



UNIVERSITY OF MINNESOTA

Spring Commencement, 1982

MARCH AND JUNE GRADUATE SCHOOL
CANDIDATES FOR DEGREES

Board of Regents

The Honorable Charles H. Casey, D.V.M., West Concord
The Honorable William B. Dosland, Moorhead
The Honorable Willis K. Drake, Minnetonka
The Honorable Erwin L. Goldfine, Duluth
The Honorable Lauris D. Krenik, Madison Lake
The Honorable David M. Lebedoff, Minneapolis
The Honorable Verne Long, Pipestone
The Honorable Charles F. McGuiggan, D.D.S., Marshall
The Honorable Wenda W. Moore, Minneapolis
The Honorable David K. Roe, St. Paul
The Honorable Mary T. Schertler, St. Paul
The Honorable Michael W. Unger, St. Paul

Administrative Officers

C. Peter Magrath, President
Frederick M. Bohlen, Vice President for Finance and Operations
Lyle A. French, Vice President for Health Sciences
Stanley B. Kegler, Vice President for Institutional Relations
Kenneth H. Keller, Vice President for Academic Affairs
Nils Hasselmo, Vice President for Administration and Planning
Frank B. Wilderson, Vice President for Student Affairs

Additional copies of this program are available from the Department of University Relations, S-68 Morrill Hall, 100 Church St. S.E., University of Minnesota, Minneapolis, Minnesota 55455.

THE BOARD OF REGENTS requests that the following Northrop Memorial Auditorium procedures or regulations be adhered to. (1) Smoking is confined to the outer lobby on the main floor, to the gallery lobbies, and to the lounge rooms. (2) The use of cameras or tape recorders by members of the audience is prohibited. (3) The sale of tickets by anyone other than authorized box office personnel is prohibited in the lobby or corridors of Northrop Memorial Auditorium.

Your University

CHARTERED in 1851 by the Legislative Assembly of the Territory of Minnesota, the University of Minnesota this year celebrated its one hundred and thirty-first birthday. One of the great land-grant universities in the nation, the University of Minnesota is dedicated to training young men and women to be our future leaders. Each year, graduates add new skills and knowledge to the existing resources of the state. They have been trained as physicians, lawyers, engineers, social workers, teachers, journalists, dentists, pharmacists, nurses, scientists, farmers, business people—to name but a few of the careers for which preparation is offered. Since its founding, the University has awarded over 355,000 degrees, each one in recognition of the successful completion of a challenging academic program.

In addition to giving collegiate instruction to nearly 59,000 students annually on its Twin Cities, Duluth, Morris, Crookston, and Waseca campuses and at the Mayo Medical and Graduate Schools in Rochester, the University offers special training for those who wish to study part-time through Continuing Education and Extension. The University also offers educational opportunities through its Agricultural Extension Service, with county agents, home agents, 4-H club agents, and recreation and health consultants available to provide help to Minnesotans in their own homes.

In the many research laboratories on the University's five campuses, at the agricultural experiment stations throughout the state—the Rosemount Research Center, the Cloquet Forestry Center, the Cedar Creek Natural History Area near Bethel, the Horticultural Research Center and Landscape Arboretum at Excelsior, the Lake Itasca Forestry and Biological Station, the Sand Plain Experimental Field at Becker, and the Hormel Institute at Austin—and at the University Hospitals, University scientists are at work on experiments of great potential importance to the quality of our lives. Research projects are leading to new knowledge in such areas as learning disabilities, drug abuse, urban and environmental problems, health care delivery systems, and computer technology. The progress made in these and other areas will have a profound impact on the lives of Minnesotans and people throughout the world.

THE UNIVERSITY continues to be a cultural center of the Upper Midwest as the home of radio station KUOM, the University Theatre, the Bell Museum of Natural History, and the local performances of the Metropolitan Opera Company.

Minnesotans have good reason to be proud of their University, not only because it is one of the leading state universities in the country, but also because of the extent and quality of its services to the people of the state, their families, communities, and organizations. The interest of Minnesotans in their University is a dynamic thing, and it expresses itself in many ways. Their contributions have made it possible to build the Variety Club Heart Hospital and the Mayo Memorial Building. Through the American Legion and its auxiliary posts all over the state, thousands of friends have made generous donations to endow a research professorship in heart disease. Other contributions have built the Masonic Cancer Center, the Veterans of Foreign Wars Cancer Research Center and Diehl Hall, which houses the biomedical library and medical research facilities.

Generous contributions by corporations, associations, foundations, trade unions, clubs, and individuals have made hundreds of grants and fellowships available to

deserving students. Friends and supporters of the University, who are aware of the financial impact of increased specialization, work continuously to increase the funds available for student assistance.

THE 1981 LEGISLATURE appropriated \$478.4 million for the University for the 1981-83 biennium. That appropriation was reduced by \$26.6 million in the 1982 session as part of the response to the state's financial difficulties. A financial statement prepared and circulated by the University each year is available to anyone on request.

COMMENCEMENT marks the conclusion only of the student's academic life at the University. As a graduate, he or she is part of its history and part of its future as well. Alumni are urged to continue their relationship with the University through the Minnesota Alumni Association and its college groups.

Alumni and their families and friends will always be welcome here. The University's doors will be open to those who come back to visit and to keep in touch with an important part of their lives.

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, creed, color, sex, national origin, or handicap.

March Candidates for Degrees

Subject to the completion of all curriculum requirements at the close of winter quarter, degrees will be conferred as indicated on those listed below and on others meeting the graduation requirements. Degrees are listed alphabetically.

GRADUATE SCHOOL

Doctor of Education

Elizabeth Anne Griffin, Ithaca, N.Y.
B.S. '68, M.S. '73, Indiana University. Major: Physical Education. Minor: Supporting Program. Project: A Study of Outdoor Education Programs Provided for Gifted Elementary and Secondary School Students by Selected Outdoor Education Centers and by Boards of Cooperative Educational Services in New York State. Major Adviser: Prof. Frederick Chapman.

David E. Kingsbury, Bemidji
B.S. '69, M.S. '72, Wisconsin State University, River Falls. Major: Vocational Education. Minor: Supporting Program. Project: The Readiness of Minnesota's Area Vocational Technical Institutes for Evaluation of Support Services Serving the Handicapped. Major Adviser: Prof. Mary Klaurens.

Bruce Edwin Siebold, Menomonie, Wis.
B.S. '70, Wisconsin State University, River Falls; M.S. '71, University of Illinois; Ed.S. '78, University of Wisconsin, Stout. Major: Vocational Education. Minor: Supporting Program. Project: A Study To Determine the Image of Post-Secondary Vocational Education in Wisconsin's Vocational Technical Adult Education District One. Major Adviser: Prof. Mary Klaurens.

Doctor of Philosophy

Deborah Dorothy Anderson,
Paynesville
B.A. '68, College of St. Benedict; M.A. '77, University of Minnesota. Major: Theatre Arts. Minor: Supporting Program. Thesis: Story Theatre: Its Development, Implementation and Significance as a Theatrical Art Form and a Performance Technique. Major Adviser: Prof. Kenneth Graham.

Steven Edward Anderson,
Farmington
B.A. '74, University of Minnesota. Major: Physiology. Minor: Supporting Program. Thesis: The Influence of Interstitial Elasticity on Transcapillary Transfer in the Rabbit Heart. Major Adviser: Prof. John Johnson.

Dominique Blanche Armes, Paris,
France
Licence '57, D.E.S. '59, University of Paris; M.A. '73, University of Minnesota. Major: French. Minor: English. Thesis: La Poétique d'Audefroie le Batard: Approche Scémotique. Major Adviser: Prof. F.R. Akehurst.

Haya Ascher-Svanum, Tel-Aviv,
Israel
B.A. '73, Tel-Aviv University; M.A. '77, University of Minnesota. Major: Psychology. Minor: Psychiatry. Thesis: Alcohol Use and Psychological Distress During the Menstrual Cycle. Major Advisers: Profs. Roy Pickens and Auke Tellegen.

Sharon Hanson Banister, Minneapolis
B.A. with highest honors '75, Bethel College. Major: Microbiology. Minor: Supporting Program. Thesis: The Role of the Macrophage in the Induction of in Vitro Cell-Mediated Cytotoxicity. Major Adviser: Prof. Jon Schmidtke.

Susan Irene Barr, Vancouver,
Canada
B.H.E. '76, University of British Columbia. Major: Nutrition. Minor: Supporting Program. Thesis: Interrelationships of Triglycerides and Apolipoproteins in the Fasting and Postprandial States. Major Adviser: Prof. B.A. Kottke.

Annamarie Lucille Beckel,
Cardington, Ohio

B.A. '72, M.S. '74, Miami University. Major: Ecology. Minor: Supporting Program. Thesis: Behavior of Free-Ranging and Captive River Otters in North Central Wisconsin. Major Adviser: Prof. John Tester.

Elena M. Fernandez Berdaguer,
Buenos Aires, Argentina

Licenciado '69, Universidad de Buenos Aires. Major: Control Sciences. Minor: Supporting Program. Thesis: Optimal Control of Hereditary Systems. Major Adviser: Prof. E.B. Lee.

Leon Holt Blake, Ogden, Utah

B.A. '65, Brigham Young University; M.A. '67, University of Oregon. Major: Education. Minor: Educational Psychology. Thesis: A Measure of Developmental Change. Major Adviser: Prof. Clyde Parker.

Elizabeth Ann Bray, Potsdam, N.Y.

A.B. '76, Mount Holyoke College; M.S. '78, University of Minnesota. Major: Plant Physiology. Minor: Supporting Program. Thesis: The Involvement of Abscisic Acid in the Cold Acclimation of *Cornus Sericea* L. Major Adviser: Prof. Mark Brenner.

Mauricio E. Camargo, Barranquilla,
Colombia

Titulo de Biol. '72, Universidad de Antioquia; M.S. '79, University of Minnesota. Major: Genetics. Minor: Supporting Program. Thesis: High Resolution Analysis of DNA Replication in Human Chromosomes: Replication Map and Clinical Applications. Major Adviser: Prof. Jaroslav Cervenka.

Philip Marshall Catchings, Jr.,
Jackson, Miss.

B.A. '72, Millsaps College. Major: Psychology. Minor: Supporting Program. Thesis: Studies of Smoking Topography. Major Adviser: Prof. Roy Pickens.

David Charles Coulson, Sacramento,
Calif.

B.A. with honors '73, California State University, Sacramento; M.A. '74, Ohio State University. Major: Mass Communication. Minor: Supporting Program. Thesis: Nelson Poynter: A Study of an Independent Publisher and His "Standards of Ownership." Major Adviser: Prof. Edwin Emery.

Nejat Cur

B.S. '74, M.S. '77, Middle East Technical University; M.S.M.E. '80, University of Minnesota. Major: Mechanical Engineering. Minor: Fluid Mechanics. Thesis: Local Turbulent Heat Transfer Coefficients in a Symmetrically or Asymmetrically Heated Flat Rectangular Duct with Either Uniform or Nonuniform Inlet Velocity. Major Adviser: Prof. E.M. Sparrow.

March

Ross Stanley Cutler, Bendigo,
Victoria, Australia

B.V.Sc. '72, University of Melbourne. Major: Veterinary Medicine. Minor: Supporting Program. Thesis: Porcine Parvovirus. Major Adviser: Prof. Allen Leman.

Michael Niven Dana, West
Lafayette, Ind.

B.A. '73, University of Wisconsin, Madison; M.S. '78, University of Minnesota. Major: Horticulture. Minor: Supporting Program. Thesis: Studies on the Nature of Pseudo-Self Compatibility and the Self-Incompatibility Complex in *Petunia Hybrid* Hort. Major Adviser: Prof. Peter Ascher.

Mindaugas F. Dautartas,
Chesterland, Ohio

B.S. '77, Ohio State University. Major: Chemistry. Minor: Supporting Program. Thesis: Studies of Plasma Polymerized Vinylferrocene Thin Films. Major Adviser: Prof. John Evans.

Brian Lee Davis, Warrenville, Ill.

B.S. '74, Iowa State University. Major: Psychology. Minor: Supporting Program. Thesis: The Effectiveness of Computer Assisted Instruction and Behavior Modeling for Performance Appraisal Training. Major Adviser: Prof. Patrick Pinto.

Owen Kent Davis, Murtaugh, Idaho

B.S. '71, College of Idaho; M.S. '75, Washington State University. Major: Ecology. Minor: Supporting Program. Thesis: Vegetation Migration in Southern Idaho During the Late-Quaternary and Holocene. Major Adviser: Prof. R.C. Bright.

Karol Kay DeRoos, Minneapolis

B.A. '63, Concordia College; M.P.H. '67, University of Minnesota. Major: Education. Minor: Supporting Program. Thesis: Persistence of Adults in Independent Study. Major Adviser: Harlan Copeland.

Athanasios Sotirios Economou,
Thessaloniki, Greece

Dipl. '72, Aristotelian University of Thessaloniki; M.S. '81, University of Minnesota. Major: Horticulture. Minor: Supporting Program. Thesis: Chemical and Physical Factors Influencing *In Vitro* Propagation of Hairy Deciduous Azaleas (*Rhododendron Spp.*). Major Adviser: Prof. Paul Read.

William Ray Ellis, Fresno, Calif.

B.A. cum laude '75, Fresno State College; M.S. '78, Washington State College. Major: Soil Science. Minor: Supporting Program. Thesis: Inoculum Persistence and Rhizosphere Competence of *Rhizobium Japonicum*. Major Adviser: Prof. George Ham.

Carol Joy Ericson, Minneapolis
B.S. with distinction '67, M.A. '71, University of Minnesota. Major: Educational Administration. Minor: Supporting Program. Thesis: Determinants of Special Education Compliance Audit Outcomes. Major Adviser: Prof. Richard Weatherman.

Barry Lee Falk, Allentown, Pa.
B.A. magna cum laude '73, University of Pennsylvania. Major: Economics. Minor: Supporting Program. Thesis: An Application of Rational Expectations Modelling Techniques to Policy Evaluation in the Housing Market. Major Adviser: Prof. Craig Swan.

Timothy Friberg, Minneapolis
B.A. '68, Wheaton College; M.A. '78, University of Minnesota. Major: Linguistics. Minor: Supporting Program. Thesis: New Testament Greek Word Order in Light of Discourse Considerations. Major Adviser: Prof. Rocky Miranda.

Daniel Paul Getman, Buffalo, N.Y.
B.A. magna cum laude '77, University of New York at Buffalo. Major: Chemistry. Minor: Supporting Program. Thesis: The Syntheses and Transition Metal-Promoted Rearrangements of Sterically Hindered Derivatives of Bicyclo (1.1.0) Butane. Major Adviser: Prof. Paul Gassman.

Jackie Elaine Gnepp, Philadelphia, Pa.

B.A. magna cum laude '74, Bryn Mawr College. Major: Child Psychology. Minor: Supporting Program. Thesis: Children's Social Sensitivity and Ability To Reconcile Conflicting Affective Cues. Major Adviser: Prof. Thomas Trabasso.

Yaron Israel Gold, Tel-Aviv, Israel
B.S. cum laude '70, M.S. '75, Technion-Israel Institute of Technology. Major: Computer and Information Sciences. Minor: Supporting Program. Thesis: Generalized Access-Protocols for Multi-Access Channels. Major Advisers: Profs. William Franta and Kenneth Thurber.

Terry Lee Gottfried, Roseville
B.A. summa cum laude '76, University of Minnesota. Major: Psychology. Minor: Linguistics. Thesis: Perception of French and American English Vowels: A Cross-Language Study. Major Adviser: Prof. James Jenkins.

Steven William Gust, Minneapolis
B.A. '72, Indiana University. Major: Psychology. Minor: Supporting Program. Thesis: Relationship of Puff Volume to Other Topographical Measures in Smoking Behavior. Major Adviser: Prof. Roy Pickens.

Janet Lynn Hagen, Minneapolis
B.A. '70, University of North Dakota; M.S.W. '72, Washington University. Major: Social Work. Minor: Supporting Program. Thesis: Due Process Procedures Utilized by Petitioners in Welfare Fair Hearings. Major Adviser: Prof. David Hollister.

Garry Howard Hannah, Minneapolis
B.A. '77, University of Minnesota; M.A. '77, Central Michigan University. Major: Educational Psychology. Minor: Supporting Program. Thesis: The Consequences of Residual Effects in Repeated Measures Designs Under Randomization. Major Adviser: Prof. R.O. Collins.

Gregory Dean Hanson, Ramona, S.D.
B.A. cum laude '73, Dartmouth College; M.S. '78, University of Minnesota. Major: Agricultural Economics. Minor: Supporting Program. Thesis: Agricultural Income Tax Expenditures and Their Effects on Farm Growth. Major Adviser: Prof. Vernon Eidman.

Abraham Gijsbert Hartzema, The Hague, Netherlands
D.Phil. '76, Rijksuniversiteit, Utrecht; M.S.P.H. '79, University of Washington. Major: Social and Administrative Pharmacy. Minor: Supporting Program. Thesis: The Impact of Selected Illness Behaviors in Seeking Professional Care. Major Adviser: Prof. Albert Wertheimer.

Steven Francis Heppelmann, St. Paul
B.S. '73, University of Minnesota. Major: Physics. Minor: Supporting Program. Thesis: A Measurement of the Pion Electromagnetic Charge Radius by Pion Electron Scattering. Major Adviser: Prof. Earl Peterson.

Arturo Hernandez, Tezcoco, Mexico
Ing. '74, M. en Ciencias '77, Escuela Nacional de Agricultura. Major: Plant Breeding. Minor: Supporting Program. Thesis: Recurrent Selection Methods in Wheat (*Triticum aestivum* L.). Major Adviser: Prof. D.D. Stuthman.

David Leroy Hickerson, Plainville, Ill.
B.A. '67, Olivet Nazarene College; M.S. '70, De Paul University. Major: Physics. Minor: Supporting Program. Thesis: Double Excitation of Light Atoms by Electron Impact. Major Advisers: Profs. Clayton Giese and John Dahler.

Arthur Cyrus Hill, Coon Rapids
B.A. '60, M.A. '68, University of Minnesota. Major: History. Minor: Supporting Program. Thesis: The History of the Black People of Franklin County, Tennessee. Major Adviser: Prof. Clarke Chambers.

Vicky Rae Holets, Swisher, Iowa
B.S. '77, Iowa State University. Major: Anatomy. Minor: Supporting Program. Thesis: The Differential Distribution and Relationship of the Chemically Coded Input to Sympathetic Preganglionic Neurons in the Intermediolateral Cell Column of the Rat and Kitten. Major Adviser: Prof. Robert Elde.

Patricia Sue Holloway, Fairbanks, Alaska
B.A. cum laude '73, Millersville State College; M.S. '76, Washington State University. Major: Horticulture. Minor: Supporting Program. Thesis: Studies on Vegetative and Reproductive Growth of Lingonberry, *Vaccinium Vitis-Idaea* L. Major Adviser: Prof. Cecil Stushnoff.

Chia Fu Hsu, Taipei, Taiwan
B.S. '74, Tsing Hua University; M.S. '77, University of Kentucky. Major: Mechanical Engineering. Minor: Supporting Program. Thesis: A Curvilinear-Coordinate Method for Momentum, Heat and Mass Transfer in Domains of Irregular Geometry. Major Adviser: Prof. S.V. Patankar.

Norman Lernell James, St. Cloud
B.A. '68, M.S. '70, Southern Illinois University. Major: Educational Psychology. Minor: Supporting Program. Thesis: Social Interdependence, Alienation and Criminal Behavior. Major Adviser: Prof. David Johnson.

Dana Ernest Johnson, St. Paul
B.A. summa cum laude '70, North Park College. Major: Anatomy. Minor: Supporting Program. Thesis: The Streptozotocin-Nicotinamide Induced Rat Islet Adenoma: Characterization of *in Vitro* Proinsulin and Insulin Synthesis in Whole Tumor Tissue and Tumor Derived Cell-Free Systems. Major Adviser: Prof. G.E. Bauer.

Lyndel Irene Saunders King, Hugoton, Kan.
B.A. '65, University of Kansas; M.A. '71, University of Minnesota. Major: Art History. Minor: Supporting Program. Thesis: The Art Union of London: 1837-1912. Major Adviser: Prof. Karal Marling.

Keith Karl Klein, Minneapolis
B.S. '73, University of Minnesota. Major: Genetics. Minor: Supporting Program. Thesis: Studies in the Developmental Genetics of *Schizosphyllum Commune*. Major Adviser: Prof. Val Woodward.

Maurice Dean Knighton, West Bountiful, Utah
B.S. '67, M.S. '69, Utah State University. Major: Forestry. Minor: Soil Science. Thesis: Vegetation Dynamics in Wildlife Water-Impoundments of North Central Minnesota. Major Adviser: Prof. David Grigal.

March

Santhana V. Krishnan, Calicut, India
B.E. '76, University of Mysore; M.S. '78, University of Minnesota. Major: Mineral Engineering. Minor: Supporting Program. Thesis: Heterocoagulation and Surface Precipitation in Selective Flocculation of Iron Ores. Major Adviser: Prof. Iwao Iwasaki.

Amrutha Prameela Kumari Meriga Kuraguntle, Guntur, India
M.S. '70, Andhra University; M.S. '78, University of Minnesota. Major: Cell and Developmental Biology. Minor: Supporting Program. Thesis: Site-Specific Satellite DNA Polymorphism on *Drosophila virilis* Chromosomes. Major Adviser: Prof. Martin Blumenfeld.

Anne Siren Levig, Cambridge
B.A. with honor '64, M.A. '65, University of Wyoming. Major: Education. Minor: Supporting Program. Thesis: Motivation and Satisfaction of Minnesota Community College Students and Instructors Toward Credit and Non-Credit Foreign Language Courses. Major Adviser: Prof. Dale Lange.

Michael Marc Levy, Chicago, Ill.
A.B. '72, University of Illinois; M.A. '74, Ohio State University. Major: English. Minor: Supporting Program. Thesis: The Transformations of Oberon: The Use of Fairies in Seventeenth-Century Literature. Major Adviser: Prof. Thomas Clayton.

Olga Nietta Loffredi, Rio de Janeiro, Brazil
B.A. '76, Federal University of Rio de Janeiro; M.A. '80, University of Minnesota. Major: Educational Psychology. Minor: Supporting Program. Thesis: Crosscultural Study on Social Behavior Standards and Expectations. Major Adviser: Prof. Maynard Reynolds.

James Edward Luey, St. Paul
B.A. '72, Gustavus Adolphus College; M.S. '78, University of Minnesota. Major: Fisheries. Minor: Statistics. Thesis: Population Dynamics of Rainbow Smelt (*Osmerus Mordax*) in Western Lake Superior. Major Adviser: Prof. Ira Adelman.

Joseph Kevin McLaughlin, Springfield, Pa.
B.A. '71, West Chester State College; M.S. '74, University of Minnesota. Major: Epidemiology. Minor: Supporting Program. Thesis: Epidemiology of Renal Cell and Renal Pelvis Cancers in the Minneapolis-St. Paul Metropolitan Area, 1974-1979. Major Adviser: Prof. L.M. Schuman.

Herman James Milligan, Jr., Trenton, N.J.
B.A. '71, University of Wisconsin, Madison. Major: Sociology. Minor: Supporting Program. Thesis: The New Inmate Culture: Race Relations in a Maximum Security Prison. Major Adviser: Prof. David Ward.

Susan Janet Neil, South Gate, Calif.
A.B. cum laude '73, Occidental College; M.S. '76, University of Minnesota. Major: Ecology. Minor: Supporting Program. Thesis: The Agonistic Behavior of *Cichlasoma Meeki* (Pisces: Cichlidae): A Test of Game Theoretic Predictions. Major Adviser: Prof. Frank McKinney.

John Emmett Niethammer, Casper, Wyo.

B.S. with honor '77, B.S. with honor '77, University of Wyoming. Major: Mechanical Engineering. Minor: Supporting Program. Thesis: Heat Transfer and Pressure Drop Characteristics for Airflow over Arrays of Rectangular Modules. Major Adviser: Prof. E.M. Sparrow.

Gregory Mark Owen, Concord, N.H.
B.A. cum laude '73, University of Vermont. Major: Sociology. Minor: Supporting Program. Thesis: Care for the Dying: A Study of the Need for Hospice. Major Advisers: Profs. Don Martindale and Robert Fulton.

Andrew J. Pakstis, Philadelphia, Pa.
B.A. cum laude '71, University of Pennsylvania. Major: Psychology. Minor: Genetics. Thesis: Shared Common Descent Analyses and the Chromosomal Mapping of Polygenic Loci Underlying Physical and Behavioral Phenotypes. Major Adviser: Prof. Sandra Scarr.

Courtney Dale Peterson, Britt

B.S. '66, M.A. '70, University of Minnesota. Major: Education. Minor: Psychology. Thesis: An Inquiry into the Possible Impacts and Policy Implications of Electronic Technology Development on the Minnesota Community College System. Major Adviser: Prof. Arthur Harkins.

Joseph Paul Porwoll, Brainerd

B.S. '76, Moorhead State University. Major: Chemistry. Minor: Supporting Program. Thesis: Studies Concerning the Isolation, Purification and Biosynthesis of Delta⁹-Tetrahydrocannabinolic Acid A by Feeding Contiguously Enriched Carbon-13 Putative Precursors. Major Adviser: Prof. Edward Leete.

Chander Prakash, New Delhi, India

M.Tech. '77, Indian Institute of Technology, Kanpur. Major: Mechanical Engineering. Minor: Fluid Mechanics. Thesis: A Finite Element Method for Predicting Flow Through Ducts with Arbitrary Cross Sections. Major Adviser: Prof. S.V. Patankar.

K. Ramakrishnan, India

B.Pharm. '71, M.Pharm. '74, University of Bombay. Major: Medicinal Chemistry. Minor: Chemistry. Thesis: Benzomorphan Analogues of Enkephalin. Major Adviser: Prof. P.S. Portoghese.

William Joseph Riley, Minneapolis

B.S. '73, Wisconsin State University, River Falls; M.A. '76, Western Michigan University. Major: Hospital and Health Care Administration. Minor: Supporting Program. Thesis: The 1965 American Nurses Association Resolution for Basic Education Preparation: A Study in Diffusion of Innovation. Major Adviser: Prof. Theodor Litman.

Lydia Gail Roth-Laube, Allentown, Pa.

B.S. with distinction '72, University of Rochester; M.A. '79, University of Minnesota. Major: Educational Psychology. Minor: Supporting Program. Thesis: The Effect of Explicit and Implicit Sexual Films in Changing the Attitudes of Medical Students. Major Adviser: Prof. Warren Shaffer.

Abraham H. Shammas, Jerusalem, Israel

B.S. '67, M.S. '77, Hebrew University of Jerusalem. Major: Education. Minor: Supporting Program. Thesis: Comprehension: Image-Based Perception and Conception. Major Adviser: Prof. James Stochl.

Dennis Eugene Smith, Savage

B.S. '77, University of Minnesota. Major: Pathobiology. Minor: Biology. Thesis: Assessment of Hormone Induced Phenotypic Reversion of Transformed Human Fibroblasts by Monoclonal Anti-Fibronectin Antibodies. Major Adviser: Prof. Leo Furcht.

Val Houston Smith, Lubbock, Tex.

