

R E G I S T E R O F P H . D . D E G R E E S

CONFERRED BY THE UNIVERSITY OF MINNESOTA

JULY 1956 THROUGH JUNE 1966

FOREWORD TO PH.D. REGISTER

The remarkable increase in Ph.D. degrees indicated in this Register of Ph.D. Degrees Granted by the University of Minnesota shows a continuation of the phenomenal growth trend noted in the previous volume of the Register series. That volume, covering the 18 years from 1938 through 1956, recorded 2,542 degrees, more than twice the number awarded in the half century since the first Minnesota Ph.D. was granted in 1888. The present volume, covering 1956 through 1966, shows an even greater increase with 3,950 Ph.D. degrees granted in only 10 years, more than a 150 per cent increase over the total granted in the previous 68 years.

Similarly, the number of designated fields of study shows a continuing growth trend which indicates the effects of both increasing specialization and the growing recognition of the value of advanced scholarship in new fields and problem areas. With the advanced scholar--the Ph.D.--being recognized more and more as a valuable working and contributing member of society, the need for increased numbers of such highly educated men and women has resulted in the growth of graduate education that this register reflects.

But more importantly, this register represents individuals who have been judged by the Graduate Faculty of this University as qualified for formal introduction into the world-wide community of scholars. Each has achieved high mastery in his chosen fields and attained this University's highest earned degree. Each has acquired, through his own original investigations, an insight into the nature of human knowledge--which is the sum total of the creative work of such individuals who have sought to understand our world and ourselves, and have shared their achievements with their fellow men.

Bryce Crawford, Jr.

Dean

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AGRICULTURE

AGRICULTURAL BIOCHEMISTRY

1956. GANDER, JOHN E. B.S. '50, Montana State College; M.S. '54, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Dairy Husbandry.
Thesis: I. Interrelationship of Tocopherol Oxidation Products;
II. Mechanism of the Biosynthesis of Lactose.
Major Adviser: Prof. P. D. Boyer.
1956. GLASS, ROBERT LOUIS. B.S. '50, University of Illinois; M.S. '54, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Bacteriology.
Thesis: Chemical, Physical, and Biological Studies of Rats' Milk and Its Components.
Major Adviser: Prof. M. O. Schultze.
1956. LAAKSO, JOHN WILLIAM. B.E. '38, Winona State Teachers College; M.S. '49, Montana State College.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: The Biochemistry of Orotic Acid.
Major Adviser: Prof. M. O. Schultze.
1956. WOLF, WALTER JAMES. B.S. '50, College of St. Thomas.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Physical and Chemical Studies on Soybean Proteins.
Major Adviser: Prof. D. R. Briggs.
1957. CHRISTENSEN, GLENN MARVIN. B.A. '52, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: The Constitution of Starch Dextrins.
Major Adviser: Prof. Fred Smith.
1957. GOLUBCHUK, MOISHE. B.A. '49, B.Sc. (honors) '51. M.Sc. '52, University of Manitoba.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Studies on the Relation of Molds and Mold Products to "Sick Wheat" and Other Types of Damage in Stored Wheat.
Major Adviser: Prof. W. F. Geddes.
1957. LEE, JOHN WILSON. B.Sc. '47, B.Sc. (honors) '48, University of Western Australia.
Major: Agricultural Biochemistry. Minor: Bacteriology.
Thesis: Fermentation Studies on the Sponge and Dough and Stable Ferment Methods of Bread Manufacture.
Major Adviser: Prof. W. F. Geddes.
1957. LEWIS, BERTHA ANN. B.Ch. '49, M.S. '54, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Studies on Periodate Oxidation Products of Carbohydrates.
Major Adviser: Prof. Fred Smith.
1957. MAHADEVAN, VAIDYANATHA. B.Sc. '42, University of Travancore; M.A. '48, University of British Columbia.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Dilatometric Behavior of Tristearin, Triolein, and Mixtures Thereof.
Major Adviser: Prof. W. O. Lundberg.

1957. MELNYCHYN, PAUL. B.Sc. in Ag. '48, M.Sc. '51, University of Alberta.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Studies of The Interaction of Proteins with Detergents; Effects of pH, Ionic Strength and Detergent Structure.
Major Adviser: Prof. D. R. Briggs.
1957. ROBBINS, ERNEST ALECK. B.Ch. with high distinction '51, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: The Free Energy of Hydrolysis of High Energy Phosphates.
Major Adviser: Prof. P. D. Boyer.
1957. SETO, THOMAS AKIYOSHI. B.S. '49, M.S. '55, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Studies on the Chemical Nature of a Toxic Factor which Causes Aplastic Anemia in Calves.
Major Adviser: Prof. M. O. Schultze.
1957. WADA, SHOHACHI. B.S. '41, University of Tokyo; M.S. '55, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Public Health.
Thesis: Structural Studies on Soybean Hemagglutinin.
Major Adviser: Prof. M. O. Schultze.
1958. DRECHSLER, EDWARD ROBERT. B.S. '49, M.S. '52, Iowa State College.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: The Catalytic Activity of Carboxypeptidase-Degraded Aldolase.
Major Adviser: Prof. P. D. Boyer.
1958. HEDIN, PAUL ARTHUR. B.S. '50, M.S. '53, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Products of Metabolism of Protein-Free Amino Acid Diets Fed to Rats.
Major Adviser: Prof. M. O. Schultze.
1958. JACKSON, JOHN EDWARD. B.S. in Chem. '46, State University of Iowa.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: The Preparation and Properties of Some Synthetic Glycerides.
Major Adviser: Prof. W. O. Lundberg.
1958. STULBERG, MELVIN PHILIP. B.Ch. '49, M.S. '55, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Bacteriology.
Thesis: The Participation of Adenosine Triphosphate in Protein Synthesis.
Major Adviser: Prof. P. D. Boyer.
1959. FISCHER, MILTON HAROLD. B.A. '50, Lafayette College.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: I. Graft Polymerization and Transglycosidation of Polysaccharides; II. The Bound Carbohydrate Constituents of Soybean Lecithin; III. The Isolation of Isomaltose from Enzyme Degraded Starch.
Major Adviser: Prof. Fred Smith.

1959. HAY, GEORGE WILLIAM. B.Sc. (honors) '51, M.Sc. '52, University of Manitoba.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: I. The Constitution of the Oat Hull Hemicellulose;
II. Electrolysis in the Study of Carbohydrate Compounds.
Major Adviser: Prof. Fred Smith.
1959. SORGER-DOMENIGG, HEINZ. B.S. with distinction '51, M.S. '54, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Structural Studies on Oat Glucan.
Major Adviser: Prof. Fred Smith.
1960. POTTER, CLARENCE SCOTT. B.S. '50, University of Wisconsin; M.S. '55, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Studies on the Biochemical Mechanisms of Active Transport.
Major Adviser: Prof. P. D. Boyer.
1960. UNRAU, ABRAHAM MARTIN. B.S.A. '52, M.S.A. '53, University of British Columbia; Ph.D. '56, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: I. The Structure of Laminarin; II. End-Group Analysis and the Molecular Weight of Polysaccharides.
Major Adviser: Prof. Fred Smith.
1960. ZEALEY, MARION EDWARD. B.A. '34, Paine College; M.S. '40, Atlanta University.
Major: Agricultural Biochemistry. Minor: Physiological Chemistry.
Thesis: The Reactivity of Sulphydryl Groups in Proteins as Evidenced by the Binding of Certain Reagents.
Major Adviser: Prof. Robert Jenness.
1961. DERR, ROBERT FREDERICK. B.S. '55, Pennsylvania State University; M.S. '58, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: The Synthesis and Metabolism of S³⁵-(1,2-Dichlorovinyl)-L-Cysteine.
Major Adviser: Prof. M. O. Schultze.
1961. NELSON, JOHN HOWARD. B.S. '52, M.S. '53, Purdue University.
Major: Agricultural Biochemistry. Minor: Bacteriology.
Thesis: The Nature of Wheat Lipids and Their Role in Flour Deterioration.
Major Adviser: Prof. R. L. Glass.
1961. WITONSKY, PHILIP. B.S. '53, Queens College (N.Y.).
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Studies on a Mitochondrial Iodinating System.
Major Adviser: Prof. Samuel Kirkwood.
1962. BAHL, OM PARKASH. M.Sc. '50, Punjab University (India).
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Studies on the Fine Structure of Glycogen and Amylopectin.
Major Adviser: Prof. Fred Smith.

1962. DANIEL, ROBERT GEORGE. B.S. '58, M.S. '60, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: The Interaction of S-(1,2-Dichlorovinyl)-L-Cysteine with Cellular Components of E.Coli B.
Major Adviser: M. O. Schultze.
1962. DE FREITAS, ANTHONY STANLEY WALTER. B.Sc. '55, Macdonald College; M.Sc. '57, McGill University.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: The Preparation and Film-Forming Properties of Synthetic Glycerides.
Major Adviser: Prof. W. O. Lundberg.
1962. KLUBES, PHILIP. B.S. '56, Queens College; M.S. '59, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Synthesis of S-(1,2-Dichlorovinyl)-D-Cysteine-3-C¹⁴ and S-(1,2-Dichlorovinyl)-L-Cysteine-3-C¹⁴ and Their Uses with E.Coli B.
Major Adviser: Prof. M. O. Schultze.
1962. MULLEN, JOSEPH DAVID. B.Sc. '56, College of St. Thomas.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Studies on the Nature of the Protein Sites Involved in the Interaction of Bovine Serum Albumin with Detergents.
Major Adviser: Prof. D. R. Briggs.
1962. MYHRE, DAVID VERNON. B.A. '54, Concordia College; M.S. '55, North Dakota Agricultural College.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Constitution of the Hemicelluloses of Alfalfa (Medicago sativa) and Brome Grass (Bromus inermis).
Major Adviser: Prof. Fred Smith.
1962. WONG, ROBERT C. B.A. '54, M.S. '61, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: The Peptic Activation of Acetylated Trypsinogen and the Isolation of Degradation Products Labeled with ³²P.
Major Adviser: Prof. I. E. Liener.
1963. CUNNINGHAM, BRYCE ALLEN. B.A. '55, B.S. '58, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Enzymes Concerned with Biological Iodination.
Major Adviser: Prof. Samuel Kirkwood.
1963. HULLAR, THEODORE LEE. B.S. '57, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: I. Reaction of Methyl Pentofuranosides with Periodate;
II. Structural Studies on the Arabinan of Sugar Beets;
III. Neutral Carbohydrates from Rubber Latex.
Major Adviser: Prof. Fred Smith.

