association. The facilities were dedicated in 1964 and recently remodeled. A center for medical students and other health sciences students is also located in Moos Health Sciences Tower, convenient to lockers, health sciences classrooms, and the cafeteria. Active exchange among students from a variety of health professions is fostered through the sharing of these facilities.

**Housing**—The residence halls offer commuter meal contracts with a variety of options. Accommodations with meals are offered on a space-available basis in the several medical fraternities located near the medical center. Privately owned apartments adjacent to the campus are rented by students, often on a shared

basis. Information about family/partnered housing is available from Commonwealth Terrace, 1250 Fifield Place, St. Paul, MN 55108-1102 (612/646-7526) and Como Student Community, 1024 27th Avenue S.E., Minneapolis, MN 55414-2702 (612/378-2434).

Housing with meals also is available to medical students on an annual contract basis in University-operated residence halls conveniently located near the medical center. Information about residence hall services and off-campus housing can be obtained by contacting Housing & Residential Life, Comstock Hall—East, 210 Delaware Street S.E., Minneapolis, MN 55455-0307 (612/624-2994, fax 612/624-6987). The average cost of single room and board is \$1,593 per quarter for the 1997-98 school year.

Students may purchase meals at the Coffman Memorial Union, Sostanza Cafeteria in Moos Tower, or the Outside In located on the second floor of the Phillips-Wangensteen Building, and the Bridges Cafeteria located on the eight-floor of the hospital, as well as many sandwich and beverage vending machines in other convenient locations.

**Boynton Health Service**—Boynton Health Service provides medical care for full-time students and maintains outpatient clinic facilities close to the medical center. All students are entitled to certain outpatient services as part of their quarterly student services fee payment. Hospitalization insurance coverage is required for all students. Students desiring medical-surgical hospital insurance coverage through the University-sponsored Student Health Insurance Plan must purchase it each quarter at registration. The cost is added to the fee statement. Supplementary health care benefits, including hospital coverage during term breaks, extended outpatient benefits, and family coverage, can be purchased at the cashiers window at Boynton Health Service. For more information, contact Boynton Health Service (612/625-8400).

**Employment**—The Medical School undergraduate program is organized on a schedule that generally requires the student's full-time commitment to make the most of the coursework and experience. Therefore, students are urged not to seek employment or schedule other activities and obligations outside their



*Dr. Leon Satran, associate professor in the Department of Pediatrics, examining patient Roshauk Vanaki.*

medical studies that could significantly interfere with the pursuit of their medical education. Prospective students should carefully scrutinize their projected financial needs for their complete Medical School program and should make appropriate long-range plans to meet these needs primarily through personal savings, the help of parents, and loans when needed.

**Graduate Assistantships**—Medical students may hold graduate assistantships as either graduate research or teaching assistants. Students working a 25 percent, or 130 hours per quarter, assistantship are eligible for benefits. The first benefit reduces tuition costs to resident rates for nonresidents, the second reduces the remaining resident tuition rate by twice the percentage of time worked (e.g., a 25 percent appointment receives a 50 percent reduction of the resident tuition rate). If you receive an assistantship, read *The Handbook for Graduate Assistants* to ensure you know your rights and responsibilities under this job title. A copy may be obtained from your department or the Graduate Assistant Office, 1-41 Donhowe Building, 319-15th Avenue S.E., Minneapolis, MN 55455 (612/624-7070; fax 612/625-9801).

**Medical Student Government**—The Medical Student Council, the student governing body, is composed of representatives from each class who are elected each year. Council members

meet regularly and frequently to discuss problems common to members of the student body and to plan a variety of projects and service activities. The council represents the interests of the medical students to the administration and faculty. The medical students, through the council, have adopted an honor code. Upon acceptance by the Medical School, students, after suitable briefing, sign a statement indicating that they are well acquainted with this honor code and agree to abide by it. The Peer Review Committee of the Medical Student Council is responsible for investigating reports of any suspected violations of the code.

**Student Organizations**—The breadth of groups and organizations available to medical students provides opportunities for support, socializing, and exploring health issues from various perspectives. Student organizations and volunteer opportunities at the University of Minnesota Medical School include the following.

*Alpha Omega Alpha (ΑΩΑ)*—The National Honor Medical Society, selects a limited number of academically high-ranking students from the junior and senior classes for election to membership. In addition to scholastic excellence, integrity, compassion, leadership, and fairness are also used as selection criteria. The group holds an annual spring banquet to recognize newly elected members.