B.A. with honors '73, University of Kansas; M.S. '76, Rutgers University. Major: Ecology. Minor: Supporting Program. Thesis: The Nutrient and Light Dependence of Phytoplankton Productivity. Major Adviser: Prof. Joseph Shapiro.

Joseph Conrad Stankus, Worcester, Mass.

B.A. '69, College of the Holy Cross; M.A. '72, University of Minnesota. Major: Psychology. Minor: Educational Psychology. Thesis: Effect of Supervisor Technical Competence on Subordinate Job Satisfaction. Major Advisers: Profs. René Dawis and Stanley Strong.

Randolph C. Steer, St. Paul

B.A. magna cum laude '71, University of Minnesota; M.D. '76, Mayo Medical School. Major: Pathobiology. Minor: Supporting Program. Thesis: Phosphoprotein Metabolism in the Nuclear Envelope. Major Adviser: Prof. Khalil Ahmed.

Bud Wayne Stephenson, Ogden Utah

B.S. '62, M.S. '73, Utah State University. Major: Education. Minor: Psychology. Thesis: Intellectual and Ethical Development: A Dualistic Curriculum Intervention for College Students. Major Adviser: Prof. Clyde Parker.

Vanda Kasetsuwan Sujarit, Bangkok,
Thailand

D.V.M. '73, Kasetsart University; M.S. '78, University of Minnesota. Major: Veterinary Anatomy. Minor: Supporting Program. Thesis: A Nuclear Transplantation Study of Mutagenesis. Major Adviser: Prof. Alvin Weber.

Michael Francis Sullivan, Jr.,
Boston, Mass.

B.A. '74, St. John's University. Major: Educational Administration. Minor: Supporting Program. Thesis: Case Studies of Unappropriated Fund Balance Gain in Five Minnesota School Districts. Major Adviser: Prof. Charles Sederberg.

Christos George Takoudis, Larisa,
Greece

Dipl. '77, National Technical University of Athens. Major: Chemical Engineering. Minor: Supporting Program. Thesis: Rate Multiplicity and Oscillatory Phenomena in Heterogeneously Catalyzed Reactions. Major Adviser: Prof. L.D. Schmidt.

Jeffrey Cleman Teal, Farmington

B.A. '71, M.A. '74, University of Minnesota. Major: Psychology. Minor: Supporting Program. Thesis: A Multitrait-Multimethod Construct Validation Study of the Affective Sensitivity Scale Form D. Major Adviser: Prof. Gary Athelstan.

Javad Mostaghimi Tehrani, Mashad,
Iran

B.S. '72, Arya-Mehr University; M.S. '75, University of Minnesota. Major: Mechanical Engineering. Minor: Supporting Program. Thesis: The Effect of Low Ionization Potential Contaminants on the Transport Properties of Thermal Plasmas. Major Adviser: Prof. Emil Pfender.

Neil Graham Thatcher, Rapid City,
S.D.

B.A. '65, San Francisco State College; M.A. '66, State University of South Dakota. Major: Theatre Arts. Minor: Supporting Program. Thesis: The Fundamental Philosophical Principles of Theatre Art. Major Adviser: Prof. John Hurrell.

Rajagopal Vijayakumar, Madras,
India

B.E. '71, University of Madras; M.S.M.E. '77, University of Minnesota. Major: Mechanical Engineering. Minor: Supporting Program. Thesis: Ultrafine Aerosol Generation Using a Premixed Flat Flame. Major Adviser: Prof. K.T. Whitby.

Nancy Register Wangen,
Minnetonka

B.S. '77, Mankato State University; M.Ed. '78, University of Minnesota. Major: Educational Administration. Minor: Supporting Program. Thesis: Factors Affecting Teacher Receptivity to Work-Role Change in Small Secondary Schools. Major Adviser: Prof. Van Mueller.

Karen Louise Whitehead,
Bloomington

B.A. '66, University of Minnesota. Major: Mathematics. Minor: Supporting Program. Thesis: Products of Generalized Determinantal Ideals and Decompositions Under the Action of General Linear Groups. Major Adviser: Prof. John Eagon.

Doctor of Philosophy in Neurosurgery

MAYO GRADUATE SCHOOL OF MEDICINE

Dennis Lee Shubert, Bangor, Me.

B.S. '69, M.S. '70, Tufts University; M.D. '75, George Washington University. Major: Neurosurgery. Minor: Supporting Program. Thesis: Comparison of the Hoffman Reflex and Spinal Cord Evoked Potentials in a Graded Spinal Cord Lesion. Major Adviser: Prof. Shelley Chou.

Doctor of Philosophy in Surgery

Ronald Morris Ferguson, Milaca

B.A. '67, Augsburg College; M.D. '71, Washington University. Major: Surgery. Minor: Supporting Program. Thesis: Description and Characterization of Nonspecific *in Vitro* Generated Cellular Suppression of Alloantigen Responses *in Vitro* and *in Vivo*. Major Adviser: Prof. R.L. Simmons.

Henry Günther Mauer, Rochester

B.A. '70, D.M. '74, University of Iowa. Major: Surgery. Minor: Supporting Program. Thesis: Pharmacologic Reduction of Experimental Myocardial Infarct Size. Major Adviser: Prof. Robert Goodale.

Master of Architecture

Lee Bruce Anderson, St. Paul
B.A. '73, Sophia University, Japan. Major: Architecture. Thesis: Fractal Computer Aided Design. Major Adviser: Prof. Roger Clemence.

John Michael Drucker, Minneapolis
B.S. '72, University of Vermont. Major: Architecture. Thesis: The Prototypical Application of Semiology to Urban Design Process in Rutland, Vermont. Major Adviser: Prof. David Showalter.

Marc Alan Partridge, Maple Grove
B.A. cum laude '79, University of Minnesota. Major: Architecture. Thesis: Urban Music Retreat: Minncapolis. Minnesota. Major Adviser: Prof. Roger Clemence.

Master of Arts

Vera Lucia Alves, Rio de Janeiro,
Brazil
B.A. '80, University of Minnesota. Major: History. Major Adviser: Prof. Stuart Schwartz.

Rebecca Ann Anderson
B.S. '67 with distinction, University of Minnesota. Major: Elementary Education. Major Adviser: Prof. Roger Johnson.

Jeffrey Lynn Anvinson, Oslo
B.S.Ed. cum laude '80, University of North Dakota. Major: Music. Major Adviser: Prof. Paul Fetter.

Astha Artcharyavivit, Petchaburi,
Thailand
B.Ed. with first class honors '78, Chulalongkorn University. Major: Education. Major Adviser: Prof. Richard Needle.

Susan Arveson Bass, Baton Rouge,
La.
B.A. '70, University of Puget Sound. Major: Elementary Education. Major Adviser: Prof. John Manning.

Janet Stephanie Bearmon,
Minneapolis
B.A. '78, University of Minnesota. Major: Industrial Relations. Major Adviser: Prof. Mahmood Zaidi.

Martha Felicia Brinson, Minneapolis
B.A. '69, John Carroll University. Major: Educational Psychology. Major Adviser: Prof. Alan Anderson.

Donn Carman Burleigh, Minneapolis
B.A. cum laude '68, Lawrence University. Major: English as a Second Language. Major Adviser: Prof. Elaine Tarone.

Diane Marie Capetz
B.A. '72, University of Minnesota. Major: Spanish. Major Adviser: Prof. Hernan Vidal.

Ronnii Cuz-N, Minneapolis
B.S. with high distinction '71, University of Minnesota. Major: Educational Administration. Major Adviser: Prof. Samuel Popper.

Nancy Olmsted DeWeerd,
Excelsior
B.S. '69, St. Cloud State College. Major: Educational Psychology. Major Adviser: Prof. Virginia Bruininks.

Roberta June Elman, Studio City,
Calif.
B.A. '79, University of California, Santa Barbara. Major: Communication Disorders. Thesis: Verbal and Non-Verbal Behaviors of Sighted and Blind Communicators. Major Adviser: Prof. Gerald Siegel.

Mohamed Saad El-Alfy El-Shall,
Manzalah, Egypt
B.A. '60, Ain Shams University; M.Ed. '75, University of Pittsburgh. Major: Anthropology. Major Adviser: Prof. Frank Miller.

Debra Kay Engebretson, Black
River Falls, Wis.
B.S. magna cum laude '79, University of Wisconsin, Eau Claire. Major: Physical Education. Thesis: Relationship of a Submaximal Paced, Walk-Run Cardiorespiratory Fitness Field Test with Maximal Oxygen Consumption. Major Adviser: Prof. Robert Serfass.

Karen Sue Erickson, Minneapolis
B.S. with high distinction '73, University of Minnesota. Major: Educational Psychology. Major Adviser: Prof. Robert Bruininks.

John Jerome Felcyn
B.A. '65, University of Minnesota. Major: Industrial Relations. Major Adviser: Prof. Mahmood Zaidi.

Regina Joyce Feldman, Bettendorf,
Iowa

B.A. cum laude '75, University of Pennsylvania.
Major: Educational Psychology. Major Adviser:
Prof. Alan Anderson.

Lynn-Sharon Winters Friedman,
Beer-Sheva, Israel

B.S. '66, University of Manitoba. Major: Commu-
nication Disorders. Major Adviser: Prof. W.D.
Ward.

James Everett Gillispie, St. Paul

B.A. '75, University of Minnesota. Major: Library
Science. Major Adviser: Prof. Joan Leigh.

Robert Warren Grams, Falcon
Heights

B.A. magna cum laude '69, Augsburg College;
Ph.D. '75, University of Minnesota. Major: Indus-
trial Relations. Major Adviser: Prof. Sara Bynes.

Janet Marie Grew, St. Paul

B.A. with distinction '75, University of Michigan,
Ann Arbor. Major: Education. Major Adviser: Prof.
Roger Johnson.

Frans Mardi Hartanto, Bandung,
Indonesia

Insinyur '64, Bandung Institute of Technology.
Major: Industrial Relations. Major Adviser: Prof.
John Lawler.

Joan Elizabeth Heydt-nelson,
Minnesota City

B.S. summa cum laude '79, Mankato State College.
Major: Educational Psychology. Major Adviser:
Prof. Frank Wood.

David John Hoekstra, St. Paul

B.S. '79, University of Minnesota. Major: Indus-
trial Relations. Major Adviser: Prof. George Selt-
zer.

Laura Merriam Jenkins, St. Paul

B.A. '75, University of Minnesota. Major: Public
Affairs. Major Adviser: Prof. James Jernberg.

Larry Donald Johnson, Mound

B.A. '70, B.S. '77, University of Minnesota. Major:
Education. Major Adviser: Prof. Harlan Hansen.

Cynthia Lyford Jorgenson, Sleepy
Eye

B.A. '78, University of Minnesota. Major: Latin.
Major Adviser: Prof. Gerald Erickson.

Judy Ann Kostelecky, Grand Forks,
N.D.

B.S. '70, Dickinson State College. Major: Library
Science. Major Adviser: Prof. Nancy Rohde.

David Victor Lapakko, St. Paul

B.A. '72, Macalester College. Major: Speech-Com-
munication. Thesis: The Concept of Choice: Its
Implications for Theory and Research in Interper-
sonal Communication. Major Adviser: Prof. Robert
Scott.

Joseph West Lawver, Edina

B.A. '74, University of Minnesota. Major: Indus-
trial Relations. Major Adviser: Prof. Mahmood
Zaidi.

Linda Edythe Ledray, Seattle,
Wash.

B.A. '69, M.A. '71, University of Washington.
Major: Psychology. Major Adviser: Prof. Steven
Hollon.

Kathe Louise Lemmerman, Eagan

B.A. '66, American University. Major: Industrial
Relations. Major Adviser: Prof. Mahmood Zaidi.

Leslie Kay Levine, Minneapolis

A.B. '77, University of Michigan, Ann Arbor.
Major: English as a Second Language. Major Ad-
viser: Prof. Elaine Tarone.

Gail Ellen Lorenz, Elk River

B.A. '59, Carleton College. Major: Educational
Psychology. Major Adviser: Prof. John Stecklein.

Janis Lull, Minneapolis

B.A. '67, University of Oregon. Major: English.
Major Adviser: Prof. Thomas Clayton.

Merridy Anne Malin, Adelaide,
Australia

B.A. summa cum laude '75, Southern Oregon State
College. Major: Education. Major Adviser: Prof.
Harlan Hansen.

Lynn Brauch Marasco, Minneapolis

B.A. '68, University of Minnesota. Major: English.
Major Adviser: Prof. R.D. Solotaroff.

Monty Lee Martin, St. Paul

B.A. magna cum laude '72, Carleton College.
Major: Public Affairs. Major Adviser: Prof. Robert
Einsweiler.

Mildred Carolyn Masters, Edina

B.A. '54, Western College. Major: Library Sci-
ence. Major Adviser: Prof. Nancy Rohde.

Robert James McDaniel, Richfield

B.S. '72, University of Minnesota. Major: Indus-
trial Relations. Major Adviser: Prof. Mario
Bognanno.

Virginia Serene McFerran,
Minneapolis

B.A. '62, College of St. Benedict. Major: Theatre
Arts. Major Adviser: Prof. Lee Adey.

- Eva-Maria Metcalf, Minneapolis**
 Fil.Kand. '69, Stockholm University. Major: German. Major Adviser: Prof. Ruth-Ellen Joeres.
- Fekri Meziou, Sfax, Tunisia**
 Maitrise '80, University of Tunis. Major: Mass Communication. Minor: Business Administration. Major Adviser: Prof. Willard Thompson.
- Michael Thomas Moormann, Homewood, Ill.**
 B.S. '71, St. Norbert College; B.S. '75, University of Alabama, Birmingham. Major: Theatre Arts. Major Adviser: Prof. Arthur Ballet.
- Gervas R. Moshiro, Kilimanjaro, Tanzania**
 B.A. '72, University of Dar Es Salaam. Major: Mass Communication. Major Adviser: Prof. Robert Lindsay.
- Alex M.H. Mpinda, Morogoro, Tanzania**
 B.A. '74, University of Dar Es Salaam. Major: Mass Communication. Major Adviser: Prof. Robert Lindsay.
- Brian Joseph Mulhern, Minneapolis**
 B.A. cum laude '71, Carleton College. Major: American Studies. Major Adviser: Prof. Mulford Sibley.
- Lesceillea Marie Napue, Elk River**
 B.A. '57, University of Omaha; M.S. '68, St. Cloud State University. Major: Educational Psychology. Major Adviser: Prof. Norman Sprinthall.
- Luella Kimmerle Newstrom, Bloomington**
 B.A. '48, B.S. '71, University of Minnesota. Major: Elementary Education. Major Adviser: Prof. Norrine Odland.
- Irene Carsetta Norman, Minneapolis**
 B.A. '75, Morgan State College. Major: Mass Communication. Major Adviser: Prof. Gerald Kline.
- Alfonso Novales, Zaragoza, Spain**
 Lic. '74, University of Zaragoza. Major: Economics. Major Adviser: Prof. Christopher Sims.
- James Warner O'Neill, Bloomington**
 B.A. '76, Reed College. Major: History. Major Adviser: Prof. Josef Altholz.
- Terry John Ovens**
 B.A. '77, University of Minnesota. Major: History. Major Adviser: Prof. John Howe.
- Barbara Ann Paul, Minneapolis**
 B.A. magna cum laude '75, Carleton College. Major: Mass Communication. Major Adviser: Prof. Phillip Tichenor.
- John Bradley Pole, Billings, Mont.**
 B.S. '79, Rocky Mountain College. Major: Physical Education. Minor: Educational Psychology. Thesis: Cross Validation of Body Composition Equations in Sprinters and Distance Runners. Major Adviser: Prof. Robert Serfass.
- Subhi Bin Rakimin, Selangor, Malaysia**
 B.A. with honors '74, University of Malaya. Major: Educational Administration. Major Adviser: Prof. William Ammentorp.
- Susan Kay Rieger**
 B.S. with high distinction '75, University of Minnesota. Major: Elementary Education. Major Adviser: Prof. John Manning.
- Andrew McKenzie Roberts, Grafton, Wis.**
 B.A. summa cum laude '75, J.D. '78, University of Wisconsin. Major: Industrial Relations. Major Adviser: Prof. Ross Azevedo.
- Margaret O'Connor Roden, Minneapolis**
 B.A. '79, University of Minnesota. Major: Sociology. Major Adviser: Prof. Donald McTavish.
- Leslie Jane Ross, Vancouver, Canada**
 B.A. '75, Simon Fraser University; M.A. '76, Wichita State University. Major: Library Science. Major Adviser: Prof. Nancy Rohde.
- Patricia Anne Roy, Columbia Heights**
 B.S. '70, University of Minnesota. Major: Educational Psychology. Major Adviser: Prof. David Johnson.
- Barbara Esther Ruud, Minneapolis**
 B.A. magna cum laude '74, Augsburg College. Major: Industrial Relations. Major Adviser: Prof. Mahmood Zaidi.
- Elena Sanchez Mora, Mexico City, Mexico**
 Lic. '78, Universidad Nacional Autonoma de Mexico. Major: History. Major Adviser: Prof. Byron Marshall.
- Barbara Elizabeth Sanderson, Kansas City, Mo.**
 A.B. '67, William Jewell College; A.M. '77, University of Michigan. Major: Educational Psychology. Major Adviser: Prof. Martin Snoke.
- MaryAnne Schutte, Minneapolis**
 B.A. '78, University of Minnesota. Major: Library Science. Major Adviser: Prof. Nancy Rohde.
- Sujata Seam, New Delhi, India**
 M.S. '77, B.Ed. '78, University of Delhi. Major: Education. Major Adviser: Prof. Eugene Gennaro.

Michael Anthony Seger. Cincinnati, Ohio

B.A. '72. University of Cincinnati. Major: English. Major Adviser: Prof. R.D. Solotaroff.

Elizabeth S. Semmens. Manlius, N.Y.

B.S. cum laude '79. State University of New York at Buffalo. Major: Industrial Relations. Major Adviser: Prof. T.A. Mahoney.

Roslyn Marie Stendahl. St. Louis, Mo.

A.B. cum laude '78. University of Missouri. Major: English. Major Adviser: Prof. R.D. Solotaroff.

Nancy Hood Stone. Minneapolis

B.A. '54. University of Oregon. Major: English. Major Adviser: Prof. William Madden.

Jane N. Strovas. Minneapolis

B.A. '60. University of Colorado. Major: Mass Communication. Major Adviser: Prof. Harold Wilson.

Vickie Halverson Taylor. Alhambra, Calif.

B.A. '74. College of St. Catherine. Major: Library Science. Major Adviser: Prof. E.H. Brekhus.

Anthony Francis Tedesco

B.A. '79. University of Minnesota. Major: History. Minor: Political Science. Thesis: Edouard Daladier: Party Leader, 1934-1940. Major Adviser: Prof. John Muuholland.

Mihailo J. Temali. Minneapolis

B.A. summa cum laude '76. Macalester College. Major: Public Affairs. Major Adviser: Prof. Calvin Bradford.

Gary A. Thome. Adams

B.S. with distinction '73. University of Minnesota. Major: Agricultural Education. Major Adviser: Prof. Roland Peterson.

Linda Guth Trout. Grand Rapids

B.A. cum laude '75. Trout College. Major: American Studies. Major Adviser: Prof. Mulford Sibley.

John Earl Walker

B.A. magna cum laude '75. University of Maine. Major: Public Affairs. Major Adviser: Prof. John Brandt.

Kimberly Charmaine Welch, Williamstown, N.J.

B.A. '79. Rutgers University. Major: History. Major Adviser: Prof. Stuart Schwartz.

Jon R. Wendt. Minneapolis

B.A. '62. University of Delaware. Major: Speech Communication. Major Adviser: Prof. William Howell.

Garry Lee Woessner. Stratford, Conn.

B.S. magna cum laude '77. B.A. magna cum laude '78. University of Connecticut. Major: Communication Disorders. Minor: Psychology. Thesis: The Relationship Between Identification of Stuttering and Scaling of Stuttering Severity. Major Adviser: Prof. Richard Martin.

Frank A.J. Zelko. Cleveland, Ohio

B.A. summa cum laude '77. Case Western Reserve University. Major: Psychology. Major Adviser: Prof. Manfred Meier.

Jeffrey Joseph Zibley. Golden Valley

B.A. summa cum laude '74. University of Minnesota. Major: Industrial Relations. Major Adviser: Prof. Mahmood Zaidi.

Master of Arts

UNIVERSITY OF MINNESOTA. DULUTH

Mark Robert Christensen

B.A. with highest honors '75. Wisconsin State University, Superior. Major: English. Major Adviser: Prof. Albert Tezla.

Emery Paul Sher

B.A. '79. University of Minnesota, Duluth. Major: Educational Psychology. Major Adviser: Prof. Moy Gum.

Master of Business Administration

Dale Curtis Andersen. Fridley

B.S. '79. University of Minnesota. Major: Business Administration. Major Adviser: Prof. Robert Hansen.

Jocelyn Kay Anderson

B.S. '76. University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Gary Natyn Anderson. Osakis

B.A. '74. University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

James Walter Aulick. Burnsville

B.S. '74. Union College. Major: Business Administration. Major Adviser: Prof. Gordon Everest.

March

12

George Natale Berger, Mandan, N.D.
B.A. '77, Concordia College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Atul Bhatia, New Delhi, India
M.A. '78, University of Delhi. Major: Business Administration. Major Adviser: Prof. Carl Adams.

Russell Dean Birch, Bloomington
B.E.S. '73, B.S. '77, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

John Emlin Bohan, Jr., Minneapolis
B.E.E. with distinction '77, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Richard Thomas Brokl, Minneapolis
B.S. '68, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Kathleen Jean Brower, Spring Lake Park
B.S. with distinction '67, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Jack Fritz Brunell, New Brighton
B.S. with honor '75, B.S. with honor '76, Michigan Technological University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Jeanne Grace Buckeye, Minneapolis
B.A. with scholastic honors '71, St. Cloud State University. Major: Business Administration. Major Adviser: Prof. Eric Berkowitz.

Peter Michael Choukalas,
Minneapolis
B.S. '77, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Ricky Dean Clevette, Duluth
B.A. '80, Gustavus Adolphus College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Ronald Edward Dennis, Shoreview
B.A. '72, B.S. with scholastic honors '76, St. Cloud State College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

James Reese Dutcher, White Bear Lake
B.S. '74, Oakland University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Peter Marshall Gill, St. Paul
B.S. '80, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Jeffrey Scott Hagen, St. Cloud
B.A. with distinction '78, University of Minnesota. Major: Business Administration. Major Adviser: Prof. James Gahlon.

James Richard Hara, Minneapolis
B.S. '79, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Peter Rosko.

Timothy John Brandt Hassett,
Stillwater
B.A. '75, St. Olaf College. Major: Business Administration. Major Adviser: Prof. Peter Rosko.

Carolyn R. Johnson, Scottsdale, Ariz.
B.A. '69, Montclair State College; M.S. '70, University of Illinois. Major: Business Administration. Major Adviser: Prof. John Anderson.

Stanley Fred Jurgensen, St. Louis Park
B.S. '69, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Per Martin Kjeldaa, Plymouth
Cand. real. '66, University of Oslo. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Colleen Kay Kluge
B.S. '79, University of Wisconsin, River Falls. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Richard Alan Kottke, St. Paul
Major: Business Administration. Major Adviser: Prof. James Gahlon.

Katherine Ann Kreyenhagen,
Minneapolis
B.A. with high honors '76, University of California, San Diego. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Walter Charles Larsen, Edina
B.S. '80, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Lucy Wright Mattson, Eden Prairie
B.A. summa cum laude '76, Universidad de las Americas. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Randall Bruce Mattson, Edina
B.Ac. cum laude '77, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Robert Charles Mayeron, Golden Valley

B.C.E. with distinction '72. University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Bernard Francis McDonagh, St. Paul

B.A. '65. Manhattan College; M.A. '67. Ph.D. '70. Catholic University of America. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Mary A. Ness, Arden Hills

B.A. '74. University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Steven Richard Neinow, Faribault

B.A. magna cum laude '73. St. Olaf College. Major: Business Administration. Major Adviser: Prof. Andrew Whitman.

Paul Christian Odlaug, St. Paul

B.S. with high distinction '74. University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Brian Stanley Pappas, Rochester

B.A. '75. University of Minnesota. Major: Business Administration. Major Adviser: Prof. G.C. Everest.

John Arnold Rikala, Burnsville

B.A. '71. University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Wayne John Schmidt, Minneapolis

B.S. '69. Stephen F. Austin State University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Barbara Catherine Schultz, Roseville

B.S. '72. Cornell University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Russell William Swansen

B.A. '79. Gustavus Adolphus College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Nancy Carol Thorne, Minneapolis

B.A. '77. B.S. '78. University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Elisabeth Joy Trach, Minneapolis

B.S. '80. University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Audrey Jean Westberg, Minneapolis

B.A. cum laude '73. Mankato State College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Katherine Jo Willson, Edina

B.S. '80. University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

William George Woodington, Beloit, Wis.

B.A. '80. University of Wisconsin, Madison. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Master of Business Administration

UNIVERSITY OF MINNESOTA, DULUTH

Chi-Shing Tsui

B.B.A. '75. University of Minnesota, Duluth. Major: Business Administration. Major Adviser: Prof. Jerrold Peterson.

Mary Greiger Yount

B.A. cum laude '61. Winthrop College. Major: Business Administration. Major Adviser: Prof. Henry Person.

Master of Business Taxation

Karen Smith Champlin, Norman, Okla.

B.B.A. '62. University of Oklahoma. Major: Business Taxation. Major Adviser: Prof. Frederick Jacobs.

Catherine E. Holtzclaw

B.S. magna cum laude '67. Millikin University. Major: Business Taxation. Major Adviser: Prof. Frederick Jacobs.

Larry W. Frazier, Coon Rapids

B.B.A. cum laude '72. Wisconsin State University, Eau Claire. Major: Business Taxation. Major Adviser: Prof. Frederick Jacobs.

Jeffery G. Rudd

B.S. '75. University of Minnesota. Major: Business Taxation. Major Adviser: Prof. Frederick Jacobs.

March

14

Master of Chemical Engineering

Arthur Fong, Boulder, Colo.
B.S. '74, University of Colorado. Major: Chemical Engineering. Project: Environmental Surveillance Programs: Their Development and Some of the Problems Encountered. Major Adviser: Prof. Herbert Isbin.

Master of Civil Engineering

Kenneth Harry Jennison, Denver, Colo.
B.S. '76, Colorado State University. Project: Design of 140'-0" Welded Plate Girder with Composite Concrete Deck. Major Adviser: Prof. L.E. Goodman.

Edward Armin Matthiesen, Richfield
B.A. '77, Luther College. Major: Civil Engineering. Project: Application of Two Hydrologic Simulation Models to an Urban Watershed. Major Adviser: Prof. C.E. Bowers.

Charles Patrick Spitzak, St. Paul
B.C.E with distinction '75, University of Minnesota. Major: Civil Engineering. Project: Cable-Stayed Bridge. Major Adviser: Prof. Ladislav Cerny.

Master of Fine Arts

Brian George Conley, Minneapolis
B.A. '74, State University of New York at Binghamton. Major: Studio Arts. Major Adviser: Prof. Tom Rose.

Barbara Jean Granning, Minneapolis
B.A. '73, St. Cloud State College. Major: Theatre Arts. Major Adviser: Prof. Robert Moulton.