1963. RATHBUN, WILLIAM BURTON. B.S. '54, M.S. '55, University of Wisconsin.
Major: Agricultural Biochemistry. Minor: Zoology.
Thesis: S-(1,2-Dichlorovinyl)-L-Cysteine; I. Its Effect on Two Species of *Ochromonas*; II. Its Catalytic Degradation.
Major Adviser: Prof. M. O. Schultze.
1963. STAUFFER, CLYDE EUGENE. B.S. with honors '56, M.S. '58, North Dakota State University.
Major: Agricultural Biochemistry. Minor: Microbiology.
Thesis: The Esteratic Enzymes of Wheat Germ.
Major Adviser: Prof. R. L. Glass.
1964. ANDERSON, PAUL MARTIN. B.S. with distinction '59, University of Minnesota.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: The Interaction with Proteins and Enzymatic Cleavage of S-(1,2-Dichlorovinyl)-L-Cysteine.
Major Adviser: Prof. M. O. Schultze.
1964. BOSE, ROBERT JOHN. B.S.A. '55, M.S.A. '57, University of British Columbia.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Periodate Oxidation of Fructans and Related Compounds.
Major Adviser: Prof. Fred Smith.
1964. GOULD, NORMAN RUSSELL. B.Ch. '54, Clarkson College of Technology; M.S. '57, Iowa State University.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: A Study of the Active Site of Enzymes Sulphydryl.
Major Adviser: Prof. I. E. Liener.
1964. ROBERTS, RONALD CLAIR. B.S. '57, Pennsylvania State University.
Major: Agricultural Biochemistry. Minor: Physical Chemistry.
Thesis: Studies on the Proteins of Soybean: Isolation and Characterization of the 7S Component of the Globulin Fraction.
Major Adviser: Prof. D. R. Briggs.
1964. TRAVIS, JAMES. B.Sc. '58, M.Sc. '60, University of Manitoba.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Physico-Chemical Studies of Porcine Trypsin.
Major Adviser: Prof. I. E. Liener.
1965. BEVILL, RARDON DIXON III. B.S. in Chem. cum laude '60, Washington and Lee University.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Mode of Action of Enzymes Acting on Carbohydrates: A Study of Udpgal-4-Epimerase.
Major Adviser: Prof. Samuel Kirkwood.
1965. NELSON, THOMAS EVAR. B.S. '57, M.S. '59, University of Illinois.
Major: Agricultural Biochemistry. Minor: Organic Chemistry.
Thesis: Studies on the Mechanism of Carbohydrase Action.
Major Adviser: Prof. Samuel Kirkwood.

1965. SMITH, BETTY FAYE. B.S.H.E. with honors '51, University of Arkansas; M.S. '57, University of Tennessee; Ph.D. '60, University of Minnesota.

Major: Agricultural Biochemistry. Minor: Organic Chemistry.

Thesis: Determination of the Distribution of the Methoxyl Groups in Methylated Cellulose.

Major Adviser: Prof. Fred Smith.

AGRICULTURAL BOTANY

1957. KLUG, ROBERT JOHN. B.S. cum laude '50, College of St. Thomas; M.S. '54, University of Minnesota.

Major: Agricultural Botany. Minor: Botany.

Thesis: Physiological Studies of Mutants of Colletotrichum linicolum Induced by Radiation.

Major Advisers: Profs. J. B. Rowell and R. H. Landon.

1958. DUTTA, PRASANTA KUMAR. B.Sc. (honors) '52, University of Delhi; M.Sc. '54, Banaras Hindu University.

Major: Agricultural Botany. Minor: Botany.

Thesis: The Effects of Previous Crops on Growth, Yield and Certain Chemical Constituents of Two Soybean Varieties.

Major Advisers: Profs. Thor Kommedahl and M. B. Moore.

1959. HERRETT, RICHARD ALLISON. B.S. '54, Rutgers University; M.S. '56, University of Minnesota.

Major: Agricultural Botany. Minor: Organic Chemistry.

Thesis: Studies on the Absorption, Translocation, and Metabolism of 3-amino-1,2,4-triazole in Perennial Plants.

Major Advisers: Profs. J. B. Rowell and A. J. Linck.

1961. LAMBERT, ROGER GAYLE. B.S. '53, M.S. '57, University of Minnesota.

Major: Agricultural Botany. Minor: Botany.

Thesis: Physiological Interactions between Avena sativa and Medicago sativa.

Major Advisers: Profs. A. J. Linck and Thor Kommedahl.

AGRICULTURAL PLANT PHYSIOLOGY

1964. ABRAHAMSEN, MARY. B.S. '59, University of Wisconsin; M.S. '62, University of Minnesota.

Major: Agricultural Plant Physiology. Minor: Agricultural Biochemistry.

Thesis: Some Aspects of the Carbohydrate Metabolism of Germinating Soybean Seedlings in Relation to Levels of Carbohydrates and Carbohydrate Precursors.

Major Adviser: Prof. T. W. Sudia.

1964. SHIMABUKURO, RICHARD HIDEO. B.S. (Agric.) '56, University of Hawaii; M.S. '62, University of Minnesota.

Major: Agricultural Plant Physiology. Minor: Agricultural Biochemistry.

Thesis: Studies on the Effect of Atrazine on Oat (Avena Sativa [L] var. Minhafer).

Major Adviser: Prof. A. J. Linck.

1965. HUSAIN, SYED MUSHTAQ. B.Sc. '54, University of Lucknow (India); M.S. '58, University of Karachi (Pakistan).
Major: Agricultural Plant Physiology. Minor: Soil Science.
Thesis: Studies on the Phenomenon of Apical Dominance and Its Relationship to Nutrient Accumulation in Pisum Sativum L. var Alaska.
Major Adviser: Prof. A. J. Linck.

AGRONOMY

1957. JORDAN, LOWELL STEPHEN. B.S. '54, Oregon State College.
Major: Agronomy. Minor: Botany.
Thesis: Effects of the Interaction of Varying Temperatures and Light Intensities on the Response of Flax to 2,4-D (2,4-Dichlorophenoxyacetic Acid).
Major Adviser: Prof. R. S. Dunham.
1957. MILLER, JOHN HAROLD. B.S. '46, University of Nebraska; M.S. '48, South Dakota State College.
Major: Agronomy. Minor: Agricultural Botany.
Thesis: Differential Response of Several Inbreds and Single Crosses of Corn (Zea mays) to 2,4-Dichlorophenoxyacetic Acid.
Major Adviser: Prof. R. S. Dunham.
1958. TEWARI, GAYATRI PRASAD. B.Sc. Ag. '51, Agra University; M.S. '54, University of Minnesota.
Major: Agronomy. Minor: Soils.
Thesis: The Production and Botanical Composition of Legume-Grass Combinations and the Influence of the Legume on the Associated Grasses.
Major Adviser: Prof. A. R. Schmid.
1959. BURNSIDE, ORVIN CHARLES. B.S. '54, North Dakota Agricultural College; M.S. '58, University of Minnesota.
Major: Agronomy. Minor: Agricultural Botany.
Thesis: The Influence of Environmental Factors on the Phytotoxicity and Dissipation of Simazin.
Major Adviser: Prof. A. R. Schmid.
1959. YEO, RICHARD RUSSELL. B.S. '50, M.S. '52, Michigan State College.
Majors: Agronomy and Soils. Minor: Botany.
Thesis: The Absorption of the Sodium Salt of 2,4-D on Kaolinite, Bentonite and Cellulose.
Major Advisers: Profs. R. S. Dunham and A. C. Caldwell.
1960. ANDERSEN, ROBERT NEILS. B.S. '51, M.S. '53, University of Nebraska.
Major: Agronomy. Minor: Agricultural Botany.
Thesis: Investigations of the Basis of Selective Action of Dalapon.
Major Adviser: Prof. A. R. Schmid.

1961. MARTEN, GORDON CORNELIUS. B.S. '57, University of Wisconsin; M.S. '59, University of Minnesota.
Major: Agronomy. Minor: Agricultural Botany.
Thesis: An Investigation of the Chromogen-Chromic Oxide and Nitrogen-Chronic Oxide Indicator and the TDN Requirement Methods in Evaluating Pasture Forages for Dairy Cows.
Major Advisers: Profs. A. R. Schmid and J. D. Donker.
1961. WHITE, GEORGE ALBERT. B.S. '57, M.S. '58, University of Illinois.
Majors: Agronomy and Agricultural Botany. Minor: Soils.
Thesis: Influence of Certain Forage Grasses on the Growth and Yield of the Following Crop.
Major Advisers: Profs. A. R. Schmid and Thor Kommedahl.
1962. ERICKSON, LAMBERT CORNELIUS. B.S. '40, University of Minnesota; M.S. '43, University of Wyoming.
Major: Agronomy. Minor: Agricultural Botany.
Thesis: Influences of Radiant Infrared on Germination of Weed and Crop Seeds.
Major Adviser: Prof. Richard Behrens.
1962. FIKE, WILLIAM THOMAS, JR. B.S. '52, M.S. '56, Pennsylvania State University.
Major: Agronomy. Minor: Botany.
Thesis: Factors Affecting Forage Crop Establishment in Corn.
Major Adviser: Prof. A. R. Schmid.
1962. NALEWAJA, JOHN DENNIS. B.S. with distinction '53, M.S. '59, University of Minnesota.
Major: Agronomy. Minor: Agricultural Botany.
Thesis: The Effect of Ethyl N,N-DI-N-Propylthiolcarbamate (EPTC) and 1-N-BUTYL-3-(3,4-Dichlorophenyl)-1-Methylurea (Neburon) upon Alfalfa Yield, Weed Control, Protein Content and Individual Free Sugars, and the Fate of C¹⁴-Labeled EPTC in Alfalfa.
Major Adviser: Prof. A. R. Schmid.
1962. WAX, LOYD MONROE. B.S. '59, M.S. '59, Oklahoma A. and M. College.
Major: Agronomy. Minor: Agricultural Plant Physiology.
Thesis: Factors Affecting Quackgrass Control with Atrazine.
Major Adviser: Prof. Richard Behrens.
1963. WARNER, LLOYD CLAUDE. B.S. '55, M.S. '59, Utah State University.
Major: Agronomy. Minor: Agricultural Plant Physiology.
Thesis: Factors Affecting the Fate and Phytotoxicity of 3-Amino-2,5-Dichlorobenzoic Acid (Amiben).
Major Adviser: Prof. Richard Behrens.
1964. SINGH, RAGHBIR. B.Sc. '52, M.Sc. '55, Punjab University (India).
Major: Agronomy. Minor: Agricultural Plant Physiology.
Thesis: Physiological Response of Alfalfa and Weeds to 4-(2,4-DB) Applications.
Major Advisers: Profs. Richard Behrens and A. R. Schmid.
1965. PINKAS, LEONARD LIEBER HIRSCH. B.S. '57 Cornell University; M.S. '61, Purdue University.
Major: Agronomy. Minor: Biochemistry.
Thesis: Influence of Genotype on Rate of Strontium Absorption by Barley.
Major Adviser: Prof. L. H. Smith.