*American Medical Association-Medical Student Section (AMA-MSS)*—Serving as the student arm of the nation’s largest professional organization of physicians, members of this organization may attend two national conventions and one state convention each year. In addition, students may formulate community health care policy through two county medical societies. AMA-MSS also serves as the student wing of the Minnesota Medical Association, allowing students to interact with peers from other Minnesota medical schools and become a strong voice in the state legislature.

*American Medical Student Association (AMSA)*—The largest independent medical student organization in the nation dedicated to fostering communication among medical students. AMSA members receive quarterly and bimonthly publications and are entitled to low interest loans, discounts on a medical publications, auto/health insurance, and credit cards. AMSA holds a national convention annually and has 18 national task forces focused on a variety of areas of interest and concern. Projects of the Minneapolis chapter include AIDS Awareness and a University Blood Drive.

*Christian Medical and Dental Society (CMDS)*—An interdenominational Christian fellowship group seeking to provide social interaction and spiritual encouragement. An international organization of physicians, dentists, and allied health professionals with the goal of incorporating faith into lives and practices. Weekly lunch meetings, quarterly outings, a Christmas party, spring retreat, summer barbecue, monthly journal, overseas mission trips.

*The Confidential Peer Assistance Program (CPAP)*—A peer-organized council, supported by faculty and staff, that provides support and resources to fellow medical students coping with the stresses of medical school.

*The Council for Health Interdisciplinary Participation (C.H.I.P.)*—An organization comprised of health sciences students dedicated to enhancing students’ quality of life and education through various extracurricular activities, symposia, volunteer projects, and community service. The C.H.I.P. Student Center provides a comfortable meeting space and kitchen area, as well as telephone and typewriter use and free notary public services.

*Doctors Ought to Care (DOC)*—The University’s branch of this national organization allows medical students to present talks at area schools. After training, medical students may participate by preparing presentations on topics such as drug abuse, tobacco use, drinking, sex, eating disorders, self-esteem, and steroid abuse.

*Emergency Medicine Interest Group (EMIG)*—The primary goal of the group is to provide information regarding emergency medicine and residencies. Lectures on topics such as what it is like to be an emergency physician and what it takes to get the residency of your choice are given monthly. Research opportunities are available. Observing physicians in the emergency departments of some of the local hospitals is also possible.

*Family Medicine Interest Group (FMIG)*—This group serves as a forum for exploring careers and lifestyles of the primary care physician. Events sponsored by the group include a suture clinic, IV and intubation seminars, and review of the business aspects of a primary care clinic.

*Gay, Lesbian, and Bisexual Medical Student Association*—An association that provides a support network for gay/lesbian/bisexual medical students. Activities include socializing, political organizing, and participating in the annual Pride event.

*Health Students for Choice (HSFC)*—Part of the National Organization of Medical Students for Choice, this group includes student advocates and activists for reproductive rights. The group sponsors lectures and open panel discussions, runs a voter registration booth, holds birth control seminars, and is involved with community-based sex education programs.

*Healthy Moms/Happy Babies*—This program pairs first- and second-year students with pregnant patients to provide early clinical experiences for the students and additional support for the patients. Students attend all prenatal appointments and the deliveries and are encouraged to follow up by going to infant checkups.

*Holistic Health Committee*—An organization for health care students that serves as a resource for information and discussion to improve understanding of the complex interactions

among physiological, psychological, spiritual, and social/cultural aspects of health and health care. Each year, the committee sponsors a symposium, fall retreat, and noon-hour lectures on issues such as alternative methods of health care, preventive medicine, and spiritualism in health care.

*Internal Medicine Interest Group (IMIG)*—This group provides students in any year of medical school with opportunities to get a closer look at the practice of internal medicine as a career. These opportunities are drawn from a variety of settings in which internists work (e.g., hospital, clinic, academic), including both primary-care and subspecialty roles. The group is actively supported by the Minneapolis Society of Internal Medicine, the American College of Physicians, and the University’s Department of Medicine.

*Intertribal Alliance of Medical Students*—This group provides support for Native American/Alaskan Native students of medicine, including mentorships, tutorials, and skill workshops.

*La RAMA*—A Hispanic medical student club that gives students the opportunity to converse in Spanish, produces a Spanish-English translator booklet on the most commonly asked questions in the medical history, sets up trips to Hispanic plays and concerts, and organizes tutorials for underprivileged Latin American youth.