Mary E. Horowitz
B.A. cum laude '73, Mount Holyoke College. Major: Theatre Arts. Major Adviser: Prof. H.W. Balk.

Breck David McHan, Leland, Iowa
B.A. '76, Concordia College. Major: Music. Major Adviser: Prof. Clifton Ware.

Kathleen O'Neill, Minneapolis
B.A. '78, Mount Holyoke College. Major: Theatre Arts. Major Adviser: Prof. Lee Adey.

Master of Science

Najlaa M. Alamoudi
B.D.S. '77, Cairo University. Major: Oral Biology. Minor: Microbiology. Major Adviser: Prof. Harold Messer.

Mary Louise Anderson, Rochester
B.A. '75, University of Minnesota. Major: Forestry. Major Adviser: Prof. Timothy Knopp.

Keith Vernon Besaw, St. Paul
B.M. with high distinction '73, University of Minnesota. Major: Computer and Information Sciences. Major Adviser: Prof. G.M. Schneider.

David Edward Blockstein, Madison, Wis.
B.S. '78, University of Wisconsin, Madison. Major: Ecology. Thesis: Nesting Behavior of Mourning Doves (*Zenaida macroura*) in Minnesota. Major Adviser: Prof. Harrison Tordoff.

Alice McDonald Bonnen, East Lansing, Mich.
B.S. with high honor '78, University of Michigan, Ann Arbor. Major: Plant Physiology. Thesis: Germination Physiology of *Neurospora Crassa* Conidia. Major Adviser: Prof. Robert Brambl.

Neil Ervin Busacker, St. Cloud
B.A. with scholastic honors '76, St. Cloud State University. Major: Computer and Information Sciences. Major Adviser: Prof. William Munro.

Edward Leonard Carter, Walnut Grove
B.S. '79, South Dakota State University. Major: Soil Science. Thesis: Soybean Shoot and Root Growth, Nitrogen Fixation and Seed Yield as Influenced by Tillage Practices. Major Adviser: Prof. Jean Molina.

Pui Wah Chan, Hong Kong
B.S. '80. University of Wisconsin, Madison. Major: Operations Research. Major Adviser: Prof. Patrick Starr.

Rongfeng Chang, Chiayi, Taiwan
B.Sc. '75. National Taiwan Normal University. Major: Physics. Major Adviser: Prof. Charles Campbell.

Phuyot Chotikanatispan, Bangkok, Thailand
B.S. '74. Chulalongkorn University. Major: Geology. Minor: Geophysics. Major Adviser: Prof. Frederick Sawkins.

Thomas Joseph Dellenbach, Austin
B.S. '74. B.A. '75. St. John's University. Major: Environmental Health. Major Adviser: Prof. Conrad Straub.

Anne LaMois Downs, Alexandria, Va.
B.A. '75. University of Virginia. Major: Forestry. Major Adviser: Prof. Thomas Lillesand.

James Thomas Dunlavey
B.A. cum laude '73. Boston University. Major: Mineralogy and Petrology. Thesis: A Detailed Study of a Basalt Inclusion in the Duluth Complex, Near Babbitt, Minnesota. Major Adviser: Prof. P. W. Weiblen.

David Sumner Dunn, St. Paul
B.A. with honor '73. Hamline University. Major: Computer and Information Sciences. Major Adviser: Prof. William Munro.

Mohey Eldin El-Kishky, Egypt
B.D.S. '68. Cairo University. Major: Dentistry. Thesis: *In Vitro* Characterization of Gingival Fibroblasts. Major Adviser: Prof. Mark Herzberg.

Daniel Lee Erkkila, St. Paul
B.S. '77. University of Minnesota. Major: Forestry. Thesis: Forest Management Opportunities and Associated Regional Impacts for Northeastern Minnesota. Major Adviser: Prof. Dietmar Rose.

Effat Fattahi-Marnani, Isfahan, Iran
B.A. '74. Isfahan University. Major: Mathematics. Major Adviser: Prof. Ian Richards.

Kristi Ann Fjare, Minneapolis
B.A. cum laude '79. St. Olaf College. Major: Chemistry. Thesis: The Preparation and Chemistry of Pentacarbonylanadate (3-) and Some of Its Derivatives. Major Adviser: Prof. John Ellis.

Mary L. Forman, Brooklyn Park
B.S. with special honors/high distinction '71. University of Iowa. Major: Nursing. Major Adviser: Prof. Elaine Mansfield.

Lois Elaine Freeberg, Wayzata
B.S. '70. University of Minnesota. Major: Nursing. Major Adviser: Prof. I. Harris.

Scott William Gatty, Pittsburgh, Pa.
B.S. '79. Pennsylvania State University. Major: Horticulture. Thesis: The Inheritance of Low Molecular Weight Tuber Proteins in Hybrids of Group *Stenotomum* X *Solanum Sparsipilum*. Major Adviser: Prof. Sharon Desborough.

Nader Mansour Girgis
B.M.E. '66. Cairo University. Major: Mineral Engineering. Thesis: Novel Direct Reduction Technology. Major Adviser: Prof. K.J. Reid.

Juan Humberto Gonzales, Guatemala, Guatemala
Ing.Agr. '79. Universidad de San Carlos. Major: Forestry. Major Adviser: Prof. Hans Gregersen.

Timothy Clay Grahm, Roseau
B.S. '76. D.V.M. '78. University of Minnesota. Major: Theriogenology. Thesis: The Effect of BVD Virus on the Early Development of the Bovine Embryo. Major Adviser: Prof. Raimunds Zemjanis.

Gregory Alan Grandits, Buffalo, N.Y.
B.S. magna cum laude '78. State University of New York College at Buffalo. Major: Statistics. Major Adviser: Prof. B.W. Lindgren.

Ming-Der Guan
B.S. '78. Tamkang College. Major: Food Science. Thesis: The Application of High Performance Liquid Chromatography to the Determination of Free Malondialdehyde in Meat and Other Tissue Samples. Major Adviser: Prof. A.S. Csallany.

Murdaningsih Haeruman, Bandung, Indonesia
M.S. '69. Padjadjaran University. Major: Plant Breeding. Thesis: Polyploids from Colchicine Treated Callus of an Interspecific Hybrid Liliun. Major Adviser: Prof. Peter Ascher.

Jonathan Mark Hanft, Alexandria, Va.
B.S. '79. Cornell University. Major: Agronomy. Thesis: Visual Indicators of Physiological Maturity in Hard Red Spring Wheat. Major Adviser: Prof. Robert Wych.

Shirley Jung Hanson
B.A. '74. University of Iowa. Major: Biometry and Health Information Systems. Major Adviser: Prof. Eugene Ackerman.

Larry G. Haugen, St. Paul
B.A. '77. Gustavus Adolphus College. Major: Plant Pathology. Thesis: The Effect of Fungicide Applications on *Septoria sepp.* and Yields of Spring Wheat in Minnesota. Major Adviser: Prof. Roy Wilcoxson.

Martha Jean Hewett, Minneapolis
B.A. '74, Middlebury College. Major: Geology.
Minor: Civil Engineering. Major Adviser: Prof.
Herbert Wright, Jr.

Thomas Robert Hoffman, St. Paul
B.S. with distinction '78, University of Minnesota.
Major: Forestry. Major Adviser: Prof. Lewis Hen-
dricks.

Mark T. Hughes
B.S. cum laude '79, University of Minnesota. Major:
Forestry. Thesis: Waferboard and Flakeboard from
Healthy and Spruce Budworm Killed Balsam Fir.
Major Adviser: Prof. Roland Gertjeansen.

Yen-Con Hung
B.E. '77, Taiwan Provincial College of Marine and
Oceanic Technology. Major: Food Science. Thesis:
Freezing Time Prediction. Major Adviser: Prof.
David Thompson.

**Rosnah Ismail, Pasir Mas, Kelantan,
Malaysia**
B.S. magna cum laude '79, Western Michigan
University. Major: Physiology. Major Adviser:
Prof. Eugene Grim.

James Robert Jensen, Jr., Roseville
B.S. with distinction '78, D.D.S. '79, University of
Minnesota. Major: Dentistry. Thesis: The Effects
of Hygiene on Oral Stomatitis in Patients Undergo-
ing Chemotherapy. Major Adviser: Prof. Bruce
Pihlstrom.

M. Kosim Kardin
Sarjana '73, Institut Teknologi Bandung. Major:
Plant Pathology. Minor: Entomology. Thesis: De-
velopment of Resistance to Fungicides in *Bipolaris*
Oryzae and *Bipolaris Sorokiniana*. Major Advisers:
Profs. J.A. Percich and Ernest Banttari.

Laura Denise Koltjes, St. Paul
B.A. '74, University of Minnesota. Major: Nutri-
tion. Major Advisers: Profs. Lura Morse and Zata
Vickers.

Karen Lee Kristensen, Fargo, N.D.
B.S.N. '77, University of South Dakota. Major:
Nursing. Major Adviser: Prof. Evangeline Gron-
seth.

Karin Frances Leonard, Wahkon
B.A. '79, University of Maryland. Major: Agricul-
tural Economics. Thesis: A Profile and Economic
Analysis of Small Farms in Minnesota, North Da-
kota and Iowa: Comparisons Between Farm Size
and Among Participation in the U.S. Commodity
Programs. Major Adviser: Prof. Willard Cochrane.

Elizabeth Ann Maertz, Duluth
B.A. '76, College of St. Scholastica. Major: Nurs-
ing. Major Adviser: Prof. Ann Voda.

**Jeffrey Lawrence Marion, Louisville,
Ky.**
B.A. '79, Wittenberg University. Major: Forestry.
Major Adviser: Prof. L.C. Merriam.

**Joseph Louis Modelevsky,
Indianapolis, Ind.**
B.A. '75, University of Minnesota. Major: Microbi-
ology. Thesis: Transcription in argECBH Mutants
of Escherichia Coli: Evidence for Leader Attenua-
tion. Major Adviser: Prof. Palmer Rogers.

**Nicholas Moropoulos, Athens,
Greece**
Dipl. '78, National Technical University of Athens.
Major: Operations Research. Major Adviser: Prof.
Patrick Starr.

**Anne Louise Murphy, West Branch,
Iowa**
B.S. '75, University of Iowa. Major: Nursing. Ma-
jor Adviser: Prof. Diane Kjervik.

**Shubhada Mahesh Nerurkar,
Bombay, India**
M.S. '77, University of Bombay. Major: Computer
and Information Sciences. Major Adviser: Prof.
William Munro.

Tingli Pan, Shanghai, China
Dipl. '66, Shanghai University of Technology. Ma-
jor: Mineral Engineering. Major Adviser: Prof.
K.J. Reid.

Michael Eugene Pennell, St. Paul
B.S. '75, Drexel University. Major: Mathematics.
Major Adviser: Prof. James Joichi.

Richard Fredrick Peterson, Benson
B.S. '72, B.S. '78, University of Minnesota. Major:
Forestry. Major Adviser: Prof. L.C. Merriam.

**Lyle Douglas Ried, Oak Harbor,
Wash.**
B.S. '72, University of Washington. Major: Social
and Administrative Pharmacy. Major Adviser:
Prof. Lawrence Weaver.

Bouchta Saidi, Rabat, Morocco
Dipl. '77, Institut Agronomique et Veterinaire
Hassan II. Major: Food Science. Thesis: High
Performance Liquid Chromatographic Analysis of
Vitamin B₆ Stability. Major Adviser: Prof. Joseph
Warthesen.

Robert Stuart Schmidt, St. Paul
B.S. with honor '76, Ohio University. Major: Ento-
mology. Minor: Statistics. Thesis: The Effects of
Temperature on the Development of *Dirgva* Dark-
Sided Cutworms (Lepidoptera: Noctridge) with
Notes on Thermal Accumulation. Major Adviser:
Prof. J.B. Christensen.

Uday Raj Sharma, Kathmandu,
Nepal

Dipl. '75. Indian Forest College. Major: Wildlife.
Major Adviser: Prof. Peter Jordan.

Ellen Marie Skiff, Castleton-on-
Hudson, N.Y.

B.S. magna cum laude '77. State University Col-
lege of Forestry at Syracuse University. Major:
Zoology. Thesis: Effect of Enclosure Design on
Social Interactions and Daily Activity Pattern of
Captive Asiatic Wild Horse (*Equus przewalskii*).
Major Adviser: Prof. William Schmid.

Jane A. Smith

B.A. '59. University of Texas. Major: Plant Physi-
ology. Minor: Biochemistry. Thesis: Clonal Growth
of Isolated *Zea Mays* Cells Supported by Feeder
Layer Suspensions. Major Adviser: Prof. Charles
Green.

Lora F. Smith

B.S. cum laude '74. University of New Hampshire.
Major: Animal Science. Thesis: Employer/
Employee Relationships on Minnesota Dairy
Farms. Major Adviser: Prof. Robert Appleman.

Handojo Bambang Soesetya,
Malang, Indonesia

Sarjana '65. Bogor Agricultural University. Major:
Animal Science. Major Adviser: Prof. W.J. Boylan.

Susan Jean Stenson, Burnsville

B.S. '73. College of St. Benedict. Major: Nursing.
Major Adviser: Prof. Sheila Corcoran.

Lorna Sue Stratton, Detroit, Mich.

B.S. with distinction '78. Wayne State University.
Major: Nursing. Major Adviser: Prof. Kathleen
Dineen.

Mangara Tambunan, Bogor, Indonesia

Sarjana '71. Bogor Agricultural University. Major:
Agricultural Economics. Major Adviser: Prof.
Philip Raup.

Paul Wayne Thompson

B.S. '75. Brescia College. Major: Genetics. Major
Adviser: Prof. James Fuchs.

Mary Woodall Vermeulen,
Minneapolis

B.A. '77. College of Wooster. Major: Biochemistry.
Thesis: Processing of Bacterial Cell Walls by Mono-
nuclear Phagocytes. Major Adviser: Prof. Gary
Gray.

Eric Lee Zilley, St. Paul

B.A. cum laude '78. Gustavus Adolphus College.
Major: Chemistry. Thesis: The Synthesis of Poten-
tial Anti-Aggregatory Agents. Major Adviser: Prof.
Richard Borch.

Master of Science

UNIVERSITY OF MINNESOTA, DULUTH

Gary Douglas Olson

B.A. '73. University of Minnesota, Duluth. Major:
Zoology. Minor: Geology. Thesis: A Comparison of
Macroinvertebrate Communities on Bedrock and
Other Substrates in a North Shore Stream. Major
Adviser: Prof. Blanchard Krogstad.

Jean Marie Olson

B.A. '78. Macalester College. Major: Geology.
Thesis: The Sedimentation and Petrology of the
Lower Proterozoic McCaslin Formation, North-
eastern Wisconsin. Major Adviser: Prof. R.W.
Ojakangas.

Gordon John Oman

B.A. summa cum laude '74. University of Minne-
sota, Duluth. Major: Physics. Thesis: Three-Di-
mensional Finite Difference Model for the Great
Lakes. Major Adviser: Prof. Michael Sydor.

Master of Science in Aerospace Engineering

Richard Ralph Heisler, Minnetonka

B.A.E.M. '80. University of Minnesota. Major:
Aerospace Engineering. Major Adviser: Prof. The-
odore Wilson.

Madhusudan Nigam, Jabalpur, India

B.Tech. with distinction '79. Indian Institute of
Technology. Major: Aerospace Engineering. Major
Adviser: Prof. John Moran.

Lei U. Hong Kong

B.S.E. '79. National Taiwan University. Major:
Aerospace Engineering. Major Adviser: Prof. Dan-
iel Joseph.

Philip E. VonRuden, Owatonna

B.A.E.M. with distinction '81. University of Min-
nesota. Major: Aerospace Engineering. Major Ad-
viser: Prof. Theodore Wilson.

March

18

Master of Science in Agricultural Engineering

Driss Ait-Oumessaho
Dipl. '76, Institut Agronomique et Veterinaire Hassen II. Major: Agricultural Engineering. Minor: Food Science. Thesis: Mathematical Modeling for Water and Aroma Loss During Spray Drying. Major Adviser: Prof. David Thompson.

Atjeng Muchlis Syarief, Bogor, Indonesia
Sardjana '74, Bogor Agricultural University. Major: Agricultural Engineering. Thesis: Effect of Air Temperature, Relative Humidity and Air Velocity on the Thin-Layer Drying Rates of Sunflower Seed. Major Adviser: Prof. R.V. Morey.

Master of Science in Chemical Engineering

Sholeh Chatraei, Tehran, Iran
B.S. '79, Tehran Polytechnic. Major: Chemical Engineering. Minor: Mechanics. Thesis: Lubricated Squeezing Flow: A New Biaxial Extensional Rheometer. Major Adviser: Prof. C.W. Macosko.

Wen-Chin Lin, Taipei, Taiwan
B.S.Ch.E. '74, Tatung Institute of Technology. Major: Chemical Engineering. Thesis: A Study on Air-Water Siphon Flow. Major Adviser: Prof. Herbert Isbin.

Master of Science in Civil Engineering

Bruce Jeffrey Brand, St. Paul
B.S. '79, St. John's University; B.C.E. with distinction '80, University of Minnesota. Major: Civil Engineering. Major Adviser: Prof. D.E. Beskos.

Kon Lim Leung, Hong Kong
B.C.E. with high distinction '80, University of Minnesota. Major: Civil Engineering. Thesis: Dynamic Analysis of Plate Systems Using FDM-FEM and Laplace Transform. Major Adviser: Prof. D.E. Beskos.

Bruno Marie Franck, Liege, Belgium
Ingenieur '79, Universite de Liege. Major: Civil Engineering. Thesis: Roughness Effects on the Flow Past Circular Cylinders at High Reynolds Numbers. Major Adviser: Prof. Cesar Farell.

Androula Yiangou Michael, Limassol, Cyprus
Dipl. '78, National Technical University of Athens. Major: Civil Engineering. Major Adviser: Prof. D.E. Beskos.

Douglas Jay Fullen, North Oaks
B.S. '77, University of Minnesota. Major: Civil Engineering. Major Adviser: Prof. Heinz Stefan.

Carl Anthony Nelson, Minneapolis
B.C.E. '79, University of Minnesota. Major: Civil Engineering. Major Adviser: Prof. L.E. Goodman.

Michael John Heiling, Fridley
B.A. '75, Southwest Minnesota State University. Major: Civil Engineering. Major Adviser: Prof. Heinz Stefan.

Master of Science in Dentistry

MAYO GRADUATE SCHOOL OF MEDICINE

Scott Harold Nightingale, Toledo, Ohio

B.L.S. '72, Bowling Green State University; D.D.S. summa cum laude '76, Ohio State University. Major: Dentistry. Thesis: In Situ Demineralization of Dentin in Periodontal Therapy. Major Adviser: Prof. C.M. Reeve.

Master of Science in Electrical Engineering

Jacques Rashid Gemayel, Lebanon
B.E.E. '80, University of Dayton. Major: Electrical Engineering. Major Adviser: Prof. Narendra Mohan.

John Iu-Ming Ho, Minneapolis
B.E.E. '73, University of Minnesota. Major: Electrical Engineering. Thesis: RF Diode Sputtered ZnO Surface Acoustic Wave Transducers. Major Adviser: Prof. W.P. Robbins.

Choong Ho Hyun, Minneapolis
B.E.E. '80, University of Minnesota. Major: Electrical Engineering. Thesis: A Study of Fluorinated a-Si Using the Deep Level Transient Spectroscopy Technique. Major Adviser: Prof. Michael Shur.

Paul David Kreiser
B.M. with high distinction '80, University of Minnesota. Major: Electrical Engineering. Minor: Computer and Information Sciences. Major Adviser: Prof. Larry Kinney.

Anooshiravan Mostowfipour, Ahwaz, Iran
B.S.E.E. '80, University of Washington. Major: Electrical Engineering. Minor: Computer and Information Sciences. Major Adviser: Prof. Larry Kinney.

Bruce Randall Norskog, Willmar
B.A. cum laude '79, St. Olaf College. Major: Electrical Engineering. Minor: Computer and Information Sciences. Major Adviser: Prof. Larry Kinney.

Cong Duc Pham
B.S.E. '78, University of Michigan. Major: Electrical Engineering. Major Adviser: Prof. K.S. Kumar.

Ravi Sinha, Fargo, N.D.
B.E.E. '79, University of Minnesota. Major: Electrical Engineering. Thesis: A One-Dimensional Mosfet Model Comparison in the Superthreshold and Subthreshold Regimes. Major Adviser: Prof. Allen Nussbaum.

Gregory Howard Wakefield, Minneapolis
B.A. summa cum laude '78, University of Minnesota. Major: Electrical Engineering. Minor: Mathematics. Thesis: The Detection of Amplitude Modulation by Human Observers: Models and Performance. Major Adviser: Prof. Mostafa Kaveh.

Hyung Jin Yim, Mounds View
B.S.E. '74, Seoul National University. Major: Electrical Engineering. Major Adviser: Prof. L.T. Anderson.

Master of Science in Industrial Engineering

Rahim S. Mostafavipour, Shiraz, Iran
B.S. '77, Pablavi University. Major: Industrial Engineering. Major Adviser: Prof. John White.

Ahmet Adil Uras, Izmir, Turkey
B.S. '78, Ege Universitesi. Major: Industrial Engineering. Major Adviser: Prof. J.E. Anderson.

Master of Science in Mechanical Engineering

John Allen Broadbent, Rochester
B.A.E.M. with high distinction '79, University of Minnesota. Major: Mechanical Engineering. Minor: Computer and Information Sciences. Thesis: Melting and Freezing in a Vertical Cylinder. Major Adviser: Prof. E.M. Sparrow.

Shou Ming Chien, Singapore, Republic of Singapore
B.M.E. with distinction '80, University of Minnesota. Major: Mechanical Engineering. Minor: Industrial Engineering. Major Adviser: Prof. B.Y. Liu.

Yung-Cheng Lee, Tzuhsing, Taiwan
B.S. '78, National Taiwan University. Major: Mechanical Engineering. Thesis: Trajectories and Heating of Particles Injected into a Thermal Plasma. Major Adviser: Prof. Emil Pfender.

Anthony Charles Miraglio, Minneapolis
B.A. cum laude '64, St. Mary's College; M.A. '68, De Paul University; M.S. '70, University of Illinois at Chicago Circle. Major: Mechanical Engineering. Thesis: Optimizing Heat Exchange in Solar Thermochemical Processes. Major Adviser: Prof. Edward Fletcher.

John Stephen Nelson, Minneapolis
B.A. summa cum laude '78, Luther College. Major: Mechanical Engineering. Thesis: Forced-Convection Heat Transfer Coefficients on a Leeward-Facing Surface With and Without Adiabatic Frames. Major Adviser: Prof. E.M. Sparrow.

David Douglas Radtke, Lester Prairie
B.A.E.M. '72, University of Minnesota. Major: Mechanical Engineering. Thesis: Heat Transfer Coefficients for an Array of Slat-Like Surfaces Washed by Fluid Passing into Slots Separating the Slats. Major Adviser: Prof. E.M. Sparrow.

Elizabeth Dianne Rekow, Minneapolis
B.S. '66, B.M.E. '70, University of Minnesota. Major: Mechanical Engineering. Thesis: Applications of Planar Kinematics in Orthodontics. Major Adviser: Prof. Arthur Erdman.

Mikang Wang, Beijing, Taiwan
Dipl. '60, Nanking Institute of Technology. Major: Mechanical Engineering. Thesis: An Experimental Investigation of the Transient Behavior of Heat Mass Transfer in Moist, Unsaturated Soils. Major Advisers: Profs. Emil Pfender and J.W. Ramsey.

Master of Science in Medicine

Ira Louis Salom, Brooklyn, N.Y.
A.B. '73, New York University; M.D. '77, State University of New York at Buffalo. Major: Medicine. Minor: Nutrition. Thesis: Absorption of Vitamin B₁₂ in Patients Taking Cimetidine. Major Adviser: Prof. M.J. Murray.

Master of Science in Metallurgy and Materials Science

David Stephen Kinosky, Ocala, Fla.
B.S.E. '78, University of Florida. Major: Metallurgy and Materials Science. Minor: Physics. Thesis: Synthesis of Ho₁₋₂Mo₆S₈ Thin Films. Major Adviser: Prof. William Gerberich.

Master of Science in Otolaryngology

MAYO GRADUATE SCHOOL OF MEDICINE

James Joseph Holt, Galesburg, Ill.
B.S. '71, D.M. '75, Creighton University. Major: Otolaryngology. Thesis: Zinc and Copper in Nasal Secretions. Major Adviser: Prof. E.B. Kern.

Master of Science in Social Work

Nancy Heisel Baefsky, Minneapolis
B.A. '77, California State University, Los Angeles. Major: Social Work. Major Adviser: Prof. David Hollister.

Lynda Vea Bennett, Minneapolis
B.S. magna cum laude '75, Wisconsin State University, Oshkosh. Major: Social Work. Major Adviser: Prof. Esther Wattenberg.

Diane Lynn Borg, St. Paul
B.A. '78, Bethel College. Major: Social Work. Major Adviser: Prof. Carol Austin.

John H. Driggs, Minneapolis
B.S. cum laude '69, University of Notre Dame; Ph.D. '76, University of Michigan. Major: Social Work. Major Adviser: Prof. Phillip AuClaire.

Stephanie Nielsen Koehler,
Minneapolis
B.A. summa cum laude '81, University of Minnesota. Major: Social Work. Major Adviser: Prof. Richard Sterne.

Colleen L. Ladd, Minneapolis
B.A. '74, University of Minnesota. Major: Social Work. Major Adviser: Prof. Richard Sterne.

Garth Patrick Norberg, Valley City,
N.D.
B.S.S.W. '74, University of North Dakota. Major: Social Work. Major Adviser: Prof. Jean Quam.

Judith Sachs Pila, Minneapolis
B.A. magna cum laude '80, University of Minnesota. Major: Social Work. Major Adviser: Prof. Phillip AuClaire.

Kathleen Ann Sackett, Minneapolis
B.A. '79, University of Minnesota. Major: Social Work. Major Adviser: Prof. William Stewart.

Ellen Roberts Siegel, Minneapolis
A.B. cum laude '70, Radcliffe College; B.S. with high distinction '74, University of Minnesota. Major: Social Work. Major Adviser: Prof. Annalee Stewart.

Donna Joan Siegfried
B.S. '74, University of Minnesota. Major: Social Work. Major Adviser: Prof. Phillip AuClaire.

Master of Science in Social Work
UNIVERSITY OF MINNESOTA, DULUTH

Geri Lynn Adler

B.S. '79, University of Wisconsin, Madison. Major: Social Work. Major Adviser: Prof. Ralph Woehle.

Mark Allen Cottrell

B.A. cum laude '79, University of Wisconsin, Eau Claire. Major: Social Work. Major Adviser: Prof. Willard Dodge.

Clayton Hollinday

B.A. '73, University of Minnesota, Duluth. Major: Social Work. Major Adviser: Prof. Joyce Kramer.

Charles William Sayers

B.S. cum laude '77, College of Great Falls. Major: Social Work. Major Adviser: Prof. Joyce Kramer.

Specialist Certificate in Education

Norman A. Andresen, Brainerd

B.S. '64, St. Cloud State University; M.S. '68, California State College, Fullerton. Field: General Educational Administration. Major Adviser: Prof. Richard Weatherman.

**Luz Maria Baumann-Serrano,
Yabucoa, Puerto Rico**

B.A. '76, Methodist College. Field: Secondary School Administration. Major Adviser: Prof. N.C. Nickerson.

Kathleen Ryan Huyen, St. Paul

B.S. '60, College of St. Scholastica. Field: Secondary School Administration. Major Adviser: Prof. N.C. Nickerson.

Yanchy L. Lacska, Crystal

B.A. '72, M.A. '73, University of South Florida. Field: Special Education. Major Adviser: Prof. Bruce Balow.

Susan Kay Merrick

B.A. '76, M.A. '80, University of Minnesota. Field: School Psychological Services. Major Adviser: Prof. Richard Weinberg.

Charles Arden Niles, Cambridge

B.A. '68, Augsburg College. Field: Elementary School Administration. Major Adviser: Prof. Gary Alkire.

Sharon Ann Owens, Richfield

B.S. '68, St. Cloud State College. Field: Elementary School Administration. Major Adviser: Prof. Van Mueller.

Betty J. Webb, Plain Dealing, La.

B.A. '68, University of Minnesota. Field: Secondary School Administration. Major Adviser: Prof. N.C. Nickerson.

Doris Yvonne Zachary, Bloomington

B.S. '53, Hampton Institute; M.A. '76, University of Minnesota. Field: Elementary School Education Administration. Major Adviser: Prof. Gary Alkire.

June Candidates for Degrees

Subject to the completion of all curriculum requirements at the close of spring quarter, degrees will be conferred as indicated on those listed below and on others meeting the graduation requirements. Degrees are listed alphabetically.

GRADUATE SCHOOL

Doctor of Education

Judith Ann Herr

B.S. '65, M.S. '67, University of Wisconsin, Stout.
Major: Educational Administration. Minor: Supporting Program. Project: Parenting Education: An Investigation of Parents' Self-Perceived Wants. Major Adviser: Prof. Ronald Lambert.

Kenneth Herbert Mills, Kenosha, Wis.

B.S. '62, M.A. '66, University of Minnesota; Ed.Sp. '78, University of Wisconsin. Major: Vocational Education. Minor: Supporting Program. Project: Development of a Behaviorally Based Rating Scale To Measure the Performance and Assist in the Staff Development of First-Line Supervisors in Selected Wisconsin Post-Secondary Technical Institutes. Major Adviser: Prof. Richard Ashmun.

John Talbert Sheeks, Sunrise, Fla.

B.A. '60, B.S. '67, M.A. '68, Cert.Spec. '74, University of Minnesota. Major: Vocational Education. Minor: Supporting Program. Project: The Utilization and Adequacy of Audiovisual and Computer Assisted Instructional Materials in Marketing and Distributive Education. Major Adviser: Prof. Richard Ashmun.

Terry James Squier, Kaukauna, Wis.

B.S. '74, M.S. '78, University of Wisconsin, Stout. Major: Vocational Education. Minor: Supporting Program. Project: The Development and Evaluation of an Industrial Service Unit of Study of Junior High School Industrial Education. Major Adviser: Prof. Richard Swanson.

Carl Imanuel Wahlstrom, North St. Paul

B.S. with distinction '63, M.A. '67, University of Minnesota. Major: Educational Administration. Minor: Supporting Program. Project: Case Studies of Unappropriated Fund Balance Decline in Five Minnesota School Districts. Major Advisers: Profs. Ronald Lambert and Charles Sederberg.

Doctor of Musical Arts

Larry L. Scully, Vermillion, S.D.

B.F.A. '77, M.F.A. '80, University of Minnesota. Major: Music. Minor: Supporting Program. Major Adviser: Prof. Bernhard Weiser.

Doctor of Philosophy

Shehu Usman Abdullahi, Nigeria

D.V.M. '76, Ahmadu Bello University. Major: Veterinary Medicine. Minor: Supporting Program. Thesis: Evaluation of a Calculolytic Diet in Dogs with Experimentally Induced Struvite Urolithiasis. Major Adviser: Prof. Carl Osborne.

Tony Munchi Au, Hong Kong

B.Ed. '75, National Taiwan Normal University; M.S. '76, University of Wisconsin, Stout. Major: Vocational Education. Minor: Supporting Program. Thesis: Vocational Outcomes of Indochinese Refugee Graduates of the Minnesota Area Vocational Technical Institutes. Major Adviser: Prof. David Bjorkquist.

James Henry Aubert, Holland, Mich.
B.S.E. summa cum laude '77, University of Michigan; M.S.Ch.E. '79, University of Minnesota. Major: Chemical Engineering. Minor: Supporting Program. Thesis: Macromolecules in Nonhomogeneous Flows: Macromolecular Migration and Chromatographic Phenomenon. Major Adviser: Prof. Matthew Tirrell.

Gary Norman Back, Montvale, N.J.
B.S. magna cum laude '73, West Virginia University; M.S. '76, University of Vermont. Major: Wildlife. Minor: Supporting Program. Thesis: Impacts of a Ruffed Grouse-Pulpwood Management Program on Bird Population and Diversity. Major Adviser: Prof. Milton Weller.

Melvin Jay Baughman, Tiffin, Ohio
B.S. with honor '70, M.S. '71, Michigan State University. Major: Forestry. Minor: Supporting Program. Thesis: Minnesota County Land: Alternative Policies for Funding, Timber Sales, and Land Ownership. Major Advisers: Profs. Paul Eklafson and F. D. Irving.

Patricia Ellen Bauman, St. Paul
B.M. with distinction '75, University of Minnesota. Major: Mathematics. Minor: Supporting Program. Thesis: Properties of Nonnegative Solutions of Second-Order Elliptic Equations and Their Adjoints. Major Adviser: Prof. Eugene Fabes.

Patrick Michael Beardsley, West St. Paul
B.A. summa cum laude '74, University of Minnesota. Major: Psychology. Minor: Supporting Program. Thesis: Effects of Minimum-Interdrink Interval, Response Requirement, and Ethanol Concentration on Ethanol-Maintained Performance of Rats. Major Adviser: Prof. Travis Thompson.

Dennis Arthur Behm, Grand Rapids
B.E.E. with distinction '79, M.S. '77, University of Minnesota. Major: Physics. Minor: Supporting Program. Thesis: Electrodynamics of the Aurora. Major Adviser: Prof. Laurence Cahill, Jr.

William David Benton, Independence, Kan.
B.A. magna cum laude '73, St. Olaf College. Major: Cell and Developmental Biology. Minor: Philosophy. Thesis: Sequence Organization of the Ribosomal RNA Genes of *Zea Mays*. Major Adviser: Prof. Irwin Rubenstein.

Joe Blom
B.A. '66, M.S.W. '70, University of British Columbia. Major: Social Work. Minor: Supporting Program. Thesis: A Descriptive Study of the Difference Between Families with a Preschooler with Normal Articulation and Families with a Preschooler Receiving Treatment for a Functional Articulation Disorder. Major Adviser: Prof. Beulah Compton.

Jan Hettie Bloom, Pittsburgh, Pa.
B.A. magna cum laude '74, Tufts University; Ed.M. '75, Harvard University. Major: Educational Psychology. Minor: Supporting Program. Thesis: Selective and Sustained Attention in Normal and Disabled Readers. Major Advisers: Profs. Richard Weinberg and Frederick Morrison.

Richard Andrew Borstad, Minneapolis
B.S. '63, M.A. '69, University of Minnesota. Major: Education. Minor: Public Health. Thesis: The Effects of Cooperative Learning Experiences on Attitudes Toward Older People. Major Advisers: Profs. Roger Johnson and Eloise Jaeger.

David Alan Bownas
B.A. magna cum laude '71, Case Western Reserve University. Major: Psychology. Minor: Supporting Program. Thesis: Comparison of Construct-Based and Empirical Predictor Weighting Models. Major Adviser: Prof. John Campbell.

Stephen Paul Bruzzone, Fairfield, Calif.
B.S. with honor '78, North Dakota State University. Major: Electrical Engineering. Minor: Supporting Program. Thesis: Information Considerations in the Design of Autocorrelation-Based Arma Parameter Estimators. Major Adviser: Prof. Mostafa Kaveh.

Stuart James Bullion, Carbondale, Ill.
A.B. '69, Princeton University; M.A. '78, University of Minnesota. Major: Mass Communication. Minor: Supporting Program. Thesis: Priorities of Mass Communication Development—The Algerian Case. Major Adviser: Prof. Robert Lindsay.

Janet V. Burcalow, Forest Lake
B.S. '69, Winona State University. Major: Education. Minor: Supporting Program. Thesis: A Description of Teacher Educator's Approaches to Multicultural Teacher Education. Major Adviser: Prof. Kenneth Howey.

John Thomas Callaghan, Minneapolis
B.A. '65, Bellarmine College; M.D. '69, University of Kentucky Medical Center. Major: Pharmacology. Minor: Medicine. Thesis: The Mechanism of Phenytoin Dose Dependency. Major Adviser: Prof. Jordan Holtzman.

Stephen Douglas Carls, Sterling, Kan.
B.A. with honor '66, Wheaton College. Major: History. Minor: Art History. Thesis: Louis Loucheur: A French Technocrat in Government, 1916-1920. Major Adviser: Prof. John Munholland.

Sumana Chakrabarti, Calcutta, India
M.S. '73, Jadavpur University. Major: Chemistry.
Minor: Supporting Program. Thesis: Viscoelastic
Studies on Stiff Chain Polymers. Major Adviser:
Prof. William Miller.

Yuh-Sheng Gerald Chang, Taipei,
Taiwan

B.A. '68, Fu Jen Catholic University; M.A. '71,
South Dakota State University; M.A. '74. Univer-
sity of Illinois. Major: Educational Psychology.
Minor: Supporting Program. Thesis: Language
Comprehension of Reading Disabled Children:
Comparison of Presuppositional Ability in Oral
Language with Inference Making in Reading. Ma-
jor Adviser: Prof. Bruce Balow.

Kyung-soo Chun, Pusan, Korea

B.A. '71, M.A. '77, Seoul National University.
Major: Anthropology. Minor: Supporting Program.
Thesis: Patterns of Reciprocity in a Korean Com-
munity: A Contextual Approach. Major Adviser:
Prof. Robert Spencer.

LeeAnna Clark, Seattle, Wash.

B.A. with distinction '72, M.A. '77, Cornell Univer-
sity. Major: Psychology. Minor: Supporting
Program. Thesis: A Consolidated Version of the
MMPI in Japan: Development of the Translation
and Evaluation of Equivalence. Major Adviser:
Prof. James Butcher.

M. Patricio Contreras, Valparaiso,
Chile

Lic. en Fil. y Ed. '72, Universidad Catolica de
Valparaiso; M.A. '72, St. Louis University. Major:
Educational Psychology. Minor: Supporting Pro-
gram. Thesis: Cognitive Strategies Associated with
College Students' Judgements on Social Issues.
Major Adviser: Prof. Norman Sprinthall.

Sheila Jane Cox, Minneapolis

B.A. magna cum laude '66, California State Col-
lege, Long Beach; M.A. '71, University of Califor-
nia, Berkeley. Major: Psychology. Minor: Genet-
ics. Thesis: Cerebral Plasticity and Epilepsy: A
Neuropsychologic Study. Major Adviser: Prof.
Manfred Meier.

Kyle Robert Crocker, Corvallis, Ore.

B.A. '70, M.A. '73, University of Oregon. Major:
Art History. Minor: Supporting Program. Thesis:
Fotr Risti: A Runographer's Style in the Context of
Eleventh Century Upplandic Memorial Art. Major
Adviser: Prof. Marton Nelson.

Steven John Czaplewski, Franklin,
Wis.

B.S. '77, University of Wisconsin, Madison; M.S.
'80, University of Minnesota. Major: Plant Breed-
ing. Minor: Statistics. Thesis: Duration of the
Grain-Filling Period and Grain Yield in Barley.
Major Adviser: Prof. D. C. Rasmuson.

Carson Robert Dron, Indooroopilly,
Australia

B.S. '60, B.Ed. '69, University of Queensland;
M.A. '69, Concordia Teachers College. Major:
Educational Psychology. Minor: Supporting Pro-
gram. Thesis: Piaget's Stage of Formal Operations
and Human Information Processing: A Study of
Relationships Between Information Processing
Variables and Formal Stage Behavior. Major Ad-
viser: Prof. Jack Merwin.

Mohamed Saad El-Alfy El-Shall,
Manzabab, Egypt

B.A. '60, Ein Shams University; M.Ed. '75, Uni-
versity of Pittsburgh. Major: Education. Minor:
Supporting Program. Thesis: A Study of the Future
Cultural Foundations of the Egyptian Education by
the Year 2000—An Exploratory Study Using the
Ethnographic Delphi Technique. Major Adviser:
Prof. Arthur Harkins.

Nancy Rose Enger, Faribault

B.A. cum laude '68, St. Olaf College; M.S. '71,
Ed.S. '79, Mankato State University. Major: Educa-
tional Administration. Minor: Supporting Program.
Thesis: Priority-Performance Perceptions of
Women Public Secondary School Principals in
Minnesota in Eight Key Areas of Responsibility.
Major Adviser: Prof. N. C. Nickerson.

Susan Epps, Atlanta, Ga.

B.A. '75, College of William and Mary. Major:
Educational Psychology. Minor: Supporting Pro-
gram. Thesis: An Empirical Analysis of Fourteen
Definitions of Learning Disabilities with Eleme-
ntary-Age Students. Major Adviser: Prof. James
Ysseldyke.

Kenneth Alan Epstein, Long
Branch, N.J.

B.A. with high honors '75, Rutgers State Univer-
sity. Major: Physics. Minor: Supporting Program.
Thesis: Electrical Transport Properties in the Mer-
cury Rare Gas System. Major Adviser: Prof. Allen
Goldman.

Patricia Renee Christine Evans,
Minneapolis

B.S. with high distinction '72, M.A. '77, University
of Minnesota. Major: Educational Psychology. Mi-
nor: Supporting Program. Thesis: The Use of Cog-
nitive Self-Instruction in the Training of Social
Skills in Socially Unaccepted Children. Major Ad-
viser: Prof. James Ysseldyke.

Leslie Allen Everett, New Sharon,
Iowa

B.S. with distinction '70, Iowa State University;
M.S. '79, Cornell University. Major: Plant Breed-
ing. Minor: Supporting Program. Thesis: A Com-
parison of Selection Methods for Reduced Shatter-
ing in Wild Rice, *Zizania palustris* L. Major Ad-
viser: Prof. R. E. Stucker.

John Leroy Ewing, Jr., Wilmore, Ky.
B.A. '74, Asbury College; M.S. '75, University of Kentucky. Major: Physical Education. Minor: Supporting Program. Thesis: Effects of Varying Levels of Fatigue on the Rate of Force Development in Females. Major Adviser: Prof. Alan Stull.

Steven Michael Fey, Tiffin, Ohio
B.S. '71, M.Ed. '79, Bowling Green State University. Major: Vocational Education. Minor: Supporting Program. Thesis: Identification of Factors Predicting Staying Behavior Among Employees in a Traditionally High Turnover Environment. Major Adviser: Prof. Richard Swanson.

Michael David Finnemann, St. Paul
B.A. '69, Kalamazoo College; M.A. '70, University of Minnesota. Major: Hispanic Linguistics. Minor: Linguistics. Thesis: Aspects of Spanish Causative Construction. Major Adviser: Prof. R. A. Narvaez.

Douglas Quentin Frisk, New Brighton
B.A. '68, Augsburg College; M.A. '70, University of Minnesota. Major: Education. Minor: Public Health. Thesis: Health Beliefs and Health Practices of Children and Youth. Major Adviser: Prof. Eloise Jaeger.

John Antony Giordano, Minneapolis
B.S. '65, Pratt Institute; M.A. '71, State University of New York; M.A. '77, University of Minnesota. Major: Speech-Communication. Minor: Supporting Program. Thesis: Transparency, Ambiguity, and Opacity as a Conceptual Framework for Studying Intercultural Communication. Major Adviser: Prof. William Howell.

David Harold Gobeli, St. Paul
B.S. with high distinction '64, M.S.E.E. '65, M.B.A. '78, University of Minnesota. Major: Business Administration. Minor: Supporting Program. Thesis: The Management of Innovation in the Pacing Industry. Major Adviser: Prof. R. K. Gaumnitz.

Philip Stanley Griffin, Stoke-on-Trent, England
B.S. with first class honours '76, Bristol University. Major: Mathematics. Minor: Supporting Program. Thesis: On the Growth of D-Dimensional Random Walk. Major Adviser: Prof. William Pruitt.

Randall Gene Groat, Minneapolis
B.S. '75, M.S. '78, University of Minnesota. Major: Plant Physiology. Minor: Supporting Program. Thesis: Host Plant Metabolism of Symbiotically Fixed Nitrogen in Alfalfa (*Medicago sativa* L.) Root Nodules. Major Adviser: Prof. Carroll Vance.

Larry Herman Hageman, Naperville, Ill.
B.S. with honors '78, University of Illinois; M.S. '80, University of Minnesota. Major: Agronomy. Minor: Plant Physiology. Thesis: Investigations of Chlorsulfuron Mode of Action and Soil Persistence. Major Adviser: Prof. Richard Behrens.

David LeRoy Hagen, Minneapolis
B.S. magna cum laude '70, Pacific Lutheran University; M.S. '77, University of Minnesota. Major: Mechanical Engineering. Minor: Supporting Program. Thesis: Design of Plywood and Paper Flywheel Rotors. Major Adviser: Prof. Arthur Erdman.

Hendrik Marten Haitjema, St. Paul
Ir. (Civil) '76, Technische Hogeschool Delft. Major: Civil Engineering. Minor: Supporting Program. Thesis: Modeling Three-Dimensional Flow in Confined Aquifers Using Distributed Singularities. Major Adviser: Prof. Otto Strack.

Glen Richard Hall, Denver, Colo.
B.A. magna cum laude '76, Carleton College. Major: Mathematics. Minor: Supporting Program. Thesis: On Invariant Sets for Certain Maps of the Annulus. Major Adviser: Prof. Richard McGehee.

Michael Robert Hall, Rochester
B.S. '72, M.A. '74, Drake University. Major: Microbiology. Minor: Supporting Program. Thesis: Leukocyte Blastogenic Reactivity to Virus and Tumor-Associated Antigens in Chickens Infected with Rous Sarcoma Virus. Major Adviser: Prof. Paul Meyers.

Mitchell Roy Hammer, Green Bay, Wis.
B.A. '73, St. Norbert College; M.A. '74, Ohio University. Major: Speech-Communication. Minor: Supporting Program. Thesis: The Effects of an Intercultural Communication Workshop on American Participants' Intercultural Communication Competence. Major Adviser: Prof. William Howell.

Roger Bruce Harding
B.S. with distinction '75, Mississippi State University; M.S. '78, Texas A&M University. Major: Forestry. Minor: Soil Science. Thesis: Site Quality Evaluation for White Spruce Plantations in Northern Minnesota. Major Adviser: Prof. David Grigal.

Nicki Dianne Cecelia Harper, Minneapolis
B.A. '75, M.A. '75, University of Minnesota. Major: History. Minor: Supporting Program. Thesis: The Archive of Innaja: A Study in the Internal Chronology of the Cappadocian Texts. Major Adviser: Prof. Thomas Jones.

Anne-Charlotte Hanes Harvey,
Stockholm, Sweden

B.A. '62, Scripps College; M.A. '72, University of Minnesota. Major: Theatre Arts. Minor: Supporting Program. Thesis: Strindberg's Symbolic Room: Commanding Form for Set Design in Selected Strindberg Scripts, 1887-1907. Major Adviser: Prof. Wendell Josal.

Robert Paul Hausinger, Fond du
Lac, Wis.

B.S. '77, University of Wisconsin, Madison. Major: Biochemistry. Minor: Genetics. Thesis: Structure Function Studies on the Iron Protein from the *Azotobacter Vinlandii* Complex. Major Adviser: Prof. James Howard.

William Lawrence Haynes, Baton
Rouge, La.

B.A. '69, Tulane University; M.A. '78, University of Minnesota. Major: Speech-Communication. Minor: Supporting Program. Thesis: An Extended Criticism of Contemporary Television Commercials as Prologue to a Rhetoric of Television. Major Adviser: Prof. Robert Scott.

Judith Cairncross Helgen, St. Paul

B.A. cum laude '60, Mount Holyoke College; M.A. '61, Columbia University. Major: Zoology. Minor: Supporting Program. Thesis: Effects of Crowding on Reproduction and Feeding Rates in the Cladoceran *Daphnia pulex* Leydig. Major Adviser: Prof. James Underhill.

Delores Henderson, Mendota
Heights

B.S. '64, Wilberforce University. Major: Educational Administration. Minor: Supporting Program. Thesis: A Study of the Relationship Between the Academic Achievement and Self-Concept of Black and White Students Attending High and Low Desegregated Schools in the St. Paul Public School District. Major Adviser: Prof. Clifford Hooker.

Gregg Eugene Hickey, Minneapolis

B.A. '68, University of Minnesota. Major: Microbiology. Minor: Supporting Program. Thesis: Electron Microscopic and Immunohistochemical Investigation of Hemosiderin. Major Adviser: Prof. Dorothy Sundberg.

Mark D. Hirschel, St. Paul

B.A. '74, Southwest Minnesota State College; M.S. '77, University of Minnesota. Major: Animal Physiology. Minor: Supporting Program. Thesis: A Biochemical and Immunological Study of the Proteins Found in the Bovine Normal and Cystic Ovary. Major Adviser: Prof. Alan Hunter.

Stephen Francis Holloway,
Minneapolis

B.A. '73, Carleton College; M.S. '76, University of Minnesota. Major: Physiology. Minor: Supporting Program. Thesis: Electrogenic Na/K Pump Is in Part Regulated by Changes in Membrane Potential. Major Adviser: Prof. Richard Poppele.

Rosalind Horowitz, Minneapolis

B.S. '68, M.A. '73, University of Minnesota. Major: Education. Minor: Supporting Program. Thesis: The Limitations of Contrasted Rhetorical Predicates on the Recall and Processing of Expository English Prose. Major Advisers: Profs. Gene Piché and Jay Samuels.

David Richard Janecky, Lodi, Calif.

B.A. '75, University of California, Berkeley. Major: Mineralogy and Petrology. Minor: Supporting Program. Thesis: Serpentinization of Peridotite Within the Oceanic Crust: Experimental and Theoretical Investigations of Seawater-Peridotite Interaction at 200 and 300 C, 500 Bars. Major Adviser: Prof. W. E. Seyfried, Jr.

Makarand Shrinivas Jawadekar,

Bombay, Maharashtra, India

B.Pharm. '72, Shivaji University; M.Pharm. '75, University of Bombay. Major: Pharmaceutics. Minor: Supporting Program. Thesis: Stochastic Analysis of Mass Transport in Sheared Particulate Solids Beds via Markov Chains. Major Adviser: Prof. Edward Rippie.

Mark Edward Jensen, Minneapolis

B.S. '72, Illinois State University; M.S. '73, D.D.S. '76, University of Minnesota. Major: Oral Biology. Minor: Epidemiology. Thesis: Human Dental Plaque pH Changes Following Exposure to Fermentable Carbohydrate. Major Adviser: Prof. C. F. Schachtele.

Samuel Douglas Johnson, Jr.,

Washington, D.C.

B.A. '69, Ripon College; M.A. '70, Colgate University. Major: Educational Psychology. Minor: Supporting Program. Thesis: The Minnesota Multiethnic Counselor Education Curriculum: The Design and Evaluation of an Intervention for Cross-Cultural Counselor Training. Major Adviser: Prof. Warren Shaffer.

Steven Darrel Johnson, Lauderdale

B.A. magna cum laude '74, Westmont College. Major: Mathematics. Minor: Supporting Program. Thesis: Resolutions of Ideals. Major Adviser: Prof. Jack Eagon.

Marie Spriggs Jones, Edina

B.A. '60, Lake Forest College; M.A. '78, University of Minnesota. Major: Educational Administration. Minor: Supporting Program. Thesis: Collective Bargaining: Perceived Effects on Academic Quality and Institutional Autonomy. Major Adviser: Prof. William Ammentorp.

Sung K. Kim

B.A. '52, Donggook University; M.A. '76, University of Minnesota. Major: Education. Minor: Supporting Program. Thesis: Asian Themes and Events in Textbooks on United States History. Major Adviser: Prof. Richard Kimpston.

Eda Fowlks Kranakis, Minneapolis

B.A. magna cum laude '73, Luther College. Major: History of Science and Technology. Minor: Supporting Program. Thesis: Case Studies in the Diffusion of Technology Between France and America in the Nineteenth Century. Major Adviser: Prof. Edwin Layton.

Kathryn Ferris Kuehnle, Minneapolis

B.S. '73, Indiana University; M.A. '77, University of Minnesota. Major: Educational Psychology. Minor: Supporting Program. Thesis: Contribution of Social Skills and Role Assignment to Social Status. Major Adviser: Prof. Stanley Deno.

Kei Yun Lau, St. Paul

B.S. '68, National Taiwan University; M.S.M.E. '71, University of Minnesota. Major: Mechanical Engineering. Minor: Mathematics. Thesis: The Measurement of Two Turbulent Fluid Flows with Temperature Fluctuation Using Laser-Doppler Technique. Major Adviser: Prof. Richard Goldstein.

Leo John Laux, Clawson, Mich.

B.S. summa cum laude '77, University of Detroit. Major: Chemistry. Minor: Supporting Program. Thesis: The Optical Activity Associated with Molecular Vibrations. Major Advisers: Profs. Albert Moscovitz and John Overend.

William Franklin Lewis, Madison,

Wis.

B.A. with distinction '72, Macalester College; M.A. '76, University of Minnesota. Major: Speech-Communication. Minor: Philosophy. Thesis: Image and Interpretation: A Rhetorical View of Televised Professional Football. Major Adviser: Prof. Robert Scott.

Betty Lou Lia-Hoagberg, Detroit

Lakes

B.S. '61, M.A. '66, University of Minnesota. Major: Education. Minor: Supporting Program. Thesis: Professional Activities and Personality Characteristics of Nursing Faculty Compared with Those of Other Academic Women. Major Advisers: Profs. Patricia Faunce and Howard Williams.

Ching-Her Lin

B.S. '71, Fu Jen Catholic University. Major: Mathematics. Minor: Supporting Program. Thesis: The Sufficiency of Matkowsky-Condition in the Problem of Resonance. Major Adviser: Prof. Yasutaka Sibuya.

Carlos Marcelo Loffler, La Plata,

Argentina

Ing. Agron. '74, Universidad Nacional de La Plata; M.S. '80, University of Minnesota. Major: Plant Breeding. Minor: Supporting Program. Thesis: Grain and Plant Protein Relationships and Recurrent Selection for Grain Protein Percentage in Spring Wheat (*Triticum aestivum* L.). Major Adviser: Prof. Robert Busch.

Jon Lorence, Oskaloosa, Iowa

B.A. magna cum laude '70, Central College; M.A. '72, Iowa State University. Major: Sociology. Minor: Supporting Program. Thesis: Intraoccupational Income Inequality: Human Capital and Institutional Determinants. Major Adviser: Prof. Joel Nelson.

Barry Lyman Lundquist, St. Paul

B.S. cum laude '71, M.A. '71, Bemidji State University; Spec. Cert. '77, University of Minnesota. Major: Education. Minor: Public Health. Thesis: Forces and Their Perceived Strengths Affecting Curricular Decisions in Professional Education: Nursing. Major Adviser: Prof. Richard Kimpston.

Virginia Mary Lyons, Bosco, La.

B.S. '62, University of Southwestern Louisiana; M.E. '70, Nichols State College. Major: Educational Psychology. Minor: Supporting Program. Thesis: A Study of Elaborative Cognitive Processing as a Variable Mediating Achievement in Cooperative Learning Groups. Major Adviser: Prof. David Johnson.

Gearoid Proinsias Mac Sithigh,

Dublin, Ireland

B.S. with first class honours '75, M.S. '76, University College, Dublin; M.S. '79, University of Minnesota. Major: Mechanics. Minor: Mathematics. Thesis: Coexistent Phases and Minimizers in Constrained Elastic Materials. Major Adviser: Prof. Roger Fosdick.

Catherine Anne Marienau,

Montevideo

B.A. '71, M.A. '76, University of Minnesota. Major: Education. Minor: Supporting Program. Thesis: Bridging Theory and Practice in Adult Development and Planned Change: Case Studies in Higher Education. Major Adviser: Prof. Harlan Copeland.

Judith Ann Maxwell, Crestwood, Ky.
B.S. '70, Indiana University; M.S. '77, Washington State University. Major: Agricultural Economics. Minor: Supporting Program. Thesis: The Economic Impact of Irrigation Development in West Central Minnesota. Major Adviser: Prof. John Waelti.

Robert Michael McKay, Chater,
Manitoba, Canada

B.S. '76, B.S.A. '78, M.S. '80, University of Manitoba. Major: Animal Science. Minor: Statistics. Thesis: Heterosis and Reciprocal Differences in the Crosses of Three Breeds of Swine at Five Stages of Development. Major Adviser: Prof. W. E. Rempel.

Saeid Meshkat-Razavi, Iran

B.S. '78, Tehran Polytechnique; M.S.E.E. '80, University of Minnesota. Major: Biomedical Engineering. Minor: Electrical Engineering. Thesis: Neuromuscular Servo-Mechanism and an Inverse Optimization Problem Involving Forearm Movement. Major Adviser: Prof. Frederick Waltz.

David Stuart Miller, Minneapolis

B.A. '66, Grinnell College; M.A. '71, University of Minnesota. Major: American Studies. Thesis: An Unfinished Pilgrimage: Edwin Way Teale and American Nature Writing. Major Adviser: Prof. M. C. Turpie.

Eucharia Enderline Nnadi, Ihiala,
Nigeria

B.S. cum laude '77, Creighton University; M.S. '78, University of Minnesota. Major: Social and Administrative Pharmacy. Minor: Supporting Program. Thesis: Drug Taking Behavior as a Result of Health Care Seeking Behavior in Nigeria—An Inter-Tribal Perspective. Major Adviser: Prof. H. F. Kabat.

John Howard Olson, Eau Claire,
Wis.

B.S. '64, University of Wisconsin, Platteville; M.S. '74, Stout State College. Major: Vocational Education. Minor: Supporting Program. Thesis: Administrative Costs Associated with Tuition Charges in Minnesota Area Vocational-Technical Institutes. Major Adviser: Prof. David Bjorkquist.

Charles Anthony Omer, Lansing,
Mich.

B.S. with high honor '77, Michigan State University. Major: Microbiology. Minor: Supporting Program. Thesis: A Molecular Analysis of Reverse Transcription in Avian Sarcoma Virus. Major Adviser: Prof. Anthony Faras.

Karen Mary Anklan Palin, St.
Peters, Mo.

B.A. '72, University of Minnesota. Major: Microbiology. Minor: Supporting Program. Thesis: The Association of *Leptospira* with Microphages. Major Adviser: Prof. Russell Johnson.

Peter Francis Parilla, St. Paul

B.A. magna cum laude '72, College of St. Thomas; M.A. '78, University of Minnesota. Major: Sociology. Minor: Supporting Program. Thesis: Organizational Control of Employee Theft: A Test of Deterrence Hypotheses. Major Adviser: Prof. John Clark.

Jung H. Park, Seoul, Korea

B.S. '72, Ewha Woman's University; M.S. '80, University of Minnesota. Major: Nutrition. Minor: Supporting Program. Thesis: Effects of Aging and Nutrition on Skeletal Muscle Maintenance in Rats. Major Adviser: Prof. Patricia Swan.

Jose Antonio Peris Ellia, Madrid,
Spain

Lic. '77, Universidad Autónoma de Madrid; M.A. '80, University of Minnesota. Major: Economics. Minor: Statistics. Thesis: A Dynamic Model of the Cyclical Behavior of Inventories and Employment with Unemployment Insurance. Major Adviser: Prof. Christopher Sims.

Anggoro Hadi Permadi, Lembang,
Bandung, Indonesia

Ir. '76, Bogor Agricultural University. Major: Plant Breeding. Minor: Horticulture. Thesis: Variation in Photoperiodic Response and Flower Structure of Winged Bean (*Psophocarpus tetragonolobus* [L] DC). Major Adviser: Prof. Peter Ascher.

James Richard Persoon, Shoreview

B.A. '73, Macalester College. Major: Chemistry. Minor: Supporting Program. Thesis: Light Scattering Studies of Colloidal Lead Sulfide. Major Adviser: Prof. E. J. Meehan.

Thomas Paul Pittman-Bejger,
Wilmington, Del.

B.S. with highest honors '75, Case Western Reserve University. Major: Chemical Engineering. Minor: Supporting Program. Thesis: Real-Time Control and Optimization of Batch Free-Radical Copolymerization Reactors. Major Adviser: Prof. Matthew Tirrell.

Gregory Charles Pratt, Minneapolis

B.S. magna cum laude '77, M.S. '80, University of Minnesota. Major: Plant Physiology. Minor: Supporting Program. Thesis: Effects of Ozone and Sulfur Dioxide on Soybeans. Major Adviser: Prof. Sagar Krupa.

Jennifer Post Quinn, Vergennes, Vt.
B.A. cum laude '69, Beloit College; M.A. '75, University of Minnesota. Major: South Asian Languages. Minor: Music. Thesis: Marathi and Konkani Speaking Women in Hindustani Music, 1850-1940. Major Adviser: Prof. Indira Junghare.

Joel Kim Ransom, Pocatello, Idaho
B.S. '78, Brigham Young University; M.S. '80, University of Minnesota. Major: Agronomy. Minor: Plant Physiology. Thesis: Chemical and Cultural Control of Common Water Plantain in Wild Rice. Major Adviser: Prof. Ervin Oelke.

Martin Joseph Reape III, Drexel Hill, Pa.
B.S. '70, Philadelphia College of Textiles and Science; M.P.H. '73, M.S. '79, University of Minnesota. Major: Environmental Health. Minor: Supporting Program. Thesis: Neurologic Health Impact on Workers with Chronic Low Dose Exposure to Aryl Phosphates. Major Adviser: Prof. Harold Paulus.

Lisa M. Rini, San Diego, Calif.
B.A. '73, Baldwin-Wallace College; M.Ed. '74, Miami University. Major: Education. Minor: Supporting Program. Thesis: The Relationship Between Selected Affective Variables and Motor Proficiency in Elementary School Children. Major Adviser: Prof. Jeralyn Plack.

Janice Adelle Rossen, La Crescenta, Calif.
B.A. magna cum laude '76, University of Redlands; M.A. '78, University of Minnesota. Major: English. Minor: Supporting Program. Thesis: The Early Novels of Elizabeth Bowen: An Existential Reading. Major Adviser: Prof. Peter Firchow.

Nicholas Archer Sanders, Minneapolis
B.M.E. '75, M.S.M.E. '79, University of Minnesota. Major: Mechanical Engineering. Minor: Supporting Program. Thesis: Experimental Study of the Near Anode Region of a High Intensity Electric Arc. Major Adviser: Prof. Emil Pfender.

Daryl Andrew Scherkenbach, East Troy, Wis.
B.A. '75, University of Wisconsin, Milwaukee. Major: Mineralogy and Petrology. Minor: Supporting Program. Thesis: Geologic, Mineralogic and Fluid Inclusion and Geochemical Studies of the Mineralized Breccias at Cumobabi, Sonora, Mexico. Major Adviser: Prof. Frederick Sawkins.

Richard Knox Shaw, Winona
B.A. '74, Carleton College. Major: Mathematics. Minor: Supporting Program. Thesis: A Class of Operators Which Acts on the Hardy Space H^1 and a Related Weight Condition. Major Adviser: Prof. Max Jodeit.

Aydeniz Siginer
Dipl. '66, Technical University of Istanbul. Major: Mechanics. Minor: Mathematics. Thesis: The Free Surface on a Simple Fluid Between Eccentric Cylinders Rotating at Different Speeds. Major Adviser: Prof. Daniel Joseph.

Jonathan G. Spanier, Hartsdale, N.Y.
B.S. '76, Cornell University. Major: Microbiology. Minor: Supporting Program. Thesis: Lysogenic Conversion of Antiphagocytic Determinants in Group A Streptococci. Major Adviser: Prof. Paul Cleary.

Oliver Wendell Spencer, Jr., St. Paul
B.S. '68, Prairie View Agricultural and Mechanical College; M.A. '74, University of Minnesota. Major: Educational Administration. Minor: Supporting Program. Thesis: The Academic Achievement of Students Attending a Fundamental Alternative School in St. Paul. Major Adviser: Prof. Clifford Hooker.

Donald Timothy Starzinski, St. Paul
B.A. summa cum laude '73, University of Minnesota. Major: Psychology. Minor: Supporting Program. Thesis: The Effects of Ethanol on Food Reinforced Key Pecking and Schedule-Induced Attack in Pigeons. Major Adviser: Prof. Travis Thompson.

Loren Chester Stephens, Ayrshire, Iowa
B.A. '71, University of Iowa; M.S. '74, University of Minnesota. Major: Horticulture. Minor: Supporting Program. Thesis: Self Incompatibility Studies of *Ageratum* and Garden Chrysanthemum. Major Adviser: Prof. Peter Ascher.

Anne W. Suessbrick, Minneapolis
B.A. magna cum laude '57, Mount Holyoke College; M.A. '58, Columbia University. Major: Psychology. Minor: Supporting Program. Thesis: A Procedure for Studying Repeated Learning by Mentally Retarded Individuals. Major Adviser: Prof. Travis Thompson.

Dorothy Johnson Suomala, Plymouth
B.A. '63, Hamline University; M.A. '68, Moorhead State University. Major: Educational Administration. Minor: Supporting Program. Thesis: The Perceived Involvement of PTA/PTSA in Selected Areas by PTA/PTSA Presidents and Elementary Principals in Minnesota School Districts. Major Advisers: Profs. Gary Alkire and Van Mueller.

Mary Towley Swanson, Minneapolis
B.A. cum laude '61, M.F.A. '64, M.A. '76, University of Minnesota. Major: Art History. Minor: Supporting Program. Thesis: The Role of Ethnicity in the Careers of Four Swedish-American Painters: John F. Carlson, Henry Mattson, B. J. O. Nordfeldt, and Carl Sprinchorn. Major Adviser: Prof. Marion Nelson.

Douglas York Tate, Edina

B.A. cum laude '70, St. Olaf College; M.D. '76, University of Minnesota. Major: Anatomy. Minor: Supporting Program. Thesis: Detection of Platelet Associated IgG in Immune Thrombocytopenia. Major Adviser: Prof. Robert Sorenson.

Devarajan V. Thirumalai, Madras, India

M.S. with first class honor '77, Indian Institute of Technology. Major: Chemistry. Minor: Supporting Program. Thesis: Effective Potential Studies of Electron-Atom and Electron-Molecule Collisions. Major Adviser: Prof. Donald Truhlar.

Marcus Wills Thomsen, Salt Lake City, Utah

B.A. summa cum laude '77, Luther College. Major: Chemistry. Minor: Supporting Program. Thesis: Infrared Laser Induced Organic Chemical Reactions of Vinylcyclopropane, Bicyclopropyl and Diethyl Carbonate. Major Adviser: Prof. William Farneth.

Mary Jo Ann Thorsheim, Minneapolis

B.S. with high distinction '59, M.S. '76, University of Minnesota. Major: Educational Psychology. Minor: Supporting Program. Thesis: A Policy-Oriented Approach to Surveying Long-Term Care Provisions for Physically Disabled People. Major Adviser: Prof. J. E. Rynders.

Rama Murthy Tunuguntla, India

M.A. '67, Osmania University; M.A. '78, University of Minnesota. Major: Mass Communication. Minor: Supporting Program. Thesis: Factors Relating to International News and Information Coverage by the United States Mass Media. Major Adviser: Prof. Roy Carter.

Christopher William Turner, St. Paul

B.A. '73, University of Wisconsin, Madison; M.A. '79, University of Minnesota. Major: Communication Disorders. Minor: Supporting Program. Thesis: Pure Tone Pitch Perception in Low-Frequency Hearing Loss. Major Adviser: Prof. Dixon Ward.

Corwin Paul Umbach, Silver Spring, Md.

B.S. magna cum laude '77, Duke University; M.S.Ch.E. '79, University of Minnesota. Major: Metallurgy and Materials Science. Minor: Supporting Program. Thesis: Fabrication of Electron Tunneling Junctions on Nb₃Ge and ErRh₄B₄ Using Artificial Barriers of Rare Earth Oxides. Major Adviser: Prof. Louis Toth.

Carol Louise Urness, Lambertton

B.A. cum laude '57, M.A. '60, University of Minnesota. Major: History. Minor: Geography. Thesis: Bering's First Expedition: A Re-Examination Based on 18th Century Books, Maps, and Manuscripts. Major Adviser: Prof. Theofanis Stavrou.

Manuel Vanegas-Fonseca

Ig.Agr. '67, M.S. '71, La Escuela Nacional de Agricultura y Ganaderia. Major: Agricultural Economics. Minor: Supporting Program. Thesis: An Econometric Model of the Supply and Demand for Milk in Nicaragua: 1958-1977. Major Adviser: Prof. Jerome Hammond.

Evelyn Hawthorne Vanouse, Kingston, Jamaica

B.A. '60, Notre Dame College; M.A. '72, University of Minnesota. Major: English. Minor: Supporting Program. Thesis: Roger Mais: The Romantic Voice and the Nationalist Image. Major Adviser: Prof. Martin Roth.

Gregory Charles Verchota, Superior, Wis.

B.S. with distinction '76, Indiana University. Major: Mathematics. Minor: Supporting Program. Thesis: Layer Potentials and Boundary Value Problems for Laplace's Equation on Lipschitz Domains. Major Adviser: Prof. Eugene Fabes.

Lee Walter, St. Paul

B.A. '72, University of Minnesota. Major: Chemistry. Minor: Supporting Program. Thesis: The Mechanism of Excited State Formation in the Radiolysis of Hydrocarbon Liquids. Major Adviser: Prof. Sanford Lipsky.

Thomas Washington, Rock Island, Ill.

B.A. '61, M.A. '64, University of Illinois. Major: Spanish. Minor: Supporting Program. Thesis: The Narrative Works of Rosario Castellanos: In Search of History—Confrontations with Myth. Major Adviser: Prof. Hernan Vidal.

David Bruce Watson, Los Angeles, Calif.

B.A. summa cum laude '75, University of Santa Clara. Major: Psychology. Minor: Supporting Program. Thesis: A Cross-Cultural Study of the Structure of Mood. Major Adviser: Prof. Auke Tellegen.

Frederick Edward Weber, Knoxville, Tenn.

B.S.E. cum laude '74, University of Michigan. Major: Chemical Engineering. Minor: Mathematics. Thesis: G. Temperature Dependencies and the Spur Diffusion Model of Radiation Chemistry. Major Adviser: Prof. Herbert Isbin.

In-Suk Wee, Seoul, Korea

B.S. '75, Seoul National University. Major: Mathematics. Minor: Supporting Program. Thesis: Suprema of Lévy Processes. Major Adviser: Prof. William Pruitt.

Jeffrey Ford Williamson,
Minneapolis
B.A. '74. St. Olaf College; M.S. '80. University of Minnesota. Major: Biophysical Sciences. Minor: Supporting Program. Thesis: Calibration of Gamma-Ray Brachytherapy Sources. Major Adviser: Prof. Faiz Khan.

Deborah Lyn Woodworth, Oxford,
Ohio
B.A. '72. Miami University. Major: Sociology. Minor: Supporting Program. Thesis: A Content Analytic Study of Religious Meaning and Life Satisfaction. Major Adviser: Prof. David Cooperman.

Rahim Zaare-Nahandi, Tabriz, Iran
Lic. '71, Lic. '73, Tehran University. Major: Mathematics. Minor: Supporting Program. Thesis: Seminormality of Certain Generic Projections. Major Adviser: Prof. Joel Roberts.

Robert Paul Zentner, LeRoy,
Saskatchewan, Canada
B.S.A. with distinction '72, M.S. '75. University of Saskatchewan. Major: Agricultural Economics. Minor: Economics. Thesis: An Economic Evaluation of Public Wheat Research Expenditures in Canada. Major Adviser: Prof. Willis Peterson.

Doctor of Philosophy

MAYO GRADUATE SCHOOL OF MEDICINE

Thomas Behrenbeck, Münster,
West Germany
M.D. '78. University of Münster. Major: Physiology. Minor: Biophysics. Thesis: Regional Myocardial Wall Dynamics Under Controlled Ischemia and Pharmacological Depression of the Myocardium. Major Advisers: Profs. E. L. Ritman and E. H. Wood.

Master of Architecture

Tarek S. Aboul-Naga, Cairo, Egypt
B.S. '75. Ain Shams University. Major: Architecture. Thesis: Cairo Islamic Center for the Interpretation of Islamic Civilization. Major Adviser: Prof. Roger Clemence.

Jay W. R. Healy
B.S. '77. University of Nebraska. Major: Architecture. Thesis: St. Paul Landmark Hotel. Major Adviser: Prof. Roger Clemence.

Chiu Shui Chan, Taipei, Taiwan
B.E. '74. College of Chinese Culture. Major: Architecture. Thesis: Continuity and Change: The Interpretation of Prototype for a Library Design in Taipei R.O.C. Major Adviser: Prof. Roger Clemence.

Master of Arts

Tuvia Abramson, Tel Aviv, Israel
B.A. '72. Hebrew University of Jerusalem. Major: Education. Minor: Related Fields. Major Adviser: Prof. Robert Keller.

Noura Khaled Alsaad, Jeddah, Saudi
Arabia
B.B.A. '72. King Abdul Aziz University. Major: Social and Philosophical Foundations of Education. Minor: Related Fields. Major Adviser: Prof. Shirley Clark.

Glenn Joseph Ames, Pawtucket, R.I.
B.A. with highest distinction '77. University of Rhode Island. Major: History. Minor: Related Fields. Thesis: The Persian Squadron of 1670: The Eastern Strategy of the Anti-Dutch Campaign of Louis XIV and Colbert. Major Adviser: Prof. Paul Bamford.

Sandra Jean Anderson, Bloomington
B.S. '59. Gustavus Adolphus College. Major: Educational Psychology. Minor: Related Fields. Major Adviser: Prof. Dewey Force, Jr.

Sonia Gail Anderson, Minneapolis
B.S. '59, Gustavus Adolphus College. Major: Secondary Education. Minor: Related Fields. Major Adviser: Prof. Neville Pearson.

Mary Battaglia
B.A. '75, George Washington University. Major: Mass Communication. Minor: Related Fields. Major Adviser: Prof. Willard Thompson.

James Maurice Bauck, Prior Lake
B.A. '77, Concordia College. Major: Educational Administration. Minor: Related Fields. Major Adviser: Prof. Neal Nickerson.

Garylen Keith Becker, Plainview
B.E.S. '79, University of Minnesota. Major: English as a Second Language. Minor: Related Fields. Major Adviser: Prof. Bruce Downing.

Robert Clay Bogart, Brooten
B.S. '66, University of Minnesota. Major: Educational Administration. Minor: Related Fields. Major Adviser: Prof. Van Mueller.

Gillian Elizabeth Bolling, Dearborn, Mich.
B.A. '80, University of Michigan. Major: Mass Communication. Minor: Related Fields. Major Adviser: Prof. George Hage.

Colleen Ann Brady, Roseville
B.A. '66, University of Witwatersrand; Teacher's Higher Dipl. '67, Johannesburg College of Education. Major: Library Science. Minor: Related Fields. Major Adviser: Prof. Joan Leigh.

Arlene Rossen Cardozo, Minneapolis
B.A. '58, University of Minnesota. Major: Mass Communication. Minor: Related Fields. Thesis: Was Their Plight Known? A Study of What Information Was Conveyed by the *New York Times* About the Exterminations of European Jews During the Period When the Death Camps Were Operative—November 1941-October 1944. Major Adviser: Prof. W. E. Emery.

Daniel Gene Carey, Hastings
B.S. with distinction '74, University of Minnesota. Major: Physical Education. Minor: Related Fields. Thesis: Comparison of Skiing and Standing Bicycle Ergometry for Elicitation of Maximal Oxygen Consumption. Major Adviser: Prof. Robert Serfass.

Bruce Edward Carter, Duluth
B.A. '74, University of Minnesota. Major: Industrial Relations. Minor: Related Fields. Major Adviser: Prof. Mahmood Zaidi.

Cynthia Ann Case, Minneapolis
B.S. with high honors '74, Illinois State University. Major: Educational Psychology. Minor: Related Fields. Major Adviser: Prof. Stanley Deno.

Yong-Ho Chang, Seoul, Korea
B.A. '74, M.A. '77, Korea University. Major: Mass Communication. Minor: Related Fields. Major Adviser: Prof. Roy Carter.

Louis Hector Chavez, Mexico City, Mexico
Abogado '78, La Escuela Libre de Derecho. Major: Public Affairs. Minor: Related Fields. Major Adviser: Prof. George Warp.

Chuchang Jude Chiu, Taipei, Taiwan
B.A. '79, National Chengchi University. Major: Mass Communication. Minor: Related Fields. Major Adviser: Prof. James Brown.

Byung-Soon Choi, Seoul, Korea
B.S. '74, Seoul National University. Major: Education. Minor: Related Fields. Major Adviser: Prof. Eugene Gemmaro.

Cathleen Ann Clevette, Minneapolis
B.A. '80, Gustavus Adolphus College. Major: Education. Minor: Related Fields. Major Adviser: Prof. Helen Jorstad.

Catherine Anne Coury, Des Moines, Iowa
B.S. '72, Mankato State College. Major: Business Education. Minor: Related Fields. Major Adviser: Prof. Charles Hopkins.

Susan Jane Coyle, Cleveland, Ohio
B.A. '78, Oberlin College. Major: Museology. Minor: Related Fields. Major Adviser: Prof. Fred Smith.

Adedoyin Daniel, Nigeria
B.A. '79, University of Minnesota. Major: Criminal Justice Studies. Minor: Speech-Communication. Thesis: Ways of Improving Nigerian Police Public Relations. Major Adviser: Prof. Linda Heath.

Ruth Elizabeth Danielson, Barnstaple, England
B.A. with second class honours '77, University of Bristol. Major: English. Minor: Related Fields. Major Adviser: Prof. William Madden.

Jerome Dehn DeNuccio, New Brighton
B.S. with honors '71, Wisconsin State University, Stevens Point. Major: English. Minor: Related Fields. Major Adviser: Prof. William Madden.

Alicia del Socorro Duran
Lic. '75, Pontificia Universidad Javeriana. Major: Educational Psychology. Minor: Child Psychology. Major Adviser: Prof. Paul Johnson.

- Eileen Joyce Emberson, Eau Claire, Wis.
B.S. cum laude '67. Wisconsin State College. Eau Claire. Major: Library Science. Minor: Related Fields. Major Adviser: Prof. Joan Leigh.
- Robert Addoms Featherstone, Arden Hills
B.S. '43. Columbia University. Major: Speech-Communication. Minor: Related Fields. Major Adviser: Prof. Robert Scott.
- Pamela Renea Fletcher, La Puente, Calif.
B.A. '77. Carleton College. Major: English. Minor: Related Fields. Major Adviser: Prof. William Madden.
- Katherine Simmons Freudenberg, Moscow, Idaho
B.A. cum laude '79. University of Idaho. Major: History. Minor: Related Fields. Major Adviser: Prof. John Modell.
- Katherine Simmons Freudenberg, Moscow, Idaho
B.A. cum laude '79. University of Idaho. Major: Museology. Minor: Related Fields. Major Adviser: Prof. Fred Smith.
- Leslie Joyce Gaidi, St. Paul
B.A. cum laude '74. Macalester College. Major: Educational Psychology. Minor: Related Fields. Major Adviser: Prof. Alan Anderson.
- Susan Kristine Gangsei, Minneapolis
B.A. magna cum laude '76. Augsburg College. Major: Industrial Relations. Minor: Related Fields. Major Adviser: Prof. Thomas Mahoney.
- Mark Joseph Gautschi, St. Paul
B.A. '74. St. Mary's College. Major: Education. Minor: Related Fields. Major Advisers: Profs. Robert Schreiner and Michael Graves.
- Meredith Ann Gerdin, Fridley
B.A. '68. San Diego State College. Major: Communication Disorders. Minor: Related Fields. Thesis: Release from Fusion in Dichotic Listening. Major Adviser: Prof. Charles Speaks.
- Marcia Lyall Gilbert, Adams Center, N.Y.
B.M. cum laude '79. State University of New York College at Potsdam. Major: Educational Psychology. Minor: Related Fields. Major Adviser: Prof. John Rynders.
- Alan Lee Goldberg, San Diego, Calif.
B.S. with honors '78. University of California, Davis. Major: Psychology. Minor: Related Fields. Major Adviser: Prof. Steven Hollon.
- Luisa Sandoval Gonzaga, Philippines
B.F.A. cum laude '77. University of the Philippines. Major: Mass Communication. Minor: Related Fields. Major Adviser: Prof. W. L. Thompson.
- Michael James Halstenson, Niagara, N.D.
B.M. summa cum laude '78. University of North Dakota. Major: Music. Minor: Related Fields. Thesis: Major Adviser: Prof. Paul Fetter.
- David Lloyd Hannula, Hurley, Wis.
B.F.A. magna cum laude '79. University of Wisconsin, Superior. Major: Theatre Arts. Minor: Related Fields. Major Adviser: Prof. Wendell Josal.
- Karen Bailey Harrington, Webb City, Mo.
B.A. '80. University of Minnesota. Major: Geography. Minor: Related Fields. Major Adviser: Prof. R. H. Squires.
- Joyce Anne Hatala, Peckville, Pa.
B.A. '78. University of Notre Dame. Major: Anthropology. Minor: Related Fields. Major Adviser: Prof. Luther Gerlach.
- Marcia Lou Hierseman, Minneapolis
B.S. '74. University of North Dakota. Major: Industrial Education. Minor: Related Fields. Major Adviser: Prof. Donald Irvin.
- Debra Ann Holewa, St. Anthony
B.S. with high distinction '76. University of Minnesota. Major: Education. Minor: Related Fields. Major Adviser: Prof. Carol Carrier.
- Janis Samantha Houston, Minneapolis
B.A. '74. University of Minnesota. Major: Psychology. Minor: Related Fields. Thesis: Selection for Insurance Policy Raters: An Attempt To Overcome Some of the Theoretical Methodological and Practical Problems. Major Adviser: Prof. Tom Bouchard.
- Janet Carol Jensen, Minneapolis
B.A. '63. Hamline University. Major: Music. Minor: Related Fields. Major Adviser: Prof. Robert Laudon.
- Charlynn Christine Johnson, Arden Hills
B.A. cum laude '70. Gustavus Adolphus College. Major: Secondary Education. Minor: Related Fields. Major Adviser: Prof. Helen Jorstad.
- Gholam Reza Kohansali
B.A. '74. College of Literature and Foreign Language, Tehran; B.A. '80. Hamline University. Major: English. Minor: Related Fields. Major Adviser: Prof. William Madden.

Yuichi Kondo, Haramachi, Japan
B.S. '79, Grand Valley State College. Major: Speech-Communication. Minor: Related Fields. Major Adviser: Prof. W. S. Howell.

Sandra Kay Kopel, Sioux Falls, S.D.
B.A. '79, University of Iowa. Major: Educational Psychology. Minor: Related Fields. Major Adviser: Prof. Robert Bruininks.

Mary Louise Kovacic, Burnsville
B.S. '55, Chestnut Hill College. Major: Library Science. Minor: Related Fields. Major Adviser: Prof. Wesley Simonton.

Alfredo Mario Leone, Buenos Aires, Argentina
Lic. '75, Universidad de Buenos Aires. Major: Economics. Minor: Related Fields. Major Adviser: Prof. Oswald Brownlee.

Sumei Sue Lu, Taiwan
B.Com. '69, National Chengchi University. Major: Business Education. Minor: Related Fields. Major Adviser: Prof. Charles Hopkins.

David Paul Lutes, Richfield
B.S. '79, University of Minnesota. Major: Industrial Relations. Minor: Related Fields. Major Adviser: Prof. John Turnbull.

Bruce Wayne Maaser, Wausau, Wis.
B.A. '70, University of Wisconsin, Madison. Major: Psychology. Minor: Related Fields. Major Adviser: Prof. Gloria Leon.

Marc Ricky Marcus, Minneapolis
B.S. '77, State University of New York College at Brockport. Major: Educational Administration. Minor: Related Fields. Major Adviser: Prof. William Ammentorp.

David Lee Martens, Eagan
B.A. cum laude '76, Gustavus Adolphus College. Major: Criminal Justice Studies. Minor: Related Fields. Thesis: Dakota County Sentencing Study. Major Adviser: Prof. Donald Dwyer.

Daniel William Meinz, Lindstrom
B.A. cum laude '76, St. John's College. Major: Criminal Justice Studies. Minor: Related Fields. Thesis: Criminal Homicide in Minnesota. Major Adviser: Prof. C. P. Malmquist.

Robert Gary Miller, Thompson, Manitoba, Canada
B.A. '69, University of Minnesota, Morris. Major: Music Education. Minor: Related Fields. Major Adviser: Prof. Stephen Schultz.

Gloria Morris-Grothre, New Hope
B.S. with distinction '72, University of Minnesota. Major: Music. Minor: Related Fields. Major Adviser: Prof. Johannes Riedel.

Susan Carol Mudroch, Pittsburgh, Pa.
B.S. '69, Eastern Michigan University. Major: Home Economics Education. Minor: Related Fields. Major Adviser: Prof. Marilyn Rossmann.

Maria Benda Murad, Minneapolis
B.A. '79, University of Minnesota. Major: English. Minor: Related Fields. Major Adviser: Prof. Michael Browne.

Mia Paul Olsen, Minneapolis
B.A. '74, University of Minnesota. Major: Education. Minor: Related Fields. Major Adviser: Prof. Rosemarie Park.

Mary Ellen Olson, White Bear Lake
B.A. '49, University of Minnesota. Major: History. Minor: Museology. Major Adviser: Prof. Sara Evans.

Roger Martin Olson, Pewaukee, Wis.
B.A. '76, University of Minnesota. Major: Sociology. Minor: Related Fields. Thesis: Urbanization, Need, and the Diffusion of a Health Care Innovation. Major Adviser: Prof. Bert Ellenbogen.

Patricia Jane O'Neill, St. Paul
B.S. with high distinction '76, University of Minnesota. Major: Educational Psychology. Minor: Related Fields. Major Adviser: Prof. Virginia Walter.

Paul Edward Opheim, Bloomington
B.S. '75, University of Minnesota. Major: Chinese. Minor: Related Fields. Thesis: The Significance and Role of the Chinese Landscape Pavilion in the Lives of Classical Scholars as Viewed Through Chinese Literature. Major Adviser: Prof. Tsung Na.

Joy Barbara Osborn, Minneapolis
B.S. '76, University of Minnesota. Major: Education. Minor: Related Fields. Major Adviser: Prof. Carol Carrier.

David John Ouse, Duluth
B.A. '73, M.A. '80, University of Minnesota. Major: Library Science. Minor: Related Fields. Major Adviser: Prof. Joan Leigh.

Robyn Fae Kiliam Peterson, Minneapolis
B.S. '67, University of Minnesota. Major: Elementary Education. Minor: Related Fields. Major Adviser: Prof. John Cogan.

Priscilla Young Pratt, Deephaven
B.A. '61, University of Minnesota. Major: American Studies. Minor: Related Fields. Major Adviser: Prof. Mulford Sibley.

Ricky Wayne Rabideau, Chazy, N.Y.
B.S. '77, Cornell University. Major: Agricultural Education. Minor: Related Fields. Major Adviser: Prof. Roland Peterson.

Glen Curtis Ramsborg, Minneapolis
B.S. '77, University of Minnesota. Major: Education. Minor: Related Fields. Major Adviser: Prof. Carol Carrier.

Penny Sue Ream, Minneapolis
B.A. '69, University of Northern Iowa. Major: Education. Minor: Related Fields. Major Adviser: Prof. Harlan Copeland.

Robert Davis Reed, Minneapolis
B.A. '77, University of Wisconsin, Madison. Major: Criminal Justice Studies. Minor: Related Fields. Thesis: An Examination of the Key Ingredients in Successful Group Homes. Major Adviser: Prof. Richard Petronio.

Judy Kay Regenscheid, Fridley
B.A. '79, College of St. Benedict. Major: Education. Minor: Related Fields. Major Adviser: Prof. Willard Philipson.

Dee Gaeddert Reimer, North
Newton, Kan.
B.A. with highest distinction '77, Bethel College. Major: Psychology. Minor: Related Fields. Major Adviser: Prof. Steven Brown.

Shari Lea Render, Bloomington
B.A. '79, University of Minnesota. Major: Industrial Relations. Minor: Related Fields. Major Adviser: Prof. John Flagler.

Rodney Paul Rice, Benson
B.A. magna cum laude '77, Moorhead State University. Major: English. Minor: Related Fields. Major Adviser: Prof. R. D. Solotaroff.

Linda Celeste Roberts, Houston, Tex.
B.A. with high honors '76, University of Texas at Austin. Major: Psychology. Minor: Related Fields. Major Adviser: Prof. Steven Hollon.

Karen Louise Rogers, Burnsville
B.A. '65, San Diego State College. Major: Educational Psychology. Minor: Related Fields. Major Adviser: Prof. Maynard Reynolds.

Alan Asher Saltzman, Iowa City,
Iowa
B.F.A. '71, University of Iowa. Major: Social and Philosophical Foundations of Education. Minor: Related Fields. Major Adviser: Prof. Marion Dobbert.

Robert Wells Schafer, Minneapolis
B.S. summa cum laude '73, Kansas State University. Major: Mass Communication. Minor: Related Fields. Thesis: The Minnesota Press Council. Major Adviser: Prof. Everette Dennis.

Lawrence James Seiberlich,
Roseville
B.A. '66, B.Arch. '68, University of Minnesota. Major: Social and Philosophical Foundations of Education. Minor: Related Fields. Major Adviser: Prof. Arthur Harkins.

Barbara Jane Skudlark Shin, St. Paul
B.S. '61, University of Minnesota. Major: Educational Administration. Minor: Related Fields. Major Adviser: Prof. Tim Mazzoni.

Daniel Joseph Smieja, Richfield
B.S. with distinction '78, University of Minnesota. Major: Industrial Relations. Minor: Related Fields. Major Adviser: Prof. Thomas Mahoney.

Barbara Schwartz Sperber
B.A. '69, Western Reserve University; M.A. '79, University of Illinois. Major: English. Minor: Related Fields. Major Adviser: Prof. William Madden.

Nancy Walker Stalland, Eden
Prairie
B.A. '78, Lewis and Clark College. Major: Psychology. Minor: Related Fields. Major Adviser: Prof. Steven Brown.

Soterios Georgiou Stavrou, Dhiorios,
Cyprus
B.A. '66, Augsburg College. Major: History. Minor: Related Fields. Major Adviser: Prof. Thomas Jones.

Ann C. Strelow, Minneapolis
B.A. with distinction '69, University of Minnesota. Major: Education. Minor: Related Fields. Major Adviser: Prof. Harlan Copeland.

Susan Mary Strohm, Minneapolis
B.A. '76, University of Wisconsin. Major: Mass Communication. Minor: Related Fields. Major Adviser: Prof. Phillip Tichenor.

Mariam Brooks Sumlin, St. Paul
B.S. '67, Chicago Teachers College. Major: Educational Administration. Minor: Related Fields. Major Adviser: Prof. Tim Mazzoni.

Kenneth Clarkson Taylor, Billings,
Mont.
B.A. '76, Rocky Mountain College. Major: Social and Philosophical Foundations of Education. Minor: Related Fields. Major Adviser: Prof. Marion Dobbert.

Peter Ward Thoreen, Minneapolis
B.S. with high distinction '78, University of Minnesota. Major: Public Affairs. Minor: Related Fields. Major Adviser: Prof. Robert Kudrle.

Thomas Lambert Trow, Minneapolis
B.A. '75, University of Minnesota. Major: Ancient Studies. Major Adviser: Prof. Donald Lawrence.

Leo Paul Varley, Faribault
B.S. '79, St. John's University. Major: Industrial Relations. Minor: Related Fields. Major Adviser: Prof. Ross Azevedo.

James William Waldo, St. Paul Park
B.A. summa cum laude '80, St. Olaf College. Major: Music. Minor: Computer and Information Science. Major Adviser: Prof. Paul Fetler.

Ann Alexandra Walsh, Green Bay, Wis.
B.S. with distinction '79, University of Minnesota. Major: Library Science. Minor: Related Fields. Major Adviser: Prof. Harris McClaskey.

Martha Lynn Wegner, Appleton, Wis.
B.S. '80, University of Wisconsin, Madison. Major: Communication Disorders. Minor: Related Fields. Thesis: Comprehension of Main Ideas and Details in Coherent and Noncoherent Paragraphs by Aphasic and Nonaphasic Listeners. Major Adviser: Prof. Robert Brookshire.

Carolyn Anne White, Bedford, N.Y.
B.A. cum laude '79, Hartwick College. Major: Art History. Minor: Related Fields. Major Adviser: Prof. Karal Marling.

Paul Herman Aaron Wiener, Minneapolis
B.A. '76, University of Minnesota. Major: Educational Psychology. Minor: Related Fields. Major Adviser: Prof. James Terwilliger.

Kathleen Jane Wilken, St. Paul
B.S. with distinction '78, University of Minnesota. Major: Business Education. Minor: Related Fields. Major Adviser: Prof. Charles Hopkins.

Izumi Yamamoto, Nishinomiya, Japan
B.A. '80, International Christian University. Major: Speech-Communication. Minor: Anthropology. Major Adviser: Prof. William Howell.

Hsu-chun Yang, Republic of China
B.Ed. '75, National Taiwan Normal University. Major: Communication Disorders. Minor: Related Fields. Thesis: The Perception of Mandarin Tone. Major Adviser: Prof. Patricia Broen.

Rui Yazawa, Yokohama, Japan
B.A. '80, International Christian University. Major: American Studies. Major Adviser: Prof. Mulford Sibley.

Terence Leman Zimmer, Apple Valley
B.S. with distinction '77, Indiana University. Major: Educational Psychology. Minor: Related Fields. Major Adviser: Prof. Paul Johnson.

Master of Arts

UNIVERSITY OF MINNESOTA, DULUTH

Kathy Gustafson
B.S. '70, University of Minnesota, Duluth. Major: Communicative Disorders. Minor: Related Fields. Major Adviser: Prof. John Hatten.

LaDonna M. Harrison
B.A. cum laude '79, University of Minnesota, Duluth. Major: English. Minor: Related Fields. Major Adviser: Prof. Kenneth Risdon.

Georgianna Henry
B.S. '77, College of Staten Island. Major: Education. Minor: Related Fields. Major Adviser: Prof. W. C. Gemeinhardt.

Loretta May Kloster
B.A. '79, University of Minnesota. Major: Educational Psychology. Minor: Related Fields. Major Adviser: Prof. Moy Gum.

Christopher C. Metcalfe
A.B.Ed. '70, University of Michigan. Major: Educational Psychology. Minor: Related Fields. Major Adviser: Prof. Armas Tamminen.

Becky Lee Reitter
B.S. '77, University of Minnesota, Duluth. Major: Communicative Disorders. Minor: Related Fields. Major Adviser: Prof. John Hatten.

Colleen Margaret Sanders
B.F.A. '79, University of Minnesota. Major: Art. Minor: Related Fields. Major Adviser: Prof. Gloria Brush.

James Steven Sanders
B.A. '79, University of Minnesota. Major: Art. Minor: Related Fields. Major Adviser: Prof. Dean Lettenstrom.

Paula Tool Solon
B.D.S. '80, University of Minnesota, Duluth. Major: Educational Psychology. Minor: Related Fields. Major Adviser: Prof. Moy Gum.

Steven James Wright
B.A. '78, St. John's University. Major: History. Minor: Related Fields. Major Adviser: Prof. Neil Storch.

Master of Business Administration

Garrick Donald Agnew, Minneapolis
B.S. '78, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Mark Victor Allred, Portland, Ore.
B.S. with high honors '80, Portland State University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Mary Ellen Anderson, Minneapolis
B.A. '71, Marquette University; M.A. '77, University of Wisconsin. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Wayne Allen Arnold, Blaine
B.S. magna cum laude '78, Bemidji State University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Susan Elizabeth Aurand, Wayzata
B.A. '76, Principia College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

A. Kristian Bak, Copenhagen,
Denmark
Cand. Polit. '81, University of Copenhagen. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Brian Scott Balleria, Minneapolis
B.S. '78, Michigan State University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Ann Marcella Baptie, La Crosse, Wis.
B.B.A. with distinction. '78, University of Wisconsin, Madison. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Sara Andrews Barnaby, Plymouth
B.S. '77, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

James Bruce Barnhart, Stillwater
B.S.M.E. '68, Purdue University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Terri D. Barreiro, St. Paul
B.A. cum laude '71, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

L. Ronald Batcheller, Minneapolis
B.S. '69, Iowa State University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

James Theodore Biesanz, Jr.,
Winona
B.S. '79, Rollins College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Ronald Ernest Bowden, Minneapolis
B.B.A. '74, University of Oklahoma. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Michael N. Braverman, Paramus, N.J.
B.S. magna cum laude '79, New York University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Christopher Lee Bretoi, Arden Hills
B.E.E. with distinction '79, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

William Clark Brown, St. Paul
B.S. with distinction '78, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Loren E. Brueggemann, Wayzata
B.S. '74, Milwaukee School of Engineering. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Kurt Herman Buerger, Newton, Wis.
B.A. '60, Dartmouth College; M.S. '63, University of Florida; Ph.D. '71, University of Kentucky. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Marilyn Lee Buman, Buffalo
B.S. '64, Iowa State University. Major: Business Administration. Major Adviser: Prof. Robert Zimmer.

Steven N. Burns, Woodbury
B.S. '74, University of Dubuque. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Richard C. Carland, Apple Valley
B.S. '73, University of Minnesota. Major: Business Administration. Major Adviser: Prof. J. C. Schreiner.

Peter Charles Carlson, Minneapolis
B.S. '79, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Louis Edwin Chouinard, Hoffman
Estates, Ill.
B.A. magna cum laude '75, University of Minnesota. Major: Business Administration. Major Adviser: Prof. R. G. Berryman.

James Andersen Clark, Minneapolis
B.S. '77, Northwestern University. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Scott James Conrad, Oak Creek, Wis.
B.S. with high honors '81, University of Wisconsin, Madison. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Cheryl Ruth Cooper, Minneapolis
B.A. '79, University of Minnesota. Major: Business Administration. Major Adviser: Prof. J. C. Schreiner.

Joan Louise Crewson, St. Paul
B.A. '76, College of St. Catherine. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Gregory Paul Crinion, Eau Claire, Wis.
B.B.A. cum laude '81, University of Wisconsin, Eau Claire. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Jackie Ann Currier, Edina
B.A. with highest honor '73, Hamline University. Major: Business Administration. Major Adviser: Prof. D. V. Harper.

Martha Doty Cushing, Minneapolis
B.A. '65, Ohio Wesleyan University. Major: Business Administration. Major Adviser: Prof. Roger Upton.

David Brian Darst, Rochester
B.S. with high distinction '78, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Patricia Kathryn Deeney, Minneapolis
B.A. '71, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Kelly Jerome Doran, Minneapolis
B.S. '81, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Christopher Eugene Drown, Minneota
B.S. '80, St. Cloud State University. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Anna Teresa Dukes, Milton, Fla.
B.S. with honor '77, Georgia Institute of Technology. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Elizabeth Ann Elder, Minneapolis
B.B.A. cum laude '76, University of Minnesota, Duluth. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Gregory Kevin Erickson, Robbinsdale
B.S. with distinction '77, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Jane Friendly Foreman, Redwood Falls
B.S. '80, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Rosanne Margaret Frigo, St. Paul
B.B.A. cum laude '78, St. Norbert College. Major: Business Administration. Major Adviser: Prof. Roger Upton.

John Allen Gappa, St. Paul
B.S. '81, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Pierre Alexander Garesche, Jr., Bloomington
B.S. '79, Eastern Illinois University. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Dale A. Garton, Cheyenne, Wyo.
B.S. with honor '77, University of Wyoming. Major: Business Administration. Major Adviser: Prof. Roger Upton.

William R. Gasteyer, St. Paul
B.B.A. magna cum laude '78, University of Wisconsin, Eau Claire. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Jeffrey L. Gauvin, Forest Lake
B.S. with distinction '81, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

John Joseph Gibas, Maple Grove
B.S. '77, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Sandra M. Golob, St. Paul
B.S. '80, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

David Blake Harmet, Hinsdale, Ill.
B.A. '80, Texas Christian University. Major: Business Administration. Major Adviser: Prof. Roger Upton.

- Cheryl Renee Hatfield, Minneapolis**
B.S. '79, University of Kansas. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Lori Ann Haynes-Butala**
B.S. cum laude '79, St. Cloud State University. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Diana J. Hays, Riverside, Calif**
B.A. '75, University of Minnesota. Major: Business Administration. Major Adviser: Prof. William Rudelius.
- Rebecca S. Headline, Minneapolis**
B.S. '79, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Gregory Mark Heetland, Montrose, S.D.**
B.A. magna cum laude '81, Augustana College. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Jon Clay Hegvik, St. Paul**
B.A. '80, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Steven James Helgen, Northfield**
B.A. magna cum laude '76, St. Olaf College. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Alan A. Henningsgaard, Hopkins**
B.S. '77, Arizona State University. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Suzannah Martin Himan, Wayzata**
B.A. '70, Old Dominion College. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Kevin Girard Hogan, St. Paul**
B.A. '80, Hamline University. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Catherine Mary Holubar, Minneapolis**
B.S. cum laude '81, University of Wisconsin, Green Bay. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Elise Maija Hong, Seoul, Korea**
B.Mus. '67, Ewha Women's University. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Kenneth Elmer Horstman, Bangor, Wis.**
B.S. '80, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Gary Jon Hubbard, Pittsville, Wis.**
B.B.A. '78, University of Wisconsin, Eau Claire. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Roger L. Hudson, St. Paul**
B.S. '80, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Dorothy Ward Hull, Wayzata**
B.Ap.St. '72, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Marlin R. H. Jensen, Edgeley, N.D.**
B.A. '80, Jamestown College. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Mahedi Alibhai Jiwani, Minneapolis**
B.A.E. '72, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Linda Kaye Johnson, St. Paul**
B.A. '79, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Roger D. Johnson, Crookston**
B.A. '78, Moorhead State University. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- William Osmund Johnson, Northfield**
B.S. '79, Colorado State University. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Sekou Kaba, Bobo-Dioulasso, Upper Volta**
Maitrise '76, Universite d' Abidjan. Major: Business Administration. Major Adviser: Prof. Carl Adams.
- Michael Lyle Kasprick, Minneapolis**
B.A. '81, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.
- Verona Sweeney Kees, Oakdale**
B.Chem. with high distinction '73, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Curtis L. Kehr, Roseville
B.S.E. '69, Princeton University; M.S. '72, Columbia University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Edward Mathias Kennedy, Edina
B.A. '76, Luther College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Loretta Mary Kimmet-Mobley, St. Paul
B.A. '71, Viterbo College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

James Alan Klima, Minneapolis
B.S.E.E. '74, University of Iowa. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Edward Miles Korbel, Eden Prairie
B.A. '69, Mankato State College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

James William Kordaris, Minneapolis
B.S. '79, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Jennie Hilburn Kosloski, Minneapolis
B.S. with high distinction '80, Indiana University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Marlen Randall Kraemer, Laurel, Neb.
B.A. '80, University of Nebraska, Lincoln. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Carol Marie Kronebusch, Rollingstone
B.A. '77, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Sandra-Faith Jean Lamb, Minnetonka
B.A. '64, College of St. Scholastica. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Eugene LaRowe, Plymouth
B.A. magna cum laude '63, Oakland University; M.A. '67, M.S. '70, University of Washington. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Allen Robert Larson, Arlington, Va.
B.A. with distinction '71, Dartmouth College; J.D. '74, University of Minnesota. Major: Business Administration. Major Adviser: Prof. John Anderson.

Douglas Ronald Larson, Bloomington
B.A. '77, St. Olaf College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Jon S. Lebewitz, St. Louis Park
B.S. with distinction '81, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

James Stephen Lee, Monroe, Wis.
B.A. '78, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Ron Hing Leung, Bloomington
B.S. '80, University of Notre Dame. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Jeffery Ronald Loverude, Minneapolis
B.S. '79, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Donald Eugene Lyle, Edina
B.S.B.A. '80, University of North Dakota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Diane Korell Marien, St. Louis Park
B.S. '73, M.S. '74, Ph.D. '76, University of Wisconsin, Madison. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Freda Curchack Marver, Minneapolis
B.S. cum laude '78, University of Maryland. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Michael Joseph McCue, Minneapolis
B.S.C. '76, University of Louisville. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Kevin Eugene Miller, Austin
B.E.E. with distinction '79, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

James H. Moldan
B.S. '80, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Jeffrey Wayne Moran, Waukesha, Wis.
B.S. with distinction '76, University of Wisconsin, Madison. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Lawrence Michael Moran, Minneapolis
B.A. '73, Carleton College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Laurie Rice Muchow, Minneapolis
B.A. with honors '76, University of Chicago. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Mark Edward Mundahl, Fergus Falls
B.A. '79, Macalester College. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Margaret Mary Murray, Minneapolis
B.A. '77, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Susan Dennis Neale, St. Paul
B.A. '60, University of Toronto. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Robert Joseph Nechal, St. Paul
B.A. '67, Sacred Heart Seminary. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Eileen Margaret Neren, Minneapolis
B.A. '67, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

David Richard Novy, St. Paul
B.S. '70, University of Illinois. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Anne Tolzmann Obermeyer, Chanhassen
B.A. magna cum laude '78, St. Olaf College. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Holly Wehrenberg Oliver, Minneapolis
B.S. '77, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Robert Peter Olson, Richfield
B.S. '52, University of Denver. Major: Business Administration. Major Adviser: Prof. Paul Grambsch.

Blake Johnson Omlie, Wayzata
B.S. '81, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Richard J. Opseth, Jr., White Bear Lake
B.A. '76, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

William Fred Pagel, Farmington
B.E.E. with distinction '76, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Charlotte Theresa Palmer, Birmingham, Ala.
B.A. '75, Dillard University. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Jean Marie Palmer, Amery, Wis.
B.S. cum laude '76, University of Wisconsin, Eau Claire. Major: Business Administration. Major Adviser: Prof. Roger Upton.

John Earl Panning, Canby
B.S. with high distinction '74, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Glen Edward Parchman, Cincinnati, Ohio
B.A. '75, Washington University. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Laura Beath Pearson, Milwaukee, Wis.
B.B.A. '81, University of Wisconsin, Milwaukee. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Erik Leroy Peter, Mount Prospect, Ill.
B.A. cum laude '80, North Park College. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Gail L. Peterson, Minneapolis
B.A. cum laude '80, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Beverly Ann Pieracci, Milwaukee, Wis.
B.A. '81, Marquette University. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Janet Susan Poliquin, Minneapolis
B.S. magna cum laude '81, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Gail Sharon Ring, Mohall, N.D.
B.S. '77, North Dakota State University. Major: Business Administration. Major Adviser: Prof. Roger Upton.

Charles Ernest Roemer, Milwaukee,
Wis.

B.S. '78, Marquette University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Ronna Ruth Roisum, Greenfield, Ind.
B.A. '60, Indiana University; B.S. '73, St. John's College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Simon Charles Root, Edina
B.B.A. with high honors '79, University of Notre Dame. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Kevin Leigh Rust, Minnetonka
B.S. cum laude '80, Moorhead State University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Mark Steven Sanquist, Watertown,
Wis.

B.S. '76, Marquette University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Mary Elizabeth Schmid, Dubuque,
Iowa

B.A. cum laude '80, College of St. Thomas. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Kevin Arthur Schmitting, Fridley
B.B.A. '81, University of Wisconsin, Madison. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Randy Richard Schoeneck,
Minneapolis

B.Ag. '80, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Howard Wyn Schwartz, Robbinsdale
B.A. cum laude '78, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Kalyanaraman Seshadri, Madras,
India

M.S. '69, University of Madras. Major: Business Administration. Major Adviser: Prof. R. G. Berryman.

Evan Charles Shaddock, Eagan
B.A. '79, Bethel College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Carole E. J. Southam, Minneapolis
B.S. '80, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Stewart Roland Stender, Madison,
Wis.

B.B.A. '81, University of Wisconsin, Madison. Major: Business Administration. Major Adviser: Prof. Roger Upson.

James Robert Stewart, Minneapolis
B.S. with distinction '78, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Joan A. Stohr, St. Paul
B.S. with distinction '75, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Monica Anne Theobald, Minneapolis
B.A. '77, Iowa State University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Vivian Marie Trembley, St. Peter
B.S. '74, Mankato State College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Arlyn Frederick Vedder, Austin
B.S. '76, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Jack Charles Voller, Cincinnati, Ohio
B.A. '69, Ohio State University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Alan Roy Walther, Waterloo, Iowa
B.A. '71, Central College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Kathryn L. Watson, Minneapolis
B.S. '81, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Terry Jay Wharton, Minneapolis
B.S. '78, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Sarah Sands White, New Brighton
B.A. '68, Carnegie-Mellon University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Jeffrey Ralph Wiebusch, Lake City
B.Phys. '80, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Judy Lynn Wilkinson, Minneapolis
B.S. '71, St. Cloud State College. Major: Business Administration. Major Adviser: Prof. D. C. Hastings.

Jane Parsons Windmeier, Columbia Heights
B.S. '78, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Michael William Winkel, Minnetonka
B.S. '78, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Chi Kin Wong, Hong Kong
Dipl. '78, Hong Kong Baptist College. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Bradley Stephen Wood, St. Paul
B.S. '81, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Nicolas G. Xystris
Dipl. '69, National Technical University of Athens. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Ronald J. Zenk, Fairmont
B.S. cum laude '71, St. John's University. Major: Business Administration. Major Adviser: Prof. Roger Upson.

John William Zimny, St. Paul
B.S. '77, University of Wisconsin, Madison. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Eugene Thomas Zylla, Columbia Heights
B.A. summa cum laude '75, College of St. Thomas. Major: Business Administration. Major Adviser: Prof. Roger Upson.

Master of Business Administration

UNIVERSITY OF MINNESOTA, DULUTH

Gary Lee Cleveland
B.A. '60, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Fawzi Dimian.

David Barry Hamalainen
B.A. '66, University of Minnesota, Duluth. Major: Business Administration. Major Adviser: Prof. Theodore Breu.

Diane Leigh Kuhlmann
B.A. '75, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Jon Pierce.

Denise Marie Kuwitzky
B.A. '75, University of Nebraska at Omaha. Major: Business Administration. Major Adviser: Prof. Kjell Knudsen.

Siu Keung Lau
B.B.A. '78, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Jerrold Peterson.

Michael William Merrier
B.A. '76, University of Minnesota, Duluth. Major: Business Administration. Major Adviser: Prof. Richard Sielaff.

Master of Business Taxation

Erling Dokken
B.A. '57, St. Olaf College. Major: Business Taxation. Major Adviser: Prof. Frederick Jacobs.

Master of Civil Engineering

James Sanford Henderson, Minneapolis
B.C.E. '77, University of Minnesota. Major: Civil Engineering. Minor: Related Fields. Project: *Interstate 394* Alternative Design Analysis Using *FREQ6*. Major Adviser: Prof. Panos Michalopoulos.

David Paul Herr, St. Paul
B.C.E. '80, University of Minnesota. Major: Civil Engineering. Minor: Related Fields. Project: A Proposal for the Replacement of the Smith Avenue High Bridge, St. Paul, Minnesota. Major Adviser: Prof. Ladislav Cerny.

Joel Kent Marcuson, Bayport
B.C.E. '70, University of Minnesota. Major: Civil Engineering. Minor: Related Fields. Project: *Correlations Between Average Delay/Vehicle Values and Volume/Capacity Ratios for 23 Signalized Intersections in Phoenix, Arizona*. Major Adviser: Prof. Matthew Huber.

Master of Fine Arts

Dan Fredrick Dressen, Eagan
B.S. '74, Bemidji State College. Major: Music.
Minor: Related Fields. Major Adviser: Prof. Clifton
Ware.

David Ira Goldstein, Minneapolis
B.F.A. '76, University of Minnesota. Major:
Theatre Arts. Minor: Related Fields. Major Ad-
viser: Prof. Wesley Balk.

William Anthony Hauserman,
Towson, Md.
B.A. '80, Towson State University. Major: Theatre
Arts. Minor: Related Fields. Major Adviser: Prof.
Lee Adey.

W. Stephen Hodder, Philadelphia,
Pa.
B.F.A. magna cum laude '79, Temple University.
Major: Studio Arts. Minor: Related Fields. Major
Adviser: Prof. Thomas Lane.

Chat Hay Ko, China
B.A. '79, University of Minnesota. Major: Studio
Arts. Minor: Related Fields. Major Adviser: Prof.
Raymond Hendler.

Jonathan Edward Langer,
Minneapolis
B.A. '75, Seattle Pacific College. Major: Theatre
Arts. Minor: Related Fields. Major Adviser: Prof.
Wendell Josal.

Nancy Beth Loitz, Minneapolis
B.A. summa cum laude '80, Bowling Green State
University. Major: Theatre Arts. Minor: Related
Fields. Major Adviser: Prof. Lee Adey.

Rosemary Monique Peternell, St.
Stephen
B.A. summa cum laude '79, University of Minne-
sota. Major: Studio Arts. Minor: Related Fields.
Major Adviser: Prof. William Roode.

Jo-Anne Mae Reske-Kirkman,
Golden Valley
B.A. '76, College of St. Catherine. Major: Studio
Arts. Minor: Art History. Major Adviser: Prof.
Raymond Hendler.

Dorothy Ann Sauser-Monnig, St.
Paul
B.A. cum laude '75, Macalester College. Major:
Music. Minor: Related Fields. Major Adviser: Prof.
John Anderson.

Emily Jane Schmit, St. Paul
B.A. '75, College of St. Catherine. Major: Music.
Minor: Related Fields. Major Adviser: Prof. D. C.
Ware.

Dona Lynn Werner, Faribault
B.A. cum laude '80, St. Olaf College. Major:
Theatre Arts. Minor: Related Fields. Major Ad-
viser: Prof. Barbara Reid-McIntyre.

Kathleen Lorraine Zuckerman,
Minneapolis
B.S. '64, University of Minnesota. Major: Studio
Arts. Minor: Related Fields. Major Adviser: Prof.
William Roode.

Master of Metallurgy and Materials Science

Terry Lee VanderWert, Trimont
B.Met.E. '65, University of Minnesota. Major:
Metallurgy and Materials Science. Minor: Me-
chanical Engineering. Project: Eddy Current Mon-
itoring of Laser Heater Metals and Alloys. Major
Adviser: Prof. John Wallace.

Master of Music

David Reynold Stevens, Lake Elmo
B.S. '75, University of Minnesota. Major: Music.
Minor: Related Fields. Major Adviser: Prof. David
Baldwin.

Master of Science

Douglas B. Akers, Pocatello, Idaho
B.A. '72, D.D.S. '78, West Virginia University.
Major: Dentistry. Minor: Related Fields. Thesis:
Evaluation of Various Periodontal Screening Ex-
aminations. Major Adviser: Prof. Carl Bandt.

Craig Jay Anderson, Duluth
B.A. magna cum laude '73, College of St. Scholas-
tica. Major: Biochemistry. Minor: Chemistry.
Thesis: Permeability of Lipid Bilayers to Methyl-
mercuric Chloride: Quantification by Fluorescence
Quenching of a Carbazole-Labeled Phospholipid.
Major Adviser: Prof. J. M. Wood.

James Leroy Bickel, Maple Plain
B.S. '78, University of Minnesota. Major: Geology.
Minor: Related Fields. Thesis: Diagenetic and
Hydrothermal Reactions in Calcareous Ooze: An
Experimental Study. Major Adviser: Prof. Thomas
Johnson.

Paul S. Blaske, St. Cloud
B.A. with scholastic honors '78, St. Cloud State
University. Major: Metallurgy and Materials Sci-
ence. Minor: Related Fields. Thesis: The Super-
conducting Transitions of Ultra-Fine Tungsten
Carbide Powders. Major Adviser: Prof. Louis Toth.

**Cheryl Marie Bornhorst, Mounds
View**
B.S. cum laude '78, St. Olaf College. Major: Nurs-
ing. Minor: Related Fields. Major Adviser: Prof.
Evangeline Gronseth.

Joanne Boyd, Excelsior
B.S. '76, University of Utah. Major: Public Health.
Minor: Related Fields. Major Adviser: Prof. Mila
Aroskar.

Gregory Craig Buzicky, St. Paul
B.S. '75, University of Minnesota. Major: Soil
Science. Minor: Agronomy. Thesis: Nitrogen Fer-
tilizer Distribution Between Corn Plants. Soil and
Aquifer Under Irrigated Conditions. Major Ad-
viser: Prof. A. C. Caldwell.

Scott James Carlstrom, Minneapolis
B.S. '74, University of Minnesota. Major: Forestry.
Minor: Related Fields. Major Adviser: Prof. Ken-
neth Brooks.

Margaret Mary Cary, Falmouth, Me.
B.A. summa cum laude '80, University of Southern
Maine. Major: Biometry and Health Information
Systems. Minor: Related Fields. Major Adviser:
Prof. Anne Goldman.

John Suh Che, Bafut, Cameroon
B.S. '76, University of Wisconsin. Stout. Major:
Operations Research. Minor: Related Fields. Ma-
jor Adviser: Prof. Sant Arora.

Bruce Allen Churchel, Minneapolis
B.S. with distinction '77, University of Minnesota.
Major: Physics. Minor: Related Fields. Thesis: The
Correlation of Irregular Micro-Pulsations with Io-
nospheric Activity Occurring at Siple, Antarctica,
During 1979 and 1980. Major Adviser: Prof. Lau-
rence Cahill, Jr.

Betty Lou Cole
B.S. with distinction '62, Southwestern Louisiana
Institute. Major: Nursing. Minor: Related Fields.
Thesis: A Study of the Effectiveness of Cooperative
Learning in a Hospital Inservice Class. Major
Adviser: Prof. Sheila Corcoran.

Barbara Jean Connolly, Akron, Ohio
B.S. '76, Western Illinois University. Major: Soil
Science. Minor: Related Fields. Thesis: Shrub
Biomass-Soil Relationships in Minnesota Wet-
lands. Major Adviser: Prof. David Grigal.

Kevin Vincent Cook, Erie, Pa.
B.A. '75, Cornell University. Major: Hydrogeo-
logy. Minor: Civil Engineering. Thesis: Water
Resources as a Potential Growth-Limiting Factor in
a World Futures Model. Major Adviser: Prof. H.
O. Pfannkuch.

Michael Thomas Doherty
B.A. '75, College of St. Thomas. Major: Fisheries.
Thesis: Production Rate of Brown Trout (*Salmo
trutta*) and Rainbow Trout (*Salmo gairneri*) in the
Blackhoof River, Carlton County, Minnesota. Ma-
jor Adviser: Prof. Thomas Waters.

Chris John Dovolis, Edina
B.S. with distinction '78, University of Minnesota.
Major: Computer and Information Sciences. Mi-
nor: Related Fields. Major Adviser: Prof. William
Franta.

**Gerardo Antonio D'Pool, Maracibo,
Venezuela**
Med. Vet. '73, Universidad del Zulia. Major: Veter-
inary Microbiology. Minor: Related Fields. Thesis:
Evaluation of Methods for the Identification of
Streptococci in Bovine Milk. Major Adviser: Prof.
Gilbert Ward.

Barbara E. Dufresne, Minneapolis
B.S. '56, Marquette University. Major: Nursing.
Minor: Related Fields. Major Adviser: Prof. Elaine
Mansfield.

Denis Roger Erickson
B.S. '73, University of Alaska. Major: Hydrogeo-
logy. Thesis: The Hydrogeology of William Lake,
Minnesota, with Special Emphasis on Quantifica-
tion of Littoral Groundwater Contributions Using
Seepage Meters and Wells. Major Adviser: Prof.
H. O. Pfannkuch.

Roy Thomas Faulkner, Pensacola,
Fla.

B.S. with high honors '67, University of Florida; D.V.M. '71, Auburn University. Major: Veterinary Surgery, Radiology, and Anesthesiology. Minor: Related Fields. Thesis: Histologic and Biomechanical Assessment of Esophageal Wound Healing as Influenced by Various Postoperative Management Regimens. Major Adviser: Prof. Larry Wallace.

Saeed Fereshtehkhou

B.S. '78, Tehran University. Major: Forestry. Minor: Related Fields. Thesis: The Properties of Pulp and Paper from Spruce Budworm-Killed Balsam Fir. Major Adviser: Prof. Ronald Neuman.

Gary Duane Franc, Antigo, Wis.

B.S. '78, University of Wisconsin, Madison. Major: Plant Pathology. Minor: Microbiology. Thesis: Persistence, Spread, and Detection of Potato Virus "S" in Potatoes. Major Adviser: Prof. Ernest Banttari.

Sanjay Garg, Modinagar, India

B.Tech. '80, Indian Institute of Technology. Major: Mechanics. Minor: Related Fields. Major Adviser: Prof. William Garrard.

Ronald Dale Gauthier, Grand Rapids

B.M. with high distinction '76, B.C.S. with high distinction '76, University of Minnesota. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. William Munro.

Lorraine Giordano, Minneapolis

B.A. '78, Marymount Manhattan College. Major: Nursing. Minor: Related Fields. Thesis: Relationship Between Aerobic Exercise and the Female Self-Concept. Major Adviser: Prof. Diane Kjervik.

Marty Goldblatt, New York, N.Y.

B.S. '75, State University of New York College at Brockport. Major: Forestry. Minor: Related Fields. Major Adviser: Prof. Bruce Brown.

Rangaraj Gopaliengar, Bangalore,
India

B.A. '78, Bangalore University; M.E. '80, Indian Institute of Science. Major: Metallurgy and Materials Science. Minor: Related Fields. Thesis: Study of Some Aspects of Hydrogen Effects on Plastic Properties of Steel Using Positron Annihilation Technique. Major Adviser: Prof. R. A. Oriani.

Carlos Manuel Gradil

D.V.M. '78, Technical University of Lisbon. Major: Theriogenology. Minor: Related Fields. Major Adviser: Prof. Raimunds Zemjanis.

Julia Undine Halberg, St. Paul

B.A. '77, University of Minnesota. Major: Biology. Minor: Related Fields. Thesis: Effects of Lighting Schedule-Shifts, Life-Span, Blood Pressure and Core Temperature Rhythmicity in Rats. Major Adviser: Prof. Philip Regal.

William Francis Hall, Kilmore,
Australia

B.Vet.Med. '73, University of Sydney. Major: Veterinary Medicine. Minor: Related Fields. Thesis: Feeding Behavior of Weanling Pigs. Major Adviser: Prof. Allen Leman.

Eunjin Han, Seoul, Korea

B.S. '75, Sogang University. Major: Computer and Information Sciences. Minor: Statistics. Major Adviser: Prof. William Munro.

Eleanor Mae Hepburn, Charles
City, Iowa

B.S.N. '80, University of Dubuque. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Verona Gordon.

Cynthia Susan Hockman, Ankeny,
Iowa

B.S. '73, University of Iowa. Major: Public Health. Minor: Related Fields. Major Adviser: Prof. Alma Sparrow.

Nancy Jo Hood, St. Louis Park

B.S. '74, College of St. Teresa. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Maria Snyder.

Mei-Hui Hsu, Taipei, Taiwan

B.S. '76, College of Chinese Culture. Major: Nutrition. Minor: Biochemistry. Thesis: Studies of the Effects of Nutrition and Aging on the Activities of Catalase, Superoxide Dismutase and Glutathione Peroxidase in Mammalian Muscle. Major Adviser: Prof. P. V. Hegarty.

Karim Mohamed Pyarali Jeraj,
Kampala, Uganda

B.V.S. '69, University of East Africa. Major: Veterinary Medicine. Minor: Related Fields. Major Adviser: Prof. Carl Osborne.

Leonard Kampa, Bloomington

B.S. '77, University of Minnesota. Major: Computer and Information Sciences. Minor: Related Fields. Thesis: H-Trees. Major Adviser: Prof. Kurt Maly.

Karl Keith Karrow, Fort Collins,
Colo.

B.S. '77, Colorado State University. Major: Wildlife. Minor: Related Fields. Thesis: Behavior, Movements, and Habitat-Use of Canada Goose Families in South-Central and North Dakota. Major Adviser: Prof. James Cooper.

Mark Richard Kaster, Minneapolis
B.S. '79, University of Minnesota. Major: Environmental Health. Minor: Related Fields. Major Adviser: Prof. Rexford Singer.

Linda Marie Kittleson, Roseville
B.A. '80, Hamline University. Major: Biometry and Health Information Systems. Minor: Related Fields. Major Adviser: Prof. Lynda Ellis.

Kevin S. Klair, Red Wing
B.S. with high distinction '79, University of Minnesota. Major: Soil Science. Minor: Related Fields. Thesis: Nitrogen Transformations in Soil Under Conventional and No-Tillage Corn. Major Adviser: Prof. C. E. Clapp.

Rosann Mary Klutzke, Roseville
B.A. summa cum laude '76, Winona State University. Major: Statistics. Minor: Related Fields. Major Adviser: Prof. Kinley Laritz.

Rodney Henry Kosloski,
Minneapolis
B.A. cum laude '65, University of Minnesota. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. William Munro.

Kathryn Warlich Kromroy
B.A. cum laude '76, St. Olaf College. Major: Plant Pathology. Minor: Statistics. Thesis: Comparative Evaluation of the Sensitivity of Six Soybean Cultivars to Ozone and Sulfur Dioxide, Singly and in Combination Under Controlled Exposure Conditions. Major Adviser: Prof. Sagar Krupa.

Wan Chu Kung, Manila, Philippines
B.S. magna cum laude '78, University of the Philippines. Major: Physics. Minor: Related Fields. Thesis: Measurement of Molecular Beam Velocities Using a Mass Spectrometer. Major Adviser: Prof. A. O. Nier.

Jill Karol Kusba, Menomonee Falls,
Wis.
B.S. '75, D.V.M. '77, University of Minnesota. Major: Veterinary Surgery, Radiology, and Anesthesiology. Minor: Related Fields. Major Adviser: Prof. Alan Lipowitz.

Julie Wild Legler
B.A. magna cum laude '78, University of Minnesota. Major: Statistics. Minor: Related Fields. Major Adviser: Prof. Donald Berry.

Caryl Ann Lehto, Superior, Wis.
B.S. '75, M.S. '76, University of Wisconsin, Superior. Major: Nursing. Minor: Related Fields. Thesis: Comparison of N.L.N. P.A.T. Scores and Success in Nursing Program as Measured by G.P.A. and Scores on State Board Exams of a Selected Group of Practical Nursing Students. Major Adviser: Prof. Isabel Harris.

Dean Paul Leonard, St. Paul
B.S. with distinction '75, D.D.S. '77, University of Minnesota. Major: Dentistry. Minor: Related Fields. Thesis: A Comparison of Quartz and Talc Filled Bonding Materials in Orthodontic Bracket Bonding and Removal. Major Adviser: Prof. Richard Bevis.

Woon-Lam Susan Leung, Hong
Kong
B.S. with high distinction '76, University of Minnesota. Major: Microbiology. Minor: Biochemistry. Thesis: *Streptococcus mutans* Dextranucrase: Effect of Cerulenin on Lipid Synthesis and Enzyme Production. Major Adviser: Prof. C. F. Schachtele.

Jong Kai Lin, Hsing-Ying, Taiwan
B.S. '76, National Cheng Kung University. Major: Metallurgy and Materials Science. Minor: Related Fields. Thesis: The Effect of Hydrogen on the Initiation of Shear Localization of Plain Carbon Steels. Major Adviser: Prof. R. A. Oriani.

Li-Jen Teresa Lin, Taipei, Taiwan
B.Ed. '76, Taiwan Provincial College of Education. Major: Physics. Minor: Related Fields. Thesis: A Far-Infrared Spectrometer for Measuring Energy Gaps of Superconducting Thin Films. Major Adviser: Prof. Cheng-Cher Huang.

Mary Jacobetz Little, Itasca, Ill.
B.S. with high honors '75, Rutgers State University. Major: Nursing. Minor: Related Fields. Thesis: Female Incest Victims Report Their Face-to-Face Interactions. Major Adviser: Prof. Verona Gordon.

Harold Alan Love, Boston, Mass.
B.S. with high distinction '77, University of Kentucky. Major: Agricultural Economics. Minor: Related Fields. Thesis: Economic, Political, and Social Determinants of Regional Federal Expenditures. Major Adviser: Prof. Glenn Nelson.

Blanca Cecilia Martinez I.
Quim.Farm. '74, Universidad de Antioquia. Major: Pharmacognosy. Minor: Related Fields. Thesis: Ginseng Effects on Rat Physical Exercise and Carbohydrates Metabolism. Major Adviser: Prof. John Staba.

Homer Marlatte McIntire III,
Waseca
B.S. '74, University of Iowa. Major: Hospital Pharmacy. Minor: Related Fields. Major Adviser: Prof. H. F. Kabat.

Christopher James Mehoke,
Kewaskum, Wis.
B.A. cum laude '77, Ripon College. Major: Physics. Minor: Internal. Thesis: Quasi-Bound State Resonances in a Two Dimensional Well. Major Adviser: Prof. B. F. Bayman.

Suzanne Mary Meister, Scandia
B.A. '75, College of St. Catherine. Major: Medicinal Chemistry. Minor: Related Fields. Thesis: Epoxypolypeptides as Potential Inactivators of Renin. Major Adviser: Prof. Rodney Johnson.

Ana Maria Menanteau-Horta,
Santiago, Chile
Lic. '76, Universidad de Chile. Major: Veterinary Microbiology. Minor: Related Fields. Major Adviser: Prof. R. E. Shope.

Prema Narayan
M.S. '78, Bangalore University. Major: Biochemistry. Minor: Genetics. Thesis: Development of Complementary DNA Probes to Messenger RNA Sequences Responsive to Thyroid Hormone and Dietary Factors. Major Adviser: Prof. Howard Towle.

Julia Ann Nelson, Fennimore, Wis.
B.S. with honors '80, University of Wisconsin, Madison. Major: Medical Microbiology. Minor: Related Fields. Major Adviser: Prof. James Prince.

Lois Florence Nelson, Fargo, N.D.
B.S. '60, Gustavus Adolphus College; M.Ed. '64, University of Minnesota; Ed.D. '67, University of South Dakota. Major: Nursing. Minor: Related Fields. Thesis: Spouse Support and Degree of Depression in Psychiatric Outpatients. Major Adviser: Prof. Elaine Mansfield.

Catherine Pauls Neuswanger,
Superior, Wis.
B.A. with highest distinction '73, M.A. '75, Indiana University. Major: Operations Research. Minor: Related Fields. Major Adviser: Prof. Patrick Starr.

Millard Adam Neymark, St. Paul
B.S. with distinction '75, University of Michigan. Major: Biochemistry. Minor: Chemistry. Thesis: Location and Quantitation of Concanavalin A in Jack Bean (*Canavalia ensiformis*) Seedlings. Major Adviser: Prof. Finn Wold.

Linda Jean O'Gara, Minneapolis
B.S. '74, University of Wisconsin, Madison. Major: Computer and Information Sciences. Minor: Related Fields. Thesis: Symbol Table Implementations. Major Adviser: Prof. Kurt Maly.

Arturo F. Olguin y Beenal
D.V.M. '75, Universidad Nacional Autonoma de Mexico. Major: Veterinary Medicine. Minor: Related Fields. Major Adviser: Prof. Donald Johnson.

Ramiro A. Perez G., Medellin,
Colombia
Ing. Met. '72, Universidad Industrial de Santander. Major: Metallurgy and Materials Science. Minor: Related Fields. Thesis: The Role of Wear in Grinding Media. Major Advisers: Profs. William Gerberich and John Moore.

Teresa Kunze Perkins, Mahtowa
B.S. '78, University of Minnesota. Major: Forestry. Minor: Statistics. Major Adviser: Prof. James Bowyer.

Gordon Harold Peterson, West
Concord
B.A. '78, University of Minnesota. Major: Forestry. Minor: Chemical Engineering. Thesis: A Study in the Motion of Adsorbed Polyacrylamide on Cellulose. Major Adviser: Prof. Ronald Neuman.

Michael Paul Popp, Clarendon
Hills, Ill.
B.A. '79, Iowa State University of Science and Technology. Major: Forestry. Minor: Entomology. Thesis: Effect of Nitrogen Fertilization on the Yellowheaded Spruce Sawfly in White Spruce Plantations in Northern Minnesota. Major Adviser: Prof. Edwin White.

Jane Margaret Potish, Cottage Grove
B.S. with high distinction '76, University of Minnesota. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Bernadine Feldman.

Michael David Powers, St. Paul
B.A. '78, University of Minnesota. Major: Veterinary Physiology and Pharmacology. Minor: Related Fields. Thesis: The Role of Monoamine Oxidase Inhibition in Furazolidone-Induced Cardiomyopathy in Turkey Poults. Major Adviser: Prof. A. L. Good.

Marla Beth Puziss, Rockville, Md.
B.A. with highest honors '78, University of Tennessee. Major: Microbiology. Minor: Related Fields. Thesis: Adenine Uptake and Phosphoribosylation in Cultured Mammalian Cells and Human Erythrocytes. Major Adviser: Prof. Peter Plagemann.

Donna Beth Rains, Frankfort, Ind.
B.A. '77, Earlham College. Major: Nutrition. Minor: Related Fields. Major Adviser: Prof. Arthur Leon.

Alice GuyAnne Ransom, North Little
Rock, Ark.
B.A. '77, Hendrix College. Major: Genetics. Minor: Related Fields. Major Adviser: Prof. John Eaton.

Carol Ann Reber, Lansdale, Pa.
B.S. with high distinction '80, Pennsylvania State University. Major: Forestry. Minor: Statistics. Major Adviser: Prof. Alan Ek.

Nacif Rihani, Fès, Morocco
Dipl. '70, Institut Agronomique et Veterinaire Hassan II. Major: Animal Science. Minor: Related Fields. Thesis: Effect of Maturity on Chemical Composition and Cell Wall Digestibility of Young Aspen Plants. Major Adviser: Prof. Richard Goodrich.

Natalie Ann Rosen, Minneapolis

B.S. '76, College of St. Francis. Major: Nursing. Minor: Related Fields. Thesis: Health Beliefs and Their Relationship to Health and Illness. Major Adviser: Prof. Floris King.

Evelyn F. Ruggiero, Burnsville

B.S. with distinction '80, University of Minnesota. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Marilyn Sime.

Julia Gage Sanborn, Wisconsin Rapids, Wis.

B.S. '75, University of Wisconsin. Oshkosh. Major: Nursing. Minor: Related Fields. Thesis: Explication and Validation of a Nurse Management Information System. Major Adviser: Prof. Sandra Edwardson.

Paula Marie Schnitzer, St. Louis, Mo.

B.S. cum laude '77, Maryville College. Major: Medical Microbiology. Minor: Related Fields. Major Adviser: Prof. Grace Ederer.

Gregory Paul Shimizu, Minneapolis

B.A. '78, Carleton College. Major: Microbiology. Minor: Related Fields. Thesis: Competition Between *A. vinelandii* and *G. liquefaciens* in a Carbon-Limited Chemostat. Major Adviser: Prof. H. M. Tsuchiya.

Arlene Beatrice Sikkink, Clearwater

B.S. '62, South Dakota State University. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Verona Gordon.

Shabir M. Somani, Kisumu, Kenya

B.S. '77, University of Wisconsin. Major: Hospital Pharmacy. Minor: Related Fields. Major Adviser: Prof. Hugh Kabat.

Antoinette Elchert Somerville, St. Cloud

B.S. '74, Marquette University. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Ellen Egan.

Abdellah Souleimani, Fès, Morocco

Dipl. '80, Institut Agronomique et Veterinaire. Major: Animal Science. Minor: Statistics. Thesis: Effect of Supplemental Fat on Milk Production. Major Adviser: Prof. John Donker.

Gary John Stroebel, Rochester

B.S. with high distinction '65, University of Minnesota. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. Steven Bruell.

John Henry Sullivan, West Roxbury, Mass.

B.A. '76, Columbia University. Major: Environmental Health. Minor: Related Fields. Major Adviser: Prof. Charles McJilton.

Kenneth Herbert Svendsen, Blaine

B.A. cum laude '78, Augsburg College. Major: Statistics. Minor: Related Fields. Major Adviser: Prof. Donald Berry.

Judith Mary Szalapski, St. Paul

B.S. with high distinction '76, University of Minnesota. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Bernadine Feldman.

J. Ward Testa, Cordova, Alaska

B.S. cum laude '75, University of Alaska. Major: Ecology. Minor: Related Fields. Major Adviser: Prof. D. B. Siniff.

Brad Jay Thacker, New Ulm

B.S. with high distinction '76, University of Minnesota. Major: Theriogenology. Minor: Related Fields. Major Adviser: Prof. Allen Leman.

Judy Ann Thies, Anoka

B.S. '72, University of Minnesota. Major: Plant Pathology. Minor: Related Fields. Thesis: The Relationship of Meloidogyne Hapla and Verticillium Albo-Atrium in the Verticillium Wilt Disease of Potato. Major Adviser: Prof. David MacDonald.

John William Thomas, Minneapolis

B.A. magna cum laude '71, University of Minnesota. Major: Statistics. Minor: Computer and Information Sciences. Major Adviser: Prof. Sanford Weisberg.

Kathleen Imre Tremaine, Rochester

B.S. cum laude '75, Bowling Green State University. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Kathleen Maykoski.

Clifford James Twaroski, Birnamwood, Wis.

B.S. with honors '79, University of Wisconsin, Stevens Point. Major: Forestry. Minor: Soil Science. Thesis: Field Testing of Grasses and Site Treatment on a Mined Peatland in Northeast Minnesota. Major Adviser: Prof. Vilis Kurmis.

Douglas Keith Van Buskirk, Bloomington

B.A. '78, University of Minnesota. Major: Mathematics. Minor: Related Fields. Major Adviser: Prof. Gebhard Fuhrken.

Cynthia Ann Vergin, Minnetonka

B.S. magna cum laude '78, St. Olaf College. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Patricia Crisham.

Zhi Xiang Wei

Dipl. '61, Nanjing Aeronautical Institute. Major: Mechanics. Minor: Related Fields. Major Adviser: Prof. C. C. Hsiao.

John Graham Whinery, Amarillo, Tex.

D.D.S. '76, University of Iowa. Major: Dentistry. Minor: Anatomy. Thesis: Posterior Mandibular Condyle Placement as a Predictor of Anterior Displacement of the Meniscus. Major Adviser: Prof. Daniel Waite.

Master of Science

UNIVERSITY OF MINNESOTA, DULUTH

Frederick Kedney Campbell

B.A. '74, Macalester College. Major: Geology. Minor: Internal. Thesis: Geology of the Upper Precambrian Flambeau Quartzite, Chippewa County, North-Central Wisconsin. Major Adviser: Prof. R. W. Ojakangas.

Peter Anthony Giangrande

B.S. '78, Colorado School of Mines. Major: Geology. Minor: Related Fields. Thesis: The Geology and Sulphide Mineralization of the Skeleton Lake Prospect, St. Louis County, Minnesota. Major Adviser: Prof. John Green.

Gerald Lee Hyrkas

Major: Geology. Minor: Related Fields. Thesis: The Sedimentology and Structural Geology of the Middle Precambrian Thomson Formation, Central Carlton County, Minnesota. Major Adviser: Prof. R. W. Ojakangas.

Patrick E. Lederle

B.S. '79, Michigan State University. Major: Biology. Minor: Related Fields. Thesis: Effects of Supplemental Food Patterns of Microhabitat Use in Small Patterns. Major Adviser: Prof. Donald Christian.

Scott Nelson Neumann

B.S. '78, University of Wisconsin, River Falls. Major: Geology. Minor: Related Fields. Thesis: Lower and Middle Precambrian Geology of the Denham Area, Northern Pine County, East-Central Minnesota. Major Adviser: Prof. R. W. Ojakangas.

Mark Warren Osterberg

B.S. '79, University of Wisconsin, Oshkosh. Major: Geology. Minor: Related Fields. Thesis: Subaqueous Pyroclastic Volcanism in the Vicinity of the Helen Mine, Wawa, Ontario. Major Adviser: Prof. Ronald Morton.

Master of Science in Agricultural Engineering

John Stuart Hietala, Sebeka

B.Ag.E. with high distinction '74, University of Minnesota. Major: Agricultural Engineering. Minor: Related Fields. Thesis: Air-to-Air Heat Exchanger for Heat Recovery in Animal Ventilation Systems. Major Adviser: Prof. Kenneth Jordan.

Master of Science in Chemical Engineering

Stephen John Perry, Chelmsford, Mass.

B.S. summa cum laude '79, University of Minnesota. Major: Chemical Engineering. Minor: Related Fields. Thesis: Rheology of Polyurethane Reaction Injection Molding Systems. Major Adviser: Prof. C. W. Macosko.

Paul William Sibal, Goshen, Ind.

B.S. with highest distinction '80, Purdue University. Major: Chemical Engineering. Minor: Related Fields. Thesis: Anionic Polymerization of Nylon-6. Major Adviser: Prof. Christopher Macosko.

Master of Science in Civil Engineering

Chaudhary Habib Abdullah, Karachi, Pakistan

B.E. '78, NED University of Engineering and Technology, Karachi. Major: Civil Engineering. Minor: Related Fields. Thesis: Sensitivity Analysis for Improved Transportation Management. Major Adviser: Prof. Y. J. Stephanedes.

Dante Almeida Gabriel, Manila, Philippines

B.S.C.E. '49, University of Philippines. Major: Civil Engineering. Minor: Related Fields. Thesis: Evaluating Energy Conservation Policies Using the Dynamic Methodologies of Transit. Major Adviser: Prof. Y. J. Stephanedes.

Stella Kathleen Fedeniuk, Roblin, Manitoba, Canada

B.S.C.E. '79, University of Manitoba. Major: Civil Engineering. Minor: Related Fields. Thesis: An Investigation of the Effect of End Plates on the Flow Behavior Around a Roughened Circular Cylinder. Major Adviser: Prof. Cesar Farell.

Chung Jik Kim, Seoul, Korea

B.S. '69, Seoul National University. Major: Civil Engineering. Minor: Related Fields. Thesis: Biodegradation of Chlorinated Organics by Active Sludge Microorganisms and Modeling of Biodegradation Kinetics. Major Adviser: Prof. Walter Maier.

Alan Barry Staples, Arden Hills
B.S. '77, University of Minnesota. Major: Civil Engineering. Minor: Related Fields. Thesis: Characterization of Naturally Occurring Organics in Untreated, Pretreated and Activated Carbon Treated River Water. Major Adviser: Prof. Michael Semmens.

Donna Leigh Stephenson,
Minneapolis

B.S. with honors '77, Purdue University. Major: Civil Engineering. Minor: Chemical Engineering. Thesis: Heavy Metal Removal with the Naturally Occurring Zoolito Clinoptilolite. Major Adviser: Prof. Michael Semmens.

John Charles Wirt, Mendota
Heights

B.C.E. with distinction '73, University of Minnesota. Major: Civil Engineering. Minor: Related Fields. Thesis: Natural Frequencies of Steel Stacks. Major Adviser: Prof. D. E. Beskos.

Master of Science in Dermatology

Robert John Aylesworth, Jr.,
Oregon, Wis.

B.S. '74, M.D. '78, University of Wisconsin, Madison. Major: Dermatology. Minor: Related Fields. Thesis: Hair Follicle Mites, *Demodex Folliculorum* (Simon) and *Demodex Brevi* (Akbulatova) in Cutaneous Biopsies. Major Adviser: Prof. Robert Goltz.

Master of Science in Electrical Engineering

Mohamed Mahmoud Eldesouki,
Minneapolis

B.E.E. '70, Mansoura Institute of Technology; M.S. '77, Helwan University. Major: Electrical Engineering. Minor: Related Fields. Major Adviser: Prof. V. D. Albertson.

Ravender Goyal, Saharanpur, India

B.E. '76, University of Roorkee; M.Tech. '78, Indian Institute of Technology. Major: Electrical Engineering. Minor: Related Fields. Thesis: Electron Transport in GaAs Devices. Major Adviser: Prof. Michael Shur.

Darrel James Guzy, Jr., Menlo
Park, Calif.

B.S. '80, University of California, Davis. Major: Electrical Engineering. Minor: Mathematics. Major Adviser: Prof. Allen Nussbaum.

Zahir Hashemi, Tehran, Iran

B.A. cum laude '80, University of Minnesota. Major: Electrical Engineering. Minor: Computer and Information Sciences. Major Adviser: Prof. K. S. Kumar.

Paul Robert Haugen, Richfield

B.E.E. with high distinction '71, University of Minnesota. Major: Electrical Engineering. Minor: Related Fields. Thesis: Multifaceted Holographic Optical Elements. Major Adviser: Prof. Steven Case.

Daniel Eric Hulsey, Minneapolis

B.S. with high honors '80, University of Tennessee. Major: Electrical Engineering. Minor: Related Fields. Thesis: A Fiber Optic Imaging System Using Wavelength Coding. Major Adviser: Prof. Steven Case.

Awtar Singh K. Saini, Bombay,
India

B.E. '80, University of Bombay. Major: Electrical Engineering. Minor: Computer and Information Sciences. Major Adviser: Prof. L. L. Kinney.

Mohammad Ali Salamian

B.S. with honors '80, University of Illinois at Chicago Circle. Major: Electrical Engineering. Minor: Computer and Information Sciences. Major Adviser: Prof. Larry Kinney.

Adrian Chanchall Toy, Minneapolis

B.E.E. with distinction '80, University of Minnesota. Major: Electrical Engineering. Minor: Related Fields. Thesis: The Growth and Characterization of Gallium Arsenide Thin Films by Molecular Beam Epitaxy. Major Adviser: Prof. G. Y. Robinson.

James Micheal VanHove, Luverne

B.E.E. with distinction '80, University of Minnesota. Major: Electrical Engineering. Minor: Chemistry. Thesis: Examination of GaAs Surfaces Using Reflection High Energy Electron Diffraction. Major Adviser: Prof. Philip Cohen.

Master of Science in Industrial Engineering

Richard Steven Berg, Minnetonka
B.M.E. with distinction '75, University of Minnesota. Major: Industrial Engineering. Minor: Related Fields. Major Adviser: Prof. J. E. Anderson.

Master of Science in Mechanical Engineering

Paul Stephen Hoffman, Shoreview
B.M.E. with high distinction '81, University of Minnesota. Major: Mechanical Engineering. Minor: Industrial Engineering. Major Adviser: Prof. J. E. Anderson.

Frank Joseph Macdonald,
Washington, D.C.
B.M.E. '79, Catholic University of America. Major: Mechanical Engineering. Minor: Related Fields. Thesis: Hydrogen and Bromine from Hydrogen Bromide for Solar Energy Storage. Major Adviser: Prof. Edward Fletcher.

Master of Science in Mineral Engineering

Heriban Soto
B.S. '74, Universidad de Chile. Major: Mineral Engineering. Minor: Related Fields. Major Adviser: Prof. Iwao Iwasaki.

Master of Science in Orthopedic Surgery

MAYO GRADUATE SCHOOL OF MEDICINE

Yogesh Chand, Rochester
B.S. '71, University of Auckland; D.M. '76, Georgetown University. Major: Orthopedic Surgery. Minor: Related Fields. Thesis: A Three-Dimensional Roentgen Steriophotogrammetric Study of Lumbar Spinal Kinematics. Major Adviser: Prof. E. Y. Chao.

Master of Science in Otolaryngology

MAYO GRADUATE SCHOOL OF MEDICINE

Ray Oliver Gustafson, Rochester
B.S. with high distinction '73, University of Michigan; M.D. with honors '77, University of Illinois. Major: Otolaryngology. Minor: Related Fields. Thesis: Immunological Studies on Head and Neck Cancer. Major Adviser: Prof. H. B. Neel.

Master of Social Work

Nancy Marsh Albrecht, Minneapolis
B.A. '73, Augsburg College. Major: Social Work. Major Adviser: Prof. Philip AuClaire.

Roberto Ramon Avina
B.A. '70, Indiana University. Major: Social Work. Major Adviser: Prof. Robert McClelland.

John Robert Bailey, Northfield
B.A. magna cum laude '79, St. Olaf College. Major: Social Work. Major Adviser: Prof. Robert McClelland.

Susan Marie Beck, Brainerd
B.A. cum laude '72, St. Olaf College. Major: Social Work. Major Adviser: Prof. Philip AuClaire.

Dianne Binns, Little Rock, Ark.
B.G.S. '79, University of Minnesota. Major: Social Work. Major Adviser: Prof. Bart Grossman.

Kathleen Kay Bochert, Minnetonka
B.S. '80, University of Minnesota. Major: Social Work. Major Adviser: Prof. Carol Austin.

- Timothy George Boyer, Minneapolis
B.A. '73, University of Minnesota. Major: Social Work. Major Adviser: Prof. David Hollister.
- Kathleen C. Bryan, Minneapolis
B.A. '79, University of Minnesota. Major: Social Work. Major Adviser: Prof. David Hollister.
- Stephen Eugene Calvit, Baton Rouge, La.
B.S. cum laude '80, University of Minnesota. Major: Social Work. Major Adviser: Prof. Annalee Stewart.
- Alma Elizabeth Cauble
B.A. '72, University of Colorado. Major: Social Work. Major Adviser: Prof. Constance Philipp.
- Shari Kay Cohen, Minneapolis
B.S. '78, University of Minnesota. Major: Social Work. Major Adviser: Prof. Jean Quam.
- Mina Clare Driscoll, Stillwater
B.A. '62, Coe College. Major: Social Work. Major Adviser: Prof. David Hollister.
- Kenneth George Fournier, Minneapolis
B.S. magna cum laude '74, University of Utah. Major: Social Work. Major Adviser: Prof. Esther Wattenberg.
- Brian Arthur Fudge-Nystrom, Coon Rapids
B.A. '80, Bethel College. Major: Social Work. Major Adviser: Prof. Bart Grossman.
- Dianne Clarice Grammond, Maple Grove
B.A. '71, University of North Dakota. Major: Social Work. Major Adviser: Prof. Robert McClelland.
- Mary-Lynn Harrison, Minneapolis
B.S. '68, Iowa State University. Major: Social Work. Major Adviser: Prof. David Hollister.
- Rita Jean Heidbrink, Minneapolis
B.S. '77, University of Wisconsin, Stevens Point. Major: Social Work. Major Adviser: Prof. George Hoshino.
- Marlene A. Hodges, St. Paul
B.S. cum laude '80, University of Minnesota. Major: Social Work. Major Adviser: Prof. William Stewart.
- Brenda Anne Huttie, Bethlehem, Pa.
B.A. '77, Indiana University. Major: Social Work. Major Adviser: Prof. Jean Quam.
- Beth Ross-Shannon Johnson
B.S. '76, Colorado State University. Major: Social Work. Major Adviser: Prof. David Hollister.
- Patricia Lynn Johnson, St. Paul
B.A. '67, University of Minnesota. Major: Social Work. Major Adviser: Prof. William Stewart.
- Marcia L. Kaufmann, Burnsville
B.A. '70, Pennsylvania State University. Major: Social Work. Major Adviser: Prof. Annalee Stewart.
- Barbara Jean Knutsen
B.A. '74, University of Minnesota. Major: Social Work. Major Adviser: Prof. William Stewart.
- Laura Davison Kolden, Minneapolis
B.A. magna cum laude '78, Mount Holyoke College. Major: Social Work. Major Adviser: Prof. Philip AuClaire.
- Mary Ann Korenchen, Duluth
B.A. cum laude '74, University of Minnesota, Duluth. Major: Social Work. Major Adviser: Prof. David Hollister.
- Doreen R. Camacho Kruzich, El Paso, Tex.
B.S. '80, University of Minnesota. Major: Social Work. Major Adviser: Prof. Beulah Compton.
- LouAnn Lewis, Minneapolis
B.A. '70, University of Minnesota. Major: Social Work. Major Adviser: Prof. Stanley Battle.
- Colleen Rae Lippke, Pewaukee, Wis.
B.A. '74, Wisconsin State University, Eau Claire. Major: Social Work. Major Adviser: Prof. Jean Quam.
- Alida Jane Malkus, Minneapolis
B.A. '78, Trinity College. Major: Social Work. Major Adviser: Prof. Bart Grossman.
- Catherine Mary Marincel, Andover
B.A. '75, St. Mary's College. Major: Social Work. Major Adviser: Prof. Stanley Battle.
- Margaret Lee McChesney, Roseville
B.A. summa cum laude '80, Augsburg College. Major: Social Work. Major Adviser: Prof. David Hollister.
- Thelma Ruth McGahee, Brooklyn Park
B.S. '68, Tuskegee Institute. Major: Social Work. Major Adviser: Prof. Annalee Stewart.
- Michael Francis McGrane, Forest Lake
B.S. '77, University of Minnesota. Major: Social Work. Major Adviser: Prof. Robert McClelland.
- Frank Joseph Mee
B.A. '80, University of Minnesota. Major: Social Work. Major Adviser: Prof. Annalee Stewart.

Jacqueline Stearns Mithun,
Minneapolis
B.A. '63, Cornell University. Major: Social Work.
Major Adviser: Prof. George Hoshino.

Barbara Jane Way Mohr,
Minneapolis
B.A. '66, University of Michigan. Major: Social
Work. Major Adviser: Prof. Helen Yesner.

Michael Francis Mohs
B.A. with honors '75, University of Montana. Major:
Social Work. Major Adviser: Prof. William
Stewart.

Mark Stanley Muellerleile, St. Peter
B.S. '76, University of Minnesota. Major: Social
Work. Major Adviser: Prof. Stanley Battle.

Alan Dwight Netland, Duluth
B.A. magna cum laude '75, University of Minnesota.
Major: Social Work. Major Adviser: Prof.
Richard Sterne.

Mary Elizabeth Neustel, West St.
Paul
B.A. '58, University of Minnesota, Duluth. Major:
Social Work. Major Adviser: Prof. Carol Austin.

Marsha Carol Porter, Minneapolis
B.A. cum laude '75, St. Olaf College. Major: Social
Work. Major Adviser: Prof. Philip AuClaire.

Margaret Rose Reed
B.S. summa cum laude '76, University of Minnesota.
Major: Social Work. Major Adviser: Prof.
Stanley Battle.

Linda Reinhardt-Sondrall,
Minneapolis
B.S. '76, University of Minnesota. Major: Social
Work. Major Adviser: Prof. Robert McClelland.

Lynelle Rhodes, Greenville, Miss.
B.A. '76, Delta State College. Major: Social Work.
Major Adviser: Prof. Philip AuClaire.

Sharon Rose Robinson, Minneapolis
B.A. '79, University of Minnesota, Morris. Major:
Social Work. Major Adviser: Prof. David Hollister.

Carole Gaines Rydberg, Plymouth
B.A. '75, University of Minnesota. Major: Social
Work. Major Adviser: Prof. Jean Quam.

Linda Gerber Schreiner, Minneapolis
B.A. cum laude '78, University of Washington.
Major: Social Work. Major Adviser: Prof. Philip
AuClaire.

Jeanette Susan Shultz, Minneapolis
B.A. '80, University of Minnesota. Major: Social
Work. Major Adviser: Prof. Jean Quam.

Caroline S. Stevens, St. Louis Park
B.A. magna cum laude '68, Oakland University.
Major: Social Work. Major Adviser: Prof. Stanley
Battle.

Jon J. Stumbras, Madison, Wis.
B.A. '77, University of Wisconsin, Madison.
Major: Social Work. Major Adviser: Prof. Robert
McClelland.

Joan Sykora, Minneapolis
B.A. '74, St. John's University. Major: Social
Work. Major Adviser: Prof. Stanley Battle.

Linda L. Verbeck
B.A. '73, University of Illinois; B.S. '79, University
of Minnesota. Major: Social Work. Major Adviser:
Prof. Jean Quam.

Carol Lee Voigt, Minneapolis
B.S. with high distinction '76, University of Minnesota.
Major: Social Work. Major Adviser: Prof. Jean
Quam.

Debra J. Waite, Minneapolis
B.A. '77, University of Minnesota. Major: Social
Work. Major Adviser: Prof. David Hollister.

Gloria Joan Zweber, St. Paul
B.S. '64, Mount Mary College. Major: Social
Work. Major Adviser: Prof. David Hollister.

Master of Social Work

UNIVERSITY OF MINNESOTA, DULUTH

Maureen Lucia Jude
B.A. '79, College of St. Benedict. Major: Social
Work. Major Adviser: Prof. Ralph Woehle.

Steven Edward Novack
B.S.D. '79, University of Minnesota, Duluth. Major:
Social Work. Major Adviser: Prof. Judith
Kaplan.

Carol Annette Plock
B.A. '78, Adams State College. Major: Social
Work. Major Adviser: Prof. Willard Dodge.

Sharon Marie Randolph
B.S. '77, Bemidji State University. Major: Social
Work. Major Adviser: Prof. Ralph Woehle.

Kris Ann Washam
B.S. cum laude '75, James Madison University.
Major: Social Work. Major Adviser: Prof. Ralph
Woehle.

Jeffrey Jay Zuckerman
B.A. '76, Pennsylvania State University. Major:
Social Work. Major Adviser: Prof. Willard Dodge.

Specialist Certificate in Education

Lorraine Joan Boyle, St. Louis Park
B.S. '70, M.Ed. '76, University of Minnesota.
Field: Elementary School Administration. Major
Adviser: Prof. Gary Alkire.

Alfred Mark Branes, Arden Hills
B.A. '65, Hamline University. Field: Elementary
School Administration. Major Adviser: Prof. Gary
Alkire.

Jeanne Marie Bursheim, Anoka
B.S. '65, Bemidji State College; M.A. '72, Univer-
sity of Minnesota. Field: General Educational Ad-
ministration. Major Adviser: Prof. Van Mueller.

Gail Victoria Carlson, Falcon Heights
B.S. '72, M.A. '75, University of Minnesota. Field:
Elementary School Administration. Major Adviser:
Prof. Gary Alkire.

Linda Lawrie House, St. Paul
B.A. '70, Ursuline College. Field: Elementary
School Administration. Major Adviser: Prof. Van
Mueller.

Paul Allen Osterlund, Minneapolis
B.S. '74, University of Minnesota. Field: Elemen-
tary School Administration. Major Adviser: Prof.
Ronald Lambert.

Daniel William Pelowski, Chaska
B.A. '69, St. Mary's College. Field: Mathematics
Education. Major Adviser: Prof. Peggy House.

Lloyd Eugene Peterson, Roseville
B.S. '55, M.A. '63, University of Minnesota. Field:
Elementary School Administration. Major Adviser:
Prof. Ronald Lambert.

Leonard Joseph Schwartz, Hastings
B.S. '70, St. Cloud State College; M.A. '74, St.
Thomas College. Field: Secondary School Admin-
istration. Major Adviser: Prof. S. H. Popper.

Summary of Degrees Conferred by the University During the Academic Year 1981-82

Conferred July, August, and December, 1981, and March 1982	6,640
Conferred June 1982 (subject to completion of requirements)	6,150
Total degrees conferred (1981-1982)	12,790*

*Includes 1,421 conferred at Duluth, 235 at Morris, 242 at Crookston, 228 at Waseca, and 55 at Mayo.

Academic Costume

Academic costume—cap, gown, and sometimes hood—may be worn by anyone with a college degree, or by a candidate whose degree is soon to be awarded. Characteristics of costumes show their wearers' highest degrees and, often, the fields of major interest and the institutions by which the degrees are granted.

All bachelors' and masters' gowns are black and untrimmed. The bachelor's gown has a long pointed sleeve, the master's a closed sleeve with an arm slit. Doctors' gowns in the United States are usually black, with velvet front facings and sleeve crossbars. Some universities, especially those abroad, prescribe colorful crimson, bright red, or other colors, set off by black or colored facings.

At commencements, degree candidates wear the gowns for the degrees they are about to receive. Hoods are worn only by those who already possess degrees. Anyone who has a University of Minnesota degree may wear the Minnesota hood—black with a maroon chevron on gold. The length and shape of a hood identify the most advanced degree its wearer has earned, and the hood's velvet edging shows the degree's field: dark blue for philosophy, light blue for education, green for medicine, lilac for dentistry, orange for engineering, russet for forestry, drab for business, olive green for pharmacy, purple for law, gray for veterinary medicine, golden yellow for science, white for liberal arts.

Caps—usually tasseled mortarboards—show by tassel color the nature of degrees awarded at University of Minnesota commencements. Doctors' tassels may be black or gold; masters' are black. Bachelor's degree candidates at Minnesota, however, indicate their fields of study by their tassel colors:

College of Agriculture	maize
College of Biological Sciences	golden yellow
Continuing Education and Extension	orange and drab
School of Dentistry	lilac
College of Education	light blue
College of Forestry	maize
General College	crimson and white
College of Home Economics	maize
Law School	purple
College of Liberal Arts	white
School of Management	drab
Medical School	green
School of Nursing	green
College of Pharmacy	olive
School of Public Health	green
Institute of Technology	orange
University College	old gold and white
College of Veterinary Medicine	gray

Gold shoulder fourageres are worn by candidates who are honor students.

After receiving their degrees, holders may wear the academic costume on any appropriate occasion, but they always wear the black tassel, and omit the shoulder insignia. Appropriate academic costumes can be obtained anywhere that academic ceremonies are conducted.

Spring 1982 Graduation Events

College of Agriculture, 7 p.m. June 8
Northrop Memorial Auditorium

College of Biological Sciences, 7 p.m. June 12
North Star Ballroom, St. Paul Student Center

School of Dentistry, 7:30 p.m. June 11
Northrop Memorial Auditorium

College of Education, 7:30 p.m. June 10
Northrop Memorial Auditorium

College of Forestry, 6 p.m. June 5
Theater, St. Paul Student Center

General College, 3 p.m. June 5
Auditorium, Willey Hall

Graduate School, 7 p.m. June 12
Northrop Memorial Auditorium

College of Home Economics, 7 p.m. June 4
Willey Hall

Law School, 5 p.m. May 14
Northrop Memorial Auditorium

College of Liberal Arts, 1 p.m. June 6
Northrop Memorial Auditorium

School of Management, 2 p.m. June 13
Northrop Memorial Auditorium

Medical School, 2:30 p.m. June 4
Northrop Memorial Auditorium

Mortuary Science, 7:30 p.m. June 11
Great Hall, Coffman Memorial Union

School of Nursing, 2 p.m. June 13
Mayo Memorial Auditorium

College of Pharmacy, 3 p.m. June 12
Willey Hall

School of Public Health, 1:15 p.m. May 22
2-470 Phillips-Wangensteen Building

Institute of Technology, 7 p.m. June 2
Northrop Memorial Auditorium

University College, 1 p.m. June 5
Great Hall, Coffman Memorial Union

College of Veterinary Medicine, 2 p.m. June 12
Northrop Memorial Auditorium