1956. COLE, CLARENCE LORRAINE. B.S. '29, Michigan State College;
M.S. '36, University of Minnesota.
Major: Animal Husbandry. Minor: Dairy Husbandry.
Thesis: The Interaction of Breeding and Levels of Nutrition in Swine
(Different Crosses of Inbreds Subjected to Varied Levels of
Feeding a Balanced Ration).
Major Adviser: Prof. L. M. Winters.
1956. HALE, NATHAN STRONG. B.S. '46, University of Connecticut;
M.S. '48, University of Minnesota.
Major: Animal Husbandry. Minor: Dairy Husbandry.
Thesis: Study of Heterosis in Dairy Cattle.
Major Adviser: Prof. L. M. Winters.
1956. ORTEGA, IGNACIO VALENTE. B.S. '50, New Mexico College of Agri-
culture and Mechanic Arts; M.S. '51, University of Minnesota.
Major: Animal Husbandry. Minor: Zoology.
Thesis: A Study of the Effects of Supplemental Endocrines on the
Degree of Fertility in the Male.
Major Adviser: Prof. J. N. Cummings.
1957. BENNETT, JAMES AUSTIN. B.S. '40, M.S. '41, Utah State
Agricultural College.
Major: Animal Husbandry. Minor: Poultry Husbandry.
Thesis: An Analysis of Birth, Weaning and Feedlot Performance Data
on Beef Cattle.
Major Advisers: Profs. L. E. Hanson and W. E. Rempel.
1957. CHARETTE, LAURENT ARMAND. B.S.A. '48, Ontario Agricultural
College; M.S. '51, University of Minnesota.
Major: Animal Husbandry. Minor: Dairy Husbandry.
Thesis: Effects of Sex and Age of Male Castration on Growth and
Carcass Quality in Yorkshire Swine.
Major Advisers: Profs. R. E. Comstock and L. M. Winters.
1957. GOOD, DON LADOYT. B.S. '47, Ohio State University; M.S. '51,
Kansas State College of Agriculture and Applied Science.
Major: Animal Husbandry. Minor: Agricultural Economics.
Thesis: The Effects of Diethylstilbestrol Administered by Implan-
tation and by Ingestion on Growth, Fattening, and Carcass
Characteristics of Beef Steers.
Major Adviser: Prof. L. E. Hanson.
1957. KOLARI, OLAF E. B.S. '48, University of Minnesota.
Major: Animal Husbandry. Minor: Veterinary Science.
Thesis: Factors Affecting the Digestibility of Flax-Plant Feed
In Vitro and In Vivo.
Major Adviser: Prof. L. E. Hanson.
1957. RUTLEDGE, ELMER AL. B.S.A. '50, University of Manitoba.
Major: Animal Husbandry. Minor: Veterinary Science.
Thesis: A Study of Protein and Calcium Requirements of Baby Pigs.
Major Adviser: Prof. L. E. Hanson.

1957. SUMPTION, LAVON JOHN. B.S. with distinction '51, M.S. '55, University of Minnesota.
Major: Animal Husbandry. Minor: Zoology.
Thesis: An Analysis of the Early Development of the Minnesota No. 3 Inbred Line of Swine.
Major Advisers: Profs. L. E. Hanson and W. E. Rempel.
1958. KASHYAP, TAPESHWAR S. B.Sc. '50, Government Agricultural College (India); M.S. '56, University of Minnesota.
Major: Animal Husbandry. Minor: Dairy Husbandry.
Thesis: Relation of Complementary Milk to Production.
Major Adviser: Prof. R. E. Comstock.
1958. PELLEGRINI, LIVIA. Graduate '48, University of Florence; M.S. '55, University of Minnesota.
Major: Animal Husbandry. Minor: Veterinary Physiology.
Thesis: A Study of Vitamin E Deficiency in Pigs Fed a Torula Yeast Diet.
Major Adviser: Prof. L. E. Hanson.
1958. PETERS, HOBART FRANK. B.S.A. with distinction '45, University of Saskatchewan; M.S. '53, University of Minnesota.
Major: Animal Husbandry. Minor: Plant Genetics.
Thesis: A Genealogical Study of the Romnelet Sheep.
Major Adviser: Prof. R. E. Comstock.
1958. SALMELA, AUGUST BENHART. B.S. '43, M.S. '47, University of Minnesota.
Major: Animal Husbandry. Minor: Plant Genetics.
Thesis: The Relationship between Environment and Heredity as They Affect Feed Lot Performance and Carcass Characteristics in Swine.
Major Advisers: Profs. W. E. Rempel and L. E. Hanson.
1959. FOX, RICHARD ROMAINE. B.S. with honors '56, University of Connecticut; M.S. '58, University of Minnesota.
Major: Animal Husbandry. Minor: Dairy Husbandry.
Thesis: Relations between Backfat Thickness and Other Economic Traits in Swine.
Major Adviser: Prof. R. E. Comstock.
1959. KOHLER, PAUL HAROLD. B.S. '49, M.S. '50, South Dakota State College of Agriculture and Mechanic Arts.
Major: Animal Husbandry. Minor: Entomology.
Thesis: *In vivo* Testing of Chemicals for Control of Cattle Grubs.
Major Adviser: Prof. A. L. Harvey.
1959. REIMER, DIEDRICH. B.S.A. '50, University of Manitoba; M.S. '55, University of Minnesota.
Major: Animal Husbandry. Minors: Zoology and Statistics.
Thesis: Genetic Correlations between Growth Rate and Efficiency of Feed Utilization in Swine.
Major Adviser: Prof. R. E. Comstock.

1960. ENFIELD, FRANKLIN D. B.S. '55, Iowa State College; M.S. '57, Oklahoma State University of Agriculture and Applied Science.
Major: Animal Husbandry. Minor: Zoology.
Thesis: Quantitative Inheritance in Poultry with Special Reference to Genetic Correlations between Purebred and Crossbred Half-Sib Families.
Major Adviser: Prof. R. E. Comstock.
1960. MISHRA, HARI RAJ. G.B.V.C. '51, Bihar Veterinary College; M.S. '58, University of Minnesota.
Major: Animal Husbandry. Minor: Dairy Husbandry.
Thesis: The Development of a Selection Index for Use in Improvement of Dual Purpose Cattle.
Major Adviser: Prof. R. E. Comstock.
1960. TETER, WILLIAM SMITH. B.Sc. in Agr. '49, University of Nebraska; M.S. '57, University of Minnesota.
Major: Animal Husbandry. Minor: Veterinary Physiology.
Thesis: Phosphorus Availability and Quantitative Requirements of Swine for Growth, Gestation and Lactation.
Major Adviser: Prof. L. E. Hanson.
1961. BAKER, LAURENCE HOLLAND. B.S. '54, Iowa State College.
Major: Animal Husbandry. Minor: Statistics.
Thesis: Linkage and Heterozygosity in Finite Populations.
Major Adviser: Prof. R. E. Comstock.
1961. GREELEY, MELVIN G. B.S. '54, M.S. '57, Oklahoma State University.
Major: Animal Husbandry. Minor: Physiological Chemistry.
Thesis: Protein-Energy Interrelationships in Diets of Growing Swine.
Major Adviser: Prof. R. J. Meade.
1961. RAHNEFELD, GUNTHER WOLFGANG. B.S. in Agr. '52, M.S. '55, Montana State College.
Major: Animal Husbandry. Minor: Zoology.
Thesis: Response to Selection as Reflected in Population Performance and Combining Ability in Mice.
Major Adviser: Prof. R. E. Comstock.
1961. VOGT, DALE WILLIAM. B.S. '56, Southern Illinois University; M.S. '57, University of Minnesota.
Major: Animal Husbandry. Minor: Plant Genetics.
Thesis: Genetic Correlations between Some Economically Important Traits in Swine.
Major Adviser: Prof. R. E. Comstock.
1962. BOYLAN, WILLIAM JOHN. B.S. '52, Montana State College; M.S. '59, University of Minnesota.
Major: Animal Husbandry. Minor: Plant Genetics.
Thesis: Quantitative Inheritance in Mice as Revealed by Responses to Selection.
Major Adviser: Prof. R. E. Comstock.
1962. DETTMERS, ALMUT E. Diploma '43, State University of Posen (Germany); M.S. '55, University of Minnesota.
Major: Animal Husbandry. Minor: Dairy Husbandry.
Thesis: Selection for Small Size in Swine.
Major Adviser: Prof. R. E. Comstock.

1962. SOLDEVILA, MANUEL. B.S. in Ag. '58, University of Puerto Rico; M.S. '58, University of Minnesota.
Major: Animal Husbandry. Minor: Physiological Chemistry.
Thesis: Amino Acid Supplementation of Barley Diets for Growing Swine.
Major Adviser: Prof. R. J. Meade.
1963. PROUTY, RICHARD METCALF. B.S. '51, University of Massachusetts; M.S. '57, University of Connecticut.
Major: Animal Husbandry. Minor: Agricultural Biochemistry.
Thesis: A Study of the Effects of Selenium and Vitamin E upon the Lipid Metabolism of the Growing Pig.
Major Adviser: Prof. R. J. Meade.
1963. TAHA, AHMAD AL-HAJ. Graduate '55, Iraq Agricultural College; M.S. '59, University of Minnesota.
Major: Animal Husbandry. Minor: Veterinary Physiology and Pharmacology.
Thesis: The Effect of Roughage-Concentrate Ratios and Level and Source of Nitrogen on Nutrient Digestibility and Nitrogen Retention by Sheep.
Major Adviser: Prof. L. E. Hanson.
1964. BOYAZOGLU, PHILIP ALEXANDER. B.V.Sc. '61, University of Pretoria (South Africa).
Major: Animal Husbandry. Minor: Dairy Husbandry.
Thesis: Sulfur-Selenium-Vitamin E Interrelationships in the Nutrition of Sheep.
Major Adviser: Prof. R. J. Meade.
1964. KLAY, ROBERT FRANK. B.S. in Ag. with honors '52, Montana State College; M.S. in Ag. '58, Washington State University.
Major: Animal Husbandry. Minor: Veterinary Physiology and Pharmacology.
Thesis: Some Effects of Level of Dietary Protein on Lysine Metabolism of Growing Pigs.
Major Adviser: Prof. R. J. Meade.
1964. NORDSTROM, JAMES WILLIAM. B.S. '57, M.S. '61, University of Minnesota.
Major: Animal Husbandry. Minor: Veterinary Physiology and Pharmacology.
Thesis: Amino Acid Nutrition of Growing Swine: Influence of Source of Protein on Free Plasma Amino Acids.
Major Adviser: Prof. R. J. Meade.
1964. RANHOTRA, GURBACHAN SINGH. B.V.Sc. & A.H. '58, M.V.Sc. '60, Agra University (India).
Major: Animal Husbandry. Minor: Physiological Chemistry.
Thesis: Protein and Energy Requirements of Lambs, Weaned at Six Weeks of Age, as Determined by Growth and Digestion Studies.
Major Adviser: Prof. R. M. Jordan.

1964. SINGH, BHANU PRATAP. B.V.Sc. & A.H. '58, M.V.Sc. '61, Agra University (India).
Major: Animal Husbandry. Minor: Genetics.
Thesis: Evaluation of Performance of Breeds of Sheep at the Crossbred Level.
Major Adviser: Prof. W. E. Rempel.
1964. TUMBLESON, MYRON EUGENE. B.S. '58, M.S. '61, University of Minnesota.
Major: Animal Husbandry. Minor: Biochemistry.
Thesis: Effect of Source and Level of Dietary Protein on Liver Enzyme Systems in the Young Pig.
Major Adviser: Prof. R. J. Meade.
1964. TYPPO, JOHN TAUNO. B.S. with distinction '58, M.S. '60, University of Minnesota.
Major: Animal Husbandry. Minor: Veterinary Physiology and Pharmacology.
Thesis: The Influence of Time of Fast on Plasma Free Amino Acid Concentrations in Young Swine.
Major Adviser: Prof. R. J. Meade.
1964. WINDELS, HARVEY FLOYD. B.S. with distinction '55, M.S. '62, University of Minnesota.
Major: Animal Husbandry. Minor: Veterinary Physiology and Pharmacology.
Thesis: The Influence of Diet and of Duration of Fast upon Plasma Levels of Free Leucine, Isoleucine and Valine in the Growing Pig.
Major Adviser: Prof. R. J. Meade.
1965. DAVISON, MELVIN EVERETT. B.S. in Ag. Ed. '56, Wisconsin State College (River Falls); M.S. '58, University of Minnesota.
Major: Animal Husbandry. Minor: Microbiology.
Thesis: The Effect of Varying the Roughage to Concentrate Ratio on the Production of Volatile Fatty Acids in the Bovine Rumen with Observations on the Effect of Location of Sampling Site.
Major Adviser: Prof. L. E. Hanson.
1965. OSMAN, SALAH-EL-DIN AHMED. B.Sc. in Ag. '58, Ein Shams University (Egypt); M.S. '61, University of Minnesota.
Major: Animal Husbandry. Minor: Entomology.
Thesis: Studies on Water Balance in Rats Under Conditions of Restricted Water Supply.
Major Advisers: Profs. R. J. Meade and J. D. Smith.
1965. SEALE, MARVIN ERNEST. B.Sc. in Ag. '48, University of Alberta; M.S. '51, University of Minnesota.
Major: Animal Husbandry. Minor: Genetics.
Thesis: The Inheritance of Growth Rate in Purebred and Crossbred Lambs.
Major Adviser: Prof. R. E. Comstock.

DAIRY HUSBANDRY

1956. PLOWMAN, RONALD DEAN. B.S. '53, Utah State Agricultural College; M.S. '55, University of Minnesota.
Major: Dairy Husbandry. Minor: Animal Husbandry.
Thesis: An evaluation of a Breeding Program and Sires Used in a Selected Dairy Herd.
Major Adviser: Prof. W. E. Petersen.
1956. PORTERFIELD, IRA DEWARD. B.S. '44, University of Maryland; M.S. '50, West Virginia University.
Major: Dairy Husbandry. Minor: Animal Husbandry.
Thesis: The Response of the Mammary Gland to the Introduction of Antigens.
Major Adviser: Prof. W. E. Petersen.
1957. ERICKSON, WALLACE ELMER. B.S. '50, University of Minnesota
Major: Dairy Husbandry. Minor: Veterinary Physiology.
Thesis: Studies concerning Frozen Bovine Spermatozoa.
Major Adviser: Prof. W. E. Petersen.
1957. HASSAN, AHMED ABDEL GHANY. B.Sc. '46, Ibrahim University; M.S. '54, University of Minnesota.
Major: Dairy Husbandry. Minor: Animal Husbandry.
Thesis: Input-Output Relationship and Milk Production.
Major Adviser: Prof. W. E. Petersen.
1957. HUNSAKER, LLOYD RULON. B.S. '35, Utah State Agricultural College; M.S. '48, University of Minnesota.
Major: Dairy Husbandry. Minor: Animal Husbandry.
Thesis: The Comparative Influence of Sires Used in Artificial Insemination Versus Those Used Naturally on Butterfat Production.
Major Adviser: Prof. W. E. Petersen.
1957. NICHOLS, JAMES ROBBS. B.S. '49, University of Tennessee; M.S. '55, University of Minnesota.
Major: Dairy Husbandry. Minor: Animal Husbandry.
Thesis: Superovulation and Ova Transplantation in the Bovine.
Major Adviser: Prof. W. E. Petersen.
1957. RIVERS, PHILIP W. B.S. '36, University of Minnesota; M.S. '39, Pennsylvania State College.
Major: Dairy Husbandry. Minor: Agricultural Biochemistry.
Thesis: The Influence of Type of Activation on the Fatty Acids Resulting from Milk Lipase Action.
Major Advisers: Profs. J. J. Jezeski and W. B. Combs.
1957. STINE, CHARLES MAXWELL. B.S. with honors '51, M.S. '52, Pennsylvania State College.
Major: Dairy Husbandry. Minor: Agricultural Biochemistry.
Thesis: A Study of Lipid Oxidation in Dry Whole Milk.
Major Adviser: Prof. S. T. Coulter.

1958. FREDERICK, EDWARD CHARLES. B.S. with high distinction '54, M.S. '55, University of Minnesota.
Major: Dairy Husbandry. Minors: Veterinary Anatomy and Veterinary Physiology.
Thesis: Sexual Performance in Dairy Bulls as Related to Frequency of Ejaculation.
Major Adviser: Prof. W. E. Petersen.
1958. JONES, DAVID EMERSON. B.S. '38, South Dakota State College; M.S. '39, Oklahoma Agricultural and Mechanical College.
Major: Dairy Husbandry. Minor: Agricultural Economics.
Thesis: The Relationships of Forage Feeding to Dairy Production Costs.
Major Adviser: Prof. J. D. Donker.
1958. MYHR, ALLAN NORMAN. B.S.A. with distinction '49, University of Saskatchewan; M.S. '52, University of Minnesota.
Major: Dairy Husbandry. Minor: Agricultural Biochemistry.
Thesis: The Effect of Environmental Factors on Thermal Resistance of Micrococci and Associated Organisms in Milk.
Major Adviser: Prof. J. D. Olson, Jr.
1958. SARWAR, MOHAMMAD. G.V.Sc. '40, Bengal Veterinary College; M.S. '56, University of Minnesota.
Major: Dairy Husbandry. Minor: Veterinary Bacteriology.
Thesis: The Production of Antibodies in the Bovine Mammary Gland, Their Use in Prophylaxis and Therapeutics; with Special Reference to Some Calf Pathogens.
Major Adviser: Prof. W. E. Petersen.
1958. SCHULTZE, WALTER DONALD. B.A. '48, University of Pennsylvania; M.S. '51, University of Wisconsin.
Major: Dairy Husbandry. Minor: Agricultural Biochemistry.
Thesis: An Investigation of Psychrophilic Bacteria: I. The Nature and Distribution of Psychrophilic Bacteria in Commercially Pasteurized Dairy Products; II. Studies of the Influence of Growth and Reaction Temperature on the Metabolism of a Typical Psychrophile.
Major Adviser: Prof. J. C. Olson, Jr.
1959. REBHAN, HERBERT JOSEPH. B.S. '55, University of Kentucky; M.S. '56, University of Minnesota.
Major: Dairy Husbandry. Minor: Physiological Chemistry.
Thesis: The Effect of Condition on Maintenance Requirements and a Related Study of Factors Affecting Creatinine Excretion.
Major Adviser: Prof. J. D. Donker.
1959. VENKATASWAMI, VALLAM. B.A. '46, B.V.Sc. '50, University of Madras; M.S. '55, University of Minnesota.
Major: Dairy Husbandry. Minor: Animal Husbandry.
Thesis: A Study of Factors Influencing the Frequency Distribution of Returns of Cows Bred Artificially with Fluid and Frozen Semen.
Major Advisers: Profs. W. E. Petersen and E. F. Graham.

1959. WILCOX, CLIFFORD LAVAR. B.S. '51, Utah State Agricultural College; M.S. '57, University of Minnesota.
Major: Dairy Husbandry. Minor: Animal Husbandry.
Thesis: An Analysis of Production Records Comparing Dairy Sire Progeny Testing Systems in Artificial Breeding.
Major Adviser: Prof. C. L. Cole.
1960. PACKARD, VERNAL SIDNEY, JR. B.S. '54, University of Maine.
Major: Dairy Husbandry. Minor: Agricultural Biochemistry.
Thesis: A Study of Some Factors Involved in Milk Lipase Action.
Major Adviser: Prof. J. J. Jezeski.
1960. STRUSS, HERBERT EDWIN. B.Sc. '51, Rutgers University; M.S. '55, University of Minnesota.
Major: Dairy Husbandry. Minor: Animal Husbandry.
Thesis: The Effect of Intramammary Infusions of Antigens on Milk Production.
Major Adviser: Prof. W. E. Petersen.
1961. AVERY, THOMAS LEE. B.S. '56, University of Tennessee; M.S. '57, University of Minnesota.
Major: Dairy Husbandry. Minor: Animal Husbandry.
Thesis: Investigations Associated with the Transplantation of Bovine Ova.
Major Adviser: Prof. E. F. Graham.
1962. AHLUWALIA, BALWANT SINGH. B.V.Sc. & A.H. '55, U. P. College of Veterinary Science and Animal Husbandry (India); M.S. '59, University of Minnesota.
Major: Dairy Husbandry. Minor: Veterinary Physiology and Pharmacology.
Thesis: Some Biochemical Aspects of Fowl Semen.
Major Adviser: Prof. E. F. Graham.
1962. CLARK, JOHN BARRINGTON KAY. B.Sc. '50, University of Edinburgh; M.S. '62, University of Minnesota.
Major: Dairy Husbandry. Minors: Physiological Chemistry and Zoology.
Thesis: The Isolation of Polyhydric Alcohols from Bovine Semen: Their Utilization, and Their Effects in Semen Extenders.
Major Adviser: Prof. E. F. Graham.
1962. DUKELOW, WILLIAM RICHARD. B.S. '57, M.S. '58, University of Minnesota.
Major: Dairy Husbandry. Minor: Zoology.
Thesis: A Study of Factors Relating to the Freezing Characteristics of Porcine Semen.
Major Adviser: Prof. E. F. Graham.
1962. OLSON, WILLIAM ARTHUR. B.S. '54, M.S. '60, University of Minnesota.
Major: Dairy Husbandry. Minor: Physiological Chemistry.
Thesis: Factors Influencing the Utilization of Lipid Materials by the Dairy Calf.
Major Adviser: Prof. J. B. Williams.

1962. SINGH, VIPIN KUMAR. B.V.Sc. & A.H. '56, University of Agra; M.S. '58, University of Minnesota.
Major: Dairy Husbandry. Minor: Animal Husbandry.
Thesis: Feed Additives in Livestock Rations: I. Urea in Dairy Rations; II. Use of Thyroprotein in Cattle Nutrition.
Major Adviser: Prof. J. D. Donker.
1962. WILK, JOHN CLARK. B.S. '51, Kansas State University; M.S. '60, University of Minnesota.
Major: Dairy Husbandry. Minors: Animal Husbandry and Plant Genetics.
Thesis: Genetic and Phenotypic Relationships between Certain Body Measurements and Milk Production in Dairy Cattle.
Major Adviser: Prof. C. L. Cole.
1963. CARUOLO, EDWARD VITANGELO. B.S. in Agric. '53, University of Rhode Island; M.S. '55, University of Connecticut.
Major: Dairy Husbandry. Minor: Physiology.
Thesis: The Unequal Milking Interval Effect on Milk Production in the Dairy Cow.
Major Adviser: Prof. J. D. Donker.
1963. GERRITS, ROGER JOHN. B.S. '58, Wisconsin State College (River Falls); M.S. '60, University of Minnesota.
Major: Dairy Husbandry. Minor: Zoology.
Thesis: Investigations on Control and Synchronization of Estrus and Other Factors Affecting Artificial Insemination of Swine.
Major Adviser: Prof. E. F. Graham.
1963. SHARMA, VED VRATA. B.Sc. (Agric.) '49, M.Sc. (Agric.) '51, Agra University (India).
Major: Dairy Husbandry. Minor: Physiological Chemistry.
Thesis: Some Aspects of Nitrogen Metabolism in Cattle.
Major Adviser: Prof. J. D. Donker.
1964. FAHNING, MELVYN LUVERNE, B.S. '58, M.S. '60, University of Minnesota.
Major: Dairy Husbandry. Minor: Veterinary Physiology and Pharmacology.
Thesis: Some Chemical Analysis of Bovine Uterine Fluid and Blood Serum.
Major Adviser: Prof. E. F. Graham.
1964. GEORGE, ELMER, JR. B.S. '54, M.S. '56, Utah State University.
Major: Dairy Husbandry. Minor: Agricultural Biochemistry.
Thesis: Presence and Growth of Staphylococci in Milk and Condensed Milks.
Major Adviser: Prof. J. C. Olson, Jr.
1964. JADHAV, DASHARATH SAVALA. B.Sc. '55, Bombay Veterinary College; M.S. '62, University of Minnesota.
Major: Dairy Husbandry. Minor: Veterinary Bacteriology.
Thesis: Studies on Raising Holstein Males for Meat and an Associated Study Regarding Their Feedlot Activities.
Major Adviser: Prof. J. D. Donker.

1964. LINNERUD, ARDELL CHESTER. B.S. '53, Wisconsin State College (River Falls); M.S. '62, University of Minnesota.
Major: Dairy Husbandry. Minor: Animal Husbandry.
Thesis: The Secretion Rate of Milk and Milk Components as Affected by Intervals of Milking.
Major Advisers: Profs. J. D. Donker and C. E. Gates.
1964. MARX, GEORGE DONALD. B.S. '58, Wisconsin State College (River Falls); M.S. '60, South Dakota State College.
Major: Dairy Husbandry. Minor: Zoology.
Thesis: Immunological and Cytological Responses of the Bovidae to Intramammary Infusion of Antigens.
Major Adviser: Prof. E. F. Graham.
1964. RAJAMANNAN, AMBROSE HARRY. G.V.Sc. '55, Bengal Veterinary College; M.S. '62, University of Minnesota.
Major: Dairy Husbandry. Minor: Veterinary Anatomy.
Thesis: The Effect of Various Egg Yolk Fractions on Fertility of Bovine Spermatozoa.
Major Adviser: Prof. E. F. Graham.
1964. RAJU, KAMMULA GANGA. B.V.Sc. '57, University of Madras (India); M.S. '61, University of Minnesota.
Major: Dairy Husbandry. Minor: Physiological Chemistry.
Thesis: Electrolyte Balances in Normal and Diarrheic Dairy Calves.
Major Adviser: Prof. J. D. Donker.
1964. REDDY, REDLAREPAKA RAMCHANDRA. B.V.Sc. '56, Osmania University; M.Sc. '60, University of Nebraska.
Major: Dairy Husbandry. Minor: Veterinary Bacteriology.
Thesis: The Effects of Changing the Interval between Nursings and the Number of Young in Litters on the Milk Production of Albino Rats.
Major Adviser: Prof. J. D. Donker.
1964. SINGH, HARBANS. B.V.Sc. & A.H. '55, U. P. College of Veterinary Science and Animal Husbandry (India).
Major: Dairy Husbandry. Minor: Physiological Chemistry.
Thesis: Developments in Forage Evaluation.
Major Adviser: Prof. J. D. Donker.
1964. WOOD, ASTON SYLVESTER. B.S. '59, The Agricultural and Technical College of North Carolina; M.S. '61, University of Minnesota.
Major: Dairy Husbandry. Minor: Agricultural Biochemistry.
Thesis: A Study of the Progressive and Total Digestibility of Three Skim Milks Fed to Young Calves.
Major Adviser: J. B. Williams.
1965. NELSON, MARVIN LYLE. B.S. '52, M.S. '59, University of Minnesota.
Major: Dairy Husbandry. Minors: Veterinary Anatomy and Physiology.
Thesis: A Study of the Genetic Relationships of Solids-Not-Fat Production in Bovine Milk.
Major Adviser: Prof. C. L. Cole.

1965. PURSEL, VERNON GEORGE. B.S. in Agric. '58, University of Nevada; M.S. '61, University of Minnesota.
Major: Dairy Husbandry. Minor: Veterinary Physiology and Pharmacology.
Thesis: Studies concerning the Effect of Glycerol Equilibration on Survival of Frozen Spermatozoa and the Lipid Composition of Bovine Spermatozoa and Seminal Plasma.
Major Adviser: Prof. E. F. Graham.
1965. ROSE, FRANK AMBROSE. B.S. '54, North Dakota State University; M.S. '60, University of Minnesota.
Major: Dairy Husbandry. Minors: Animal Husbandry and Genetics.
Thesis: Heritability of Persistency and the Genetic Relationship of Persistency with Production Traits.
Major Adviser: Prof. C. L. Cole.
1966. CONLIN, BERNARD JOSEPH. B.S. '57, M.S. '63, University of Wisconsin.
Major: Dairy Husbandry. Minor: Genetics.
Thesis: Genetic Variation among and within Sire Families in an Artificial Insemination Population.
Major Adviser: Prof. C. L. Cole.
1966. FISHER, GEORGE ROBERT. B.S. '51, University of Minnesota.
Major: Dairy Husbandry. Minor: Animal Husbandry.
Thesis: Investigations on Bovine Semen Extenders and Their Application.
Major Adviser: Prof. E. F. Graham.
1966. MILLER, GARTH EDWARD. B.S. with high distinction '60, M.S. '63, University of Minnesota.
Major: Dairy Husbandry. Minor: Veterinary Physiology Pharmacology.
Thesis: Factors Affecting the Passage of Weak Organic Acids and Bases into Bovine Milk.
Major Adviser: Prof. C. L. Cole.

DAIRY INDUSTRIES

1960. RICHARDSON, LIONEL ALEXANDER. B.S.Agr. '53, West Virginia University; M.S.Agr. '54, University of Kentucky.
Major: Dairy Industries. Minor: Agricultural Biochemistry.
Thesis: An Investigation of the Sorption of Water by Milk Proteins.
Major Adviser: Prof. H. A. Morris.
1961. PYNE, CHARLES HERBERT. B.S. '51, University of Rhode Island; M.S. '55, Cornell University.
Major: Dairy Industries. Minor: Agricultural Biochemistry.
Thesis: Reconstitution of Dry Milk Products.
Major Adviser: Prof. S. T. Coulter.
1963. ANDERSON, ROBERT JAMES. B.S. '55, M.S. '58, University of Minnesota.
Major: Dairy Industries. Minor: Agricultural Economics.
Thesis: The Effect of Heat Treatment on Some Chemical and Physical Properties of Ice Cream Mix.
Major Adviser: Prof. E. L. Thomas

1963. GELDA, CHATER SEN. B.Sc.(Agric.) '48, Allahabad University;
M.S. '58, University of Minnesota.
Major: Dairy Industries. Minor: Agricultural Economics.
Thesis: An Investigation of Flavor Defects in Milk Associated with
Sanitizers and Other Chemical Agents.
Major Adviser: Prof. E. L. Thomas.
1963. HOBBS, WILLIAM EDWARD. B.S. '42, Alcorn A. & M. College; M.S.
'53, University of Massachusetts.
Major: Dairy Industries. Minor: Agricultural Biochemistry.
Thesis: A Study of the Fortification of Fluid Milk and Milk Products
with Nonfat Dry Milk.
Major Adviser: Prof. S. T. Coulter.
1963. SHERBON, JOHN WALTER. B.S. in Agric. with honors '55, Washington
State University; M.S. '58, University of Minnesota.
Major: Dairy Industries. Minor: Physical Chemistry.
Thesis: The Physical State and Thermodynamic Properties of Selected
Milk Fat Systems.
Major Adviser: Prof. S. T. Coulter.
1964. WEIK, ROBERT WHITE. B.S. in Agric. '55, West Virginia University;
M.S. '57, University of Minnesota.
Major: Dairy Industries. Minor: Agricultural Biochemistry.
Thesis: A Study of Cheddar Cheese Hardness and Some Associated Physical
Characteristics.
Major Adviser: Prof. H. A. Morris.
1964. ZOTTOLA, EDMUND ANTHONY. B.S. '54, M.S. '58, Oregon State College.
Major: Dairy Industries. Minor: Agricultural Biochemistry.
Thesis: Thermal Destruction Studies on Staphylococcus aureus in Milk
Using Short Time Exposures.
Major Adviser: Prof. J. J. Jezeski.
1965. CLAYPOOL, LARRY LEE. B.S. '53, Southwest Missouri State College;
M.S. '58, University of Minnesota.
Major: Dairy Industries. Minor: Biochemistry.
Thesis: Studies on Milk Lipase Activation.
Major Adviser: Prof. J. J. Jezeski.
1966. STOLL, WILLIAM FRANCIS. B.S. '55, M.S. '57, Iowa State University.
Major: Dairy Industries. Minor: Biochemistry.
Thesis: Syneresis of Rennet-Formed Milk Gels.
Major Adviser: Prof. H. A. Morris.

ENTOMOLOGY

1956. LEVIN, MARSHALL DAVID. B.A. '47, University of Connecticut;
M.S. '49, University of Minnesota.
Major: Entomology. Minor: Agricultural Biochemistry.
Thesis: The Comparative Value of Different Pollens in the Nutrition
of Osmia lignaria Say (Hymenoptera-Apoidea).
Major Adviser: Prof. M. H. Haydak.

1957. AGRAWAL, NARAYAN SWARUP. B.Sc.(Ag.) '47, M.Sc.(Ag.) '49, Government Agricultural College at Kanpur.
Major: Entomology. Minor: Plant Pathology.
Thesis: A Study of the Relations of Granary Insects to the Occurrence and Abundance of Storage Molds of Grain.
Major Adviser: Prof. A. C. Hodson.
1957. IGNOFFO, CARLO MICHAEL. B.S. '50, Northern Illinois State Teachers College; M.S. '54, University of Minnesota.
Major: Entomology. Minor: Plant Pathology.
Thesis: The Life History and Gall Development of Mordwilkoja vagabunda Walsh, (Homoptera: Aphididae), on Populus deltoides Marsh.
Major Adviser: Prof. A. C. Hodson.
1957. MCCONNELL, ELLICOTT. B.S. '49, University of Connecticut; M.S. '53, University of Minnesota.
Major: Entomology. Minor: Bacteriology.
Thesis: The Production by Bacillus thuringiensis Berliner of a Heat-stable Substance Toxic for Insects.
Major Adviser: Prof. A. G. Richards.
1957. PRASAD, SHREE KRISHNA. B.Sc.Ag. '48, Kanpur Government Agricultural College; Graduate '52, Indian Agricultural Research Institute.
Major: Entomology. Minor: Agronomy.
Thesis: The Nature and Extent of Damage to Crucifers and Potatoes in Relation to Density of Insect Populations.
Major Adviser: Prof. A. C. Hodson.
1958. AL RAWY, MOHAMMED AMMAR. Graduate '52, Baghdad Higher Teacher's College; M.S. '56, University of Minnesota.
Major: Entomology. Minor: Plant Pathology.
Thesis: The Effect of Constant and Alternating Temperatures and Various Relative Humidities on Growth, Survival and Reproduction of Tribolium confusum Duval.
Major Adviser: Prof. A. C. Hodson.
1958. EWAN, HERBERT GEORGE. B.S. '51, University of Wisconsin; M.S. '53, Marquette University.
Major: Entomology. Minor: Plant Pathology.
Thesis: Population Measurements and Host Damage Potential of the Saratoga Spittlebug.
Major Adviser: Prof. A. C. Hodson.
1958. GOVINDAN, MUTHUSWAMY. B.Sc.Ag. '48, University of Madras; A.I.A.R.I. '51, Indian Agricultural Research Institute.
Major: Entomology. Minor: Agricultural Biochemistry.
Thesis: The Influence of Temperature and Exposure Time on the Effectiveness of Carbon Disulphide against the Confused Flour Beetle.
Major Adviser: Prof. L. K. Cutkomp.
1958. KRAFT, KENNETH JAMES. B.S. '52, Bemidji State Teachers College; M.S. '53, University of North Dakota.
Major: Entomology. Minor: Botany.
Thesis: A revision of the Pachygasterinae (Diptera: Stratiomyidae) of North America North of Mexico.
Major Adviser: Prof. E. F. Cook.

1958. SMITH, DEAN SEYWARD. B.Sc. '37, University of Manitoba; M.S. '48, University of Minnesota.
Major: Entomology. Minor: Agricultural Biochemistry.
Thesis: The Utilization of Food Plants by the Grasshopper, Melanoplus mexicanus mexicanus (Sauss.).
Major Adviser: Prof. A. C. Hodson.
1958. VAN WYK, JESSE HUGGETT. B.S. '52, M.S. '55, University of Stellenbosch.
Major: Entomology. Minor: Plant Pathology.
Thesis: A Study of Relationships between the Confused Flour Beetle (Tribolium confusum Duval) and Associated Microorganisms in Flour and Wheat.
Major Adviser: Prof. A. C. Hodson.
1959. FOOTT, WILLIAM HENRY. B.S.A. '51, University of Manitoba; M.S.A. '53, University of Toronto.
Major: Entomology. Minors: Horticulture and Plant Pathology.
Thesis: The Effects of Interspecific Competition on Populations of the European Red Mite, Panonychus ulmi (Koch), and the Two-Spotted Spider Mite, Tetranychus telarius (L.)
Major Adviser: Prof. A. C. Hodson.
1959. FURGALA, BASIL. B.S.A. '53, M.Sc. '54, University of Manitoba.
Major: Entomology. Minor: Botany
Thesis: A Study of the Preferential Responses of Honey Bees Foraging Various Legumes in Northern Minnesota, and Certain Factors Affecting These Responses.
Major Adviser: Prof. F. G. Holdaway.
1959. LI, CHING SING. B.S. '40, National Sun Yat-Sen University; M.S. '55, University of Minnesota.
Major: Entomology. Minor: Agronomy.
Thesis: The Genera Epilachna and Afidenta of the Sub-family Epilachninae (Coccinellidae, Coleoptera) in Formosa.
Major Adviser: Prof. E. F. Cook.
1959. PATEL, NARAYAN GANESH. B.Sc. '50, University of Bombay; M.Sc. '52, University of Poona.
Major: Entomology. Minor: Agricultural Biochemistry.
Thesis: Toxicity Studies of Some Proteolytic Enzymes to the House Fly (Musca domestica L.).
Major Adviser: Prof. L. K. Cutkomp.
1959. PIPA, RUDOLPH LOUIS. B.S. '52, Teachers College of Connecticut; M.S. '55, University of Connecticut.
Major: Entomology. Minor: Botany.
Thesis: The Gross Anatomy and Histology of the Thoracic Nervous System of the Adult American Cockroach, Periplaneta americana (L.)
Major Adviser: Prof. E. F. Cook.
1959. TRIPATHI, RAM LAKHAN. B.Sc.(Ag.) '51, M.Sc.(Ag.) '53, Government Agricultural College (Kanpur).
Major: Entomology. Minor: Plant Pathology.
Thesis: Interspecific Competition between Rice Weevil, Sitophilus oryza (Linn) and Granary Weevil, Sitophilus granarius (Linn).
Major Adviser: Prof. A. C. Hodson.

1959. TURNOCK, WILLIAM JAMES. B.S.A. '49, University of Manitoba; M.S. '51, University of Minnesota.
Major: Entomology. Minor: Botany.
Thesis: Emergence of the Larch Sawfly, Pristiphora erichsonii (Hartig) in Relation to Soil Temperature and Weather Patterns.
Major Adviser: Prof. A. C. Hodson.
1960. KELLEHER, JAMES STEWART. B.S. '52, University of Manitoba; M.S. '55, Iowa State College.
Major: Entomology. Minor: Plant Pathology.
Thesis: Life-History and Ecology of Doryphorophaga doryphorae (Riley), a Tachinid Parasite of the Colorado Potato Beetle.
Major Adviser: Prof. A. C. Hodson.
1960. KOLKAILA, AHMAD M. B.Sc. (honors) '50, M.Sc. '54, University of Alexandria.
Major: Entomology. Minors: Plant Pathology and Agronomy.
Thesis: Electrical Responses of the Eyes of Aedes aegypti L. Larvae Stimulated by Visible Light and the Effect of Insecticides on Their Nerve Action Potentials.
Major Adviser: Prof. L. K. Cutkomp.
1960. KULMAN, HERBERT MARVIN. B.S. '52, The Pennsylvania State University; M.F. '55, Duke University.
Major: Entomology. Minor: Forestry.
Thesis: Nature and Effects of Defoliation of Jack and Red Pine by the Jack-Pine Budworm, Choristoneura pinus Free. (Lepidoptera: Tortricidae), and the Occurrence of Budworm Parasites at Particular Locations within Stands and Trees.
Major Adviser: Prof. A. C. Hodson.
1960. LOAN, CHARLES CONRAD. B.A. '50, McMaster University; M.S. '53, University of Minnesota.
Major: Entomology. Minor: Botany.
Thesis: The Biology of Insect Parasites of the Genus Sitona Germar (Coleoptera: Curculionidae).
Major Adviser: Prof. F. G. Holdaway.
1960. LYONS, LESLIE ALLAN. B.Sc.(agr.) '50, McGill University; M.A. '53, University of Toronto.
Major: Entomology. Minors: Biostatistics and Botany.
Thesis: Population Studies on Neodiprion swainei Middleton (Hymenoptera: Diprionidae) in Quebec.
Major Adviser: Prof. A. C. Hodson.
1960. MISRA, CHANDRA PRAKASH. B.S. '49, M.S. '51, Agra University.
Major: Entomology. Minors: Botany and Plant Pathology.
Thesis: Studies on the Relationship between Sitotroga cerealella Oliv. (Angoumois Grain Moth), Plodia interpunctella Hbn. (Indian Meal Moth) and Storage Fungi.
Major Adviser: Prof. A. C. Hodson.
1960. SHEPHERD, ROY FRANK. G.S.F. '52, University of British Columbia; M.S. '55, University of Minnesota.
Major: Entomology. Minors: Botany and Biostatistics.
Thesis: Distribution of the Black Hills Beetle over the Host Tree and Factors Controlling the Attraction and Behavior of the Adult.
Major Adviser: Prof. A. C. Hodson.

1960. WOODRING, JOSEPH PORTER, JR. B.S. '54, Pennsylvania State University; M.S. '58, University of Minnesota.
Major: Entomology. Minors: Zoology and Statistics.
Thesis: The Biology of Ceratozetes cisalpinus Berlese, Schleoribates laevigatus Koch, and Oppia neerlandica Oudemans (Oribatei), with a Description of All Stages.
Major Adviser: Prof. E. F. Cook.
1961. MUTCHMOR, JOHN ALEXANDER. B.Sc. '50, University of Alberta; M.S. '55, University of Minnesota.
Major: Entomology. Minor: Agricultural Biochemistry.
Thesis: Low Temperature Tolerance of Insects in Relation to the Influence of Temperature on Muscle Apyrase Activity.
Major Adviser: Prof. A. G. Richards.
1961. SCHARFF, DONALD KENNETH. B.S. '47, M.S. '50, Montana State College.
Major: Entomology. Minor: Botany.
Thesis: Ecology of the Migratory Grasshopper (Melanoplus bilituratus) on Montana Grasslands.
Major Adviser: Prof. A. C. Hodson.
1962. MEADE, ALSTON BANCROFT. B.A. '56, Fisk University; M.S. '59, University of Minnesota.
Major: Entomology. Minor: Plant Pathology.
Thesis: The Origin and Development of Populations of the Six-Spotted Leafhopper, Macrosteles fascifrons (Stal.), on an Area Basis.
Major Adviser: Prof. A. G. Peterson.
1962. NEILSON, MURRAY MORRIS. B.S. '53, University of New Brunswick; M.S. '57, University of Minnesota.
Major: Entomology. Minor: Agricultural Biochemistry.
Thesis: Pathogenicity and Host Relationships of a Cytoplasmic Polyhedrosis Virus Introduced against the Winter Moth, Operophtera brumata (L.) (Geometridae; Lepidoptera) in Nova Scotia.
Major Adviser: Prof. A. C. Hodson.
1962. OSGOOD, EBEN AVERILL, JR. B.S. '51, University of Maine; M.F. '56, Duke University.
Major: Entomology. Minor: Botany.
Thesis: Population Dynamics of Insects on Suckers of Quaking Aspen, Populus tremuloides Michx. with Spreial Emphasis on the Spotted Poplar Aphid, Aphis maculate Oestlund and the Willow Shoot Sawfly, Janus abbreviatus (Say).
Major Adviser: Prof. A. C. Hodson.
1962. SCHMIEGE, DONALD CHARLES. B.S. '52, M.S. '58, University of Minnesota.
Major: Entomology. Minor: Plant Pathology.
Thesis: The Biology and Host-Parasite Relationships of a Neoplectanid Nematode Parasitic on Some Forest Insect Pests.
Major Adviser: Prof. A. C. Hodson.
1962. SCHURR, KARL MAX. B.S. '56, M.A. '58, Bowling Green State University.
Major: Entomology. Minor: Botany.
Thesis: Some Factors Affecting Oviposition in the European Corn Borer, Ostrinia nubilalis (Hub.).
Major Adviser: Prof. F. G. Holdaway.

1962. WILSON, LOUIS FREDERICK. B.S. '55, M.S. '57, Marquette University.
Major: Entomology. Minor: Botany.
Thesis: Host and Location Preference for Oviposition by the Spruce
Budworm, Choristoneura fumiferana (Clem.), (Lepidoptera:
Tortricidae).
Major Adviser: Prof. A. C. Hodson.
1963. ABDEL-RAHMAN, HASHIM ALY. B.Sc.(honors) '54, M.Sc. '58, Ain Shams
University (Egypt).
Major: Entomology. Minor: Plant Pathology.
Thesis: A Study on the Ecology of the Indian Meal Moth, Plodia
interpunctella Hb., with Emphasis on Its Relation to Stored Grain
Fungi.
Major Adviser: Prof. A. C. Hodson.
1964. CARNEY, GORDON COLQUHOUN. B.S. in Agric. '57, M.S. '60, University
of Durham (England).
Major: Entomology. Minor: Agricultural Biochemistry.
Thesis: The Effects of Ionizing Radiation on the Sarcosomes of House-
fly Flight Muscle.
Major Advisers: Profs. F. G. Holdaway and F. A. Spurrell.
1964. FRANKLIN, RUDOLPH THOMAS. B.A. '50, Emory University; M.S. '55,
University of Georgia.
Major: Entomology. Minor: Plant Pathology.
Thesis: The Influence of Soil Fertility and Resistance on Injury to
Corn by the European Corn Borer.
Major Adviser: Prof. F. G. Holdaway.
1964. KIM, KE CHUNG. B.S. '56, Seoul National University; M.A. '59,
Montana State University.
Major: Entomology. Minors: Biostatistics and Zoology.
Thesis: A Revision of the Genus Sphaerocera Latreille (Sphaeroceridae,
Diptera) of the Nearctic Region.
Major Adviser: Prof. E. F. Cook.
1964. LEE, WEN-YUNG. B.S. in Agric. '55, Taiwan Provincial College of
Agriculture; M.S. '59, National Taiwan University.
Major: Entomology. Minor: Plant Pathology.
Thesis: A Study of the Development of the Masculature from the Larva
to the Adult in Tenebrio Molitor L. (Tenebrioniade, Coleoptera).
Major Adviser: Prof. E. F. Cook.
1964. PETERS, THOMAS MICHAEL. B.S. '59, Long Beach State College; M.S.
'61, University of Minnesota.
Major: Entomology. Minor: Plant Pathology.
Thesis: A Taxonomic Study of the Nearctic Dixidae (Diptera).
Major Adviser: Prof. E. F. Cook.
1964. STEHR, FREDERICK WILLIAM. B.S. with high honors '54, Ohio
University; M.S. '58, University of Minnesota.
Major: Entomology. Minor: Botany.
Thesis: A Revision of the Genus Malacosoma Hubner (Lepidoptera:
Lasiocampidae) in North America.
Major Adviser: Prof. E. F. Cook.

1964. TAYLOR, RONALD LEE. B.A. with distinction '60, San Jose State College; M.S. '62, University of Minnesota.
Major: Entomology. Minor: Botany.
Thesis: Integumentary Changes during Moulting of Arthropods with Special Reference to the Subcuticle and Ecdysial Membrane.
Major Adviser: Prof. A. G. Richards.
1965. BATZER, HAROLD OTTO. B.S. '52, M.S. '55, University of Minnesota.
Major: Entomology. Minor: Botany.
Thesis: Damage by the Spruce Budworm (Choristoheura Fumiferana [Clemens]) in Northeastern Minnesota as Affected by Stand Conditions and Forest Management Practices.
Major Adviser: Prof. A. C. Hodson.
1965. GRABLE, ALBERT EARNEST. B.A. '59, La Sierra College; M.S. '62, University of Minnesota.
Major: Entomology. Minor: Botany.
Thesis: The Seasonal Abundance and Biology of the Aphidiid Wasps Which Attack Aphids; Occurring on Forage Legume Crops in Minnesota (Hymenoptera: Aphidiidae-Homoptera: Aphididae).
Major Adviser: Prof. F. G. Holdaway.
1965. SAINI, RAJINDER SINGH. B.Sc.(Agric.) '53, Punjab University (India); M.S. '62, University of Minnesota.
Major: Entomology. Minor: Plant Pathology.
Thesis: The Ovicidal Effects of Phorate (O,O-Diethyl S-(Ethylthiomethyl) Phosphorodithioate) on Six-Spotted Leafhopper, Macrosteles Fascifrons (Stal.).
Major Adviser: Prof. L. K. Cutkomp.
1966. DIETZ, ALFRED. B.S. in Ed. '61, University of Kansas; M.S. '64, University of Minnesota.
Major: Entomology. Minor: Biochemistry.
Thesis: The Influence of Environmental and Nutritional Factors on Growth and Caste Determination of Female Honey Bees.
Major Adviser: Prof. M. H. Haydak.
1966. MAKKY, ABDEL-MONEIM MOHAMED. B.Sc. '52, M.Sc. '57, University of Cairo; M.S. '61, University of Minnesota.
Major: Entomology. Minor: Organic Chemistry.
Thesis: Radioactive Nicotine Biosynthesis, Toxicity, and Metabolism.
Major Adviser: Prof. E. Leete.

FISHERIES AND WILDLIFE

1957. FRENZEL, LOUIS DANIEL, JR. B.S. '47, M.S. '48, North Texas State Teachers College.
Major: Fishery and Wildlife Management. Minor: Botany.
Thesis: A Study of Small-Mammal Populations of State Island, Basswood Lake, Minnesota.
Major Adviser: Prof. W. H. Marshall.
1957. HARRIS, STANLEY WARREN. B.S. with honors '50, M.S. '52, The State College of Washington.
Major: Fishery and Wildlife Management. Minor: Botany.
Thesis: Ecological Effects of Drawdown Operations for the Purpose of Improving Waterfowl Habitat.
Major Adviser: Prof. W. H. Marshall.

1959. ENG, ROBERT LLOYD. B.S. '50, South Dakota State College; M.S. '52, Montana State College of Agriculture and Mechanic Arts.
Major: Fishery and Wildlife Management. Minor: Botany.
Thesis: A Study of the Ecology of Male Ruffed Grouse (Bonasa umbellus L.) on the Cloquet Forest Research Center, Minnesota.
Major Adviser: Prof. W. H. Marshall.
1959. FRANKLIN, DONALD RAYMOND. B.S. with distinction '50, University of Minnesota.
Major: Fishery and Wildlife Management. Minor: Biostatistics.
Thesis: Some Phases of the Early Life History of the Northern Pike, Esox lucius L., with Special Reference to the Factors Influencing the Numerical Strength of Year Classes.
Major Adviser: Prof. L. L. Smith, Jr.
1959. LAAKSO, MARTIN. B.E. with honor '36, Winona State Teachers College; M.S. '50, Montana State College.
Major: Fishery and Wildlife Management. Minor: Botany
Thesis: The Influence of Population Density and Harvesting Techniques on Growth of the Common Guppy Lebistes reticulatus.
Major Adviser: Prof. L. L. Smith, Jr.
1959. MACLEOD, CHARLES FRANKLYN. B.Sc.A. '48, McGill University; M.A. '50, University of British Columbia.
Major: Fishery and Wildlife Management. Minors: Biostatistics and Botany.
Thesis: The Population Dynamics of Unconfined Populations of the House Mouse (Mus musculus L.) in Minnesota.
Major Advisers: Profs. J. R. Beer and W. H. Marshall.
1960. TESTER, JOHN ROBERT. B.S. with distinction '51, University of Minnesota; M.S. '53, Colorado Agricultural and Mechanical College.
Major: Fishery and Wildlife Management. Minor: Botany.
Thesis: A Study of Certain Plant and Animal Interrelations on a Native Prairie in Northwestern Minnesota.
Major Adviser: Prof. W. H. Marshall.
1961. KRAMER, ROBERT HENRY. B.A. '54, B.S. '54, Bemidji State College; M.S. '60, University of Minnesota.
Major: Fishery and Wildlife Management. Minor: Biostatistics.
Thesis: The Early Life History of the Large-mouth Bass, Micropterus salmoides (Lacepede), with Special Reference to Factors Influencing Year-class Strength.
Major Adviser: Prof. L. L. Smith.
1962. BUTLER, ROBERT L. B.A. '40, Park College; M.S. '51, University of Minnesota.
Major: Fishery and Wildlife Management. Minor: Botany.
Thesis: The Status of the Freshwater Drum, Aplodinotus grunniens Rafinesque; in the Commercial Fishery of the Upper Mississippi River.
Major Adviser: Prof. L. L. Smith.
1963. SEABLOOM, ROBERT WALLACE. B.A. '53, M.S. '58, University of Minnesota.
Major: Fishery and Wildlife Management. Minor: Forestry.
Thesis: Adrenocortical Activity in the Meadow Vole.
Adviser: Prof. J. R. Beer.

1964. MACLEOD, JOHN CAMERON. B.Sc. with honors '58, M.Sc. '60, University of British Columbia.
Major: Fisheries and Wildlife. Minor: Zoology.
Thesis: Effects of Suspended Paper Wood Fiber on Oxygen Consumption and Swimming Endurance of the Fathead Minnow, Pimephales promelas.
Major Adviser: Prof. L. L. Smith, Jr.
1964. OLSON, DAVID PETER. B.S. with distinction '54, University of Minnesota; M.S. '58, University of Maine.
Major: Fisheries and Wildlife. Minor: Botany.
Thesis: A Study of Canvasback and Redhead Breeding Populations, Nesting Habitats, and Productivity.
Major Adviser: Prof. W. H. Marshall.
1964. PETERKA, JOHN JOSEPH. B.S. in Ed. with honors '58, Eastern Illinois University; M.S. '61, University of Wisconsin.
Major: Fisheries and Wildlife. Minor: Botany
Thesis: The Characteristics of a Population of Whitefish as Affected by Commercial Fishing in Red Lakes, Minnesota.
Major Adviser: Prof. L. L. Smith.
1965. BRANDER, ROBERT BRUCE. B.S. '61, M. Wildlife Man. '62, University of Michigan.
Major: Fisheries and Wildlife. Minor: Supporting Program.
Thesis: Factors Affecting Dispersion of Ruffed Grouse during Late Winter and Spring on the Cloquet Forest Research Center, Minnesota.
Major Adviser: Prof. W. H. Marshall.
1965. HOLT, CHARLES STEELE. B.S. '59, Beloit College; M.S. '62, University of Wisconsin.
Major: Fisheries and Wildlife. Minor: Entomology.
Thesis: Effect of Light Intensity on the Stream Drift of Gammarus pseudolimnaeus Bousfield and Baetis vagans McDunnough in Valley Creek, Washington County, Minnesota.
Major Adviser: Prof. T. F. Waters.
1966. ADAMS, GLEN DARREL. B.S. '59, M.S. '62, University of Alberta, Canada.
Major: Fisheries and Wildlife. Minor: Forestry.
Thesis: Populations and Spatial Distribution of Pocket Gophers (Geomys b. bursarius).
Major Adviser: Prof. J. R. Beer.

FORESTRY

1956. WILLINGHAM, JAMES WESLEY. B.S. with high honors '49, M.S. '50, University of Florida.
Major: Forestry. Minor: Agricultural Economics.
Thesis: The Estimation of Forest Management Inventory Data from Aerial Photographic Measurements.
Major Adviser: Prof. F. H. Kaufert.
1957. KEMP, ARNE KALERVO. B.S.F. '48, University of Georgia; M.F. '49, Duke University.
Major: Forestry. Minor: Agricultural Economics.
Thesis: A Study of Factors Associated with the Development of Collapse during Kiln Drying of Aspen Lumber.
Major Adviser: Prof. L. W. Rees.

1957. SHIUE, CHERNG JIANN. B.S. '44, Fukien College of Agriculture; M.F. '55, University of Minnesota.
Major: Forestry. Minor: Botany.
Thesis: The Anatomical and Physiological Effects of Chlorophenoxyacetic Acid Derivatives on Trembling Aspen (Populus tremuloides Michx.) with Special Reference to the Application of Such Chemicals as Debarking Agents.
Major Adviser: Prof. R. M. Brown.
1957. WALLIN, WALTER BASIL. B.S. '50, M.S. '53, University of Minnesota.
Major: Forestry. Minor: Economics
Thesis: The Influence and Importance of Defects and Log Grades on Lumber Grade Yield from Aspen Logs.
Major Adviser: Prof. R. L. Hossfeld.
1958. AVERY, THOMAS EUGENE. B.S.F. '49, University of Georgia; M.F. '50, Duke University.
Major: Forestry. Minor: Geography.
Thesis: Construction and Test of a Composite Aerial Volume Table for Southern Pines and Hardwoods.
Major Adviser: Prof. M. P. Meyer.
1958. BROWN, BRUCE ANTOINE. B.S. with high distinction '52, M.F. '53, University of Minnesota.
Major: Forestry. Minor: Soils.
Thesis: Interrelationship of Brush Populations and Some Site Factors in Jack Pine Stands of North Central Minnesota.
Major Adviser: Prof. H. L. Hansen.
1959. BAKUZIS, EGOLFS VOLDEMARS. Forest Engineer '35, University of Latvia.
Major: Forestry. Minor: Soils.
Thesis: Synecological Coordinates in Forest Classification and in Reproduction Studies.
Major Adviser: Prof. H. L. Hansen.
1959. LUNDGREN, ALLEN LLOYD. B.S. '51, M.F. '54, University of Minnesota.
Major: Forestry. Minor: Economics.
Thesis: Farm Lumber Consumption and Use: Methods of Estimating and Results of an East-Central Minnesota Survey.
Major Adviser: Prof. R. I. Beazley.
1960. IRVING, FRANK DUNHAM. B.S. '48, Rutgers University; B.S. '49, M.F. '50, University of Minnesota.
Major: Forestry. Minors: Fishery and Wildlife Management and Political Science.
Thesis: A Study of the Relationship between Program and Organization in the Administration of Forest and Wildlife Resources by the State of Minnesota.
Major Adviser: Prof. D. P. Duncan.
1960. SANTAMOUR, FRANK SHALVEY, JR. B.S. cum laude '53, University of Massachusetts; M.F. '54, Yale University; M.A. '57, Harvard University.
Major: Forestry. Minor: Plant Genetics.
Thesis: The Relation between Anatomy and Inherent Growth Potential of Hybrid Poplars.
Major Adviser: Prof. S. S. Pauley.

1960. SKOK, RICHARD ARNOLD. B.S. with distinction '50, M.F. '54, University of Minnesota.
Major: Forestry. Minor: Economics.
Thesis: Market Practices and Price Formation for Farm Woodland Products Sales in Northern and Southeastern Minnesota.
Major Adviser: Prof. F. H. Kaufert.
1961. BARBER, JOHN CLARK. B.S. with honors '50, M.S. '51, North Carolina State College.
Major: Forestry. Minors: Botany and Plant Genetics.
Thesis: An Evaluation of the Slash Pine Progeny Tests of the Ida Cason Callaway Foundation (Pinus elliottii Engelm).
Major Adviser: Prof. S. S. Pauley.
1961. CLAUSEN, KNUD ERIK. Graduate '49, Giesegord Forestry School; M.S. '59, University of Minnesota.
Major: Forestry. Minors: Botany and Plant Genetics.
Thesis: Studies of a Hybrid Birch Population.
Major Adviser: Prof. S. S. Pauley.
1961. HEINSELMAN, MIRON LEE. B.A. '42, B.S. '48, M.F. '51, University of Minnesota.
Major: Forestry. Minor: Soils.
Thesis: Black Spruce on the Peatlands of Former Glacial Lake Agassiz and Adjacent Areas in Minnesota: A Study of Forest Sites, Bog Processes, and Bog Types.
Major Adviser: Prof. H. L. Hansen.
1961. RUDOLPH, THOMAS DANIEL. B.S. '55, M.F. '57, University of Minnesota.
Major: Forestry. Minor: Plant Genetics.
Thesis: Lammas Growth and Prolepsis in Jack Pine in the Lake States.
Major Adviser: Prof. S. S. Pauley.
1961. WATT, RICHARD FRANKLIN. B.S. cum laude '43, New York State College of Forestry (Syracuse University); M.F. '47, Yale University.
Major: Forestry. Minor: Botany.
Thesis: Growth and Development of Four Northern Conifers under Long and Natural Photoperiods in Wisconsin and Florida.
Major Adviser: Prof. S. S. Pauley.
1962. DUFFY, PATRICK JAMES BARRY. B.S.F. '55, University of British Columbia; M.F. '56, Yale University.
Major: Forestry. Minor: Soils.
Thesis: Relationships between Site Factors and Growth of Lodgepole Pine (Pinus contorta Dougl. var. latifolia Engelm.) in the Foothills Section of Alberta.
Major Adviser: Prof. D. P. Duncan.
1962. KELSO, WILLIAM CHEATOM, JR. B.S. (Agric.) '49, Louisiana State University and A. and M. College; M.F. '51, Yale University.
Major: Forestry. Minor: Plant Pathology.
Thesis: The Effect of Air Blockage upon the Permeability of Wood to Liquids.
Major Adviser: Prof. R. L. Hossfeld.

1962. SCHOENIKE, ROLAND ERNST. B.S. with high distinction '51, M.S. '53, University of Minnesota.
Major: Forestry. Minor: Botany.
Thesis: Natural Variation in Jack Pine (Pinus banksiana Lambert).
Major Adviser: Prof. S. S. Pauley.
1963. BROCK, SAMUEL MITCHELL. B.S. with distinction '56, M.F. '56, University of Michigan.
Major: Forestry. Minor: Economics.
Thesis: Factors Influencing the Use of Maine Softwood Lumber in the Building Construction Industry of the Northeastern United States.
Major Adviser: Prof. R. A. Skok.
1963. BURKART, LEONARD FRANCIS. B.S.For. '49, M.F. '50, University of Washington; M.S. '61, University of Minnesota.
Major: Forestry. Minor: Organic Chemistry.
Thesis: The Cooking Process XIV. The Action of Aqueous Solutions of Pure Sodium Hydrosulfide on Aspen Wood.
Major Adviser: Prof. R. L. Hossfeld.
1963. KNORR, PHILIP NOEL. B.S. with honors '38, University of California; M.F. '40, Duke University.
Major: Forestry. Minor: Business Administration.
Thesis: The Effect of Flight Orientation upon the Interpretability of Vertical Aerial Photographs of Forest Stands.
Major Adviser: Prof. M. P. Meyer.
1964. BLAKE, GEORGE MARSTON. B.S.(For.) '57, University of Idaho; M.S. '59, University of Minnesota.
Major: Forestry. Minors: Botany and Genetics.
Thesis: Clone Identification and Delineation in the Aspens.
Major Adviser: Prof. S. S. Pauley.
1964. FECHNER, GILBERT HENRY. B.S. '47, M.S. '55, Colorado State College.
Major: Forestry. Minors: Botany and Genetics.
Thesis: The Reproductive Cycle in Picea pungens Engelmann.
Major Adviser: Prof. S. S. Pauley.
1964. JOHN, HUGO HERMAN. B.S. with distinction '59, M.S. '61, University of Minnesota.
Major: Forestry. Minor: Statistics.
Thesis: Comparative Precision Levels in Forest Inventory Estimating Using Sampling with Probability Proportional to Frequency and Sampling with Probability Proportional to Size.
Major Adviser: Prof. M. P. Meyer.
1964. THORUD, DAVID BRUCE. B.S. with distinction '58, M.S. '60, University of Minnesota.
Major: Forestry. Minor: Soil Science.
Thesis: The Effect of Snow, Litter and Soil Compaction on the Soil Frost Regime in a Minnesota Oak Stand.
Major Adviser: Prof. D. P. Duncan.

1964. WINTON, LAWSON LOWELL. B.S. '57, University of California.
Major: Forestry. Minor: Botany.
Thesis: Microsporogenesis and Early Pollen Forcing in a White X Black Spruce Hybrid and Its Parental Species.
Major Adviser: Prof. S. S. Pauley.
1965. GREENE, JAMES THOMAS. B.S.F. '50, M.F. '56, University of Georgia.
Major: Forestry. Minors: Botany and Genetics.
Thesis: Selection for Tracheid Length in Loblolly Pine (Pinus taeda L.).
Major Adviser: Prof. S. S. Pauley.
1965. KING, DAVID AUSTEN. B.S. '54, M.F. '61, University of Minnesota.
Major: Forestry. Minor: Economics.
Thesis: An Analysis of Selected Socioeconomic Characteristics of Family Campers Using the Huron-Manistee National Forests in 1962.
Major Adviser: Prof. R. A. Skok.
1966. KRAUS, JOHN FRANKLYN. B.S.F. '53, M.F. '56, University of Michigan.
Major: Forestry. Minor: Genetics.
Thesis: Heritability of Some Seed Characteristics in Slash Pine (Pinus elliotti Englm.).
Major Adviser: Prof. S. S. Pauley.

HOME ECONOMICS

1959. BELL, MILDRED LECY. B.S. '49, Harding College; M.S. '51, North Texas State College.
Major: Home Economics. Minor: Education.
Thesis: Some Factors Affecting the Laboratory Performance of Certain Elastic Fabrics under Various Laundering Treatments.
Major Adviser: Prof. Suzanne Davison.
1960. SMITH, BETTY FAYE. B.S.H.E. with honors '51, University of Arkansas; M.S. '57, University of Tennessee.
Major: Home Economics. Minor: Agricultural Biochemistry.
Thesis: Determination of Cellulose in Textile Fibers.
Major Adviser: Prof. Suzanne