*Marathon Training Club: Med School Running Club*—Ten percent of the Medical School’s students ran in Duluth’s Grandma’s Marathon their first year. This club helps students train, encourages exercise, and provides a break from academia.

*Medical School Partners*—A social group for partners of medical students and their families, providing support and tips on surviving medical school.

*Medical Students in Community Service*—This group of first- through fourth-year medical students provides medical services to underserved urban communities. The goal of this student-run clinic is to provide care to the community as well as to cut down on metro emergency room visits by offering extended hours of care. The People’s Center clinic is a

unique opportunity for students to get “hands-on” experience working with a diverse patient population.

*Mini-Osler Lecture Series*—Named in honor of the broadly educated, pioneering clinician Sir William Osler, this student group sponsors a noon-hour lecture series to foster medical students’ personal growth by allowing them to share their out-of-classroom adventures and learning experiences with each other.

*Minority Mentorship Program*—Minority medical students in this program volunteer as mentors to high school juniors and seniors. High school students are given an opportunity to explore medical school by taking tours, sitting in on lectures, and sometimes attending surgical procedures on small animals. This program strives to encourage education and provide high school students with positive role models.

*Pediatric Interest Group (PIG)*—This group was organized to promote knowledge about issues concerning children and adolescents. Topics range from current research in pediatrics to clinical practice. To learn more about the clinical care of children, the group has established a shadowing program that matches students with a local pediatrician. Any student interested in research should contact the Pediatric Grants Research Office.

*Psychiatry Club*—This group meets monthly to discuss issues related to psychiatry. The meetings are informal and typically focus on a speaker’s presentation followed by question and answers.

*Rural Observation Experience*—This program pairs first- and second-year medical students with rural family physicians. The students spend three or four days observing such aspects as the doctor with patients, staff meetings, and nursing home or hospital rounds.

*Student Committee on Bioethics*—A student-run group that challenges health care professionals to think seriously about perplexing issues in medicine. The committee runs a popular weekly noon-hour lecture series, sponsors a spring forum focusing on a current topic of debate, and supports the Socrates Society in which students can gather less formally for discussion.

*Student National Medical Association (SNMA)*—SNMA is one of the nation’s oldest and largest organizations focusing on the needs and concerns of medical students of color. It advocates improved, culturally sensitive health care services and education for neglected and underserved populations.

*Students’ International Health Committee (SIHC)*—This organization provides information about the different health care systems and, through speakers and libraries, keeps students informed of opportunities abroad. SIHC organizes a series of dinner discussions centered on international experiences and perspectives, sponsors noon-hour discussion groups, holds a book drive for needy libraries abroad, puts on a cross-cultural retreat, and coordinates an annual symposium.

*Surgical Interest Group (SIG)*—This newly organized group provides training and educational opportunities for medical students interested in surgical careers. Events include a surgical skills workshop.

*The Wilderness Health Society (WHS)*—This group organizes lectures, training, workshops, and trips to national conferences on subjects relating health issues to wilderness environments. Events include first-aid certification, rescue training, and a weekend retreat.

*Women in Medicine (WoMed)*—A national organization for medical students associated with the American Medical Women’s Association (AMWA) and Minnesota Women Physicians. The group is open to all medical students interested in women’s health issues and the advancement of women in the medical

profession. Activities include the annual, national AMWA convention, dessert and coffee socials, an informal group for medical moms, quarterly dinners, and a lecture series.

*Medical Fraternities*—There are three primary, active medical fraternities at the University, all of which offer medical student housing. These organizations play a major role in the social life of many medical students.

- *Nu Sigma Nu (NΣN)*—With housing for 21 male and female medical students, this house is a five-minute walk from the medical school. With six second-year medical students to provide support and advice, NΣN accommodates first-year students with planned social activities, a food co-op and a large, fully-equipped living room space.
- *Phi Chi (ΦΧ)*—This fraternity is a world-wide co-ed organization that was started by medical students to offer companionship and support during medical school. Located in a large, old, brick house situated in the heart of Stadium Village, Phi Chi has housing for 17 students, most of whom have their own rooms, and is open to out-of-house members.
- *Phi Rho Sigma (ΠΡΣ)*—Close to campus, this fraternity consists of four houses divided into one-, two- and three-bedroom apartments each with kitchen, bathroom, and living room. Each student has a separate bedroom. The fraternity is co-ed by apartments. Also available are off street parking, laundry facilities, and common areas for studying and meetings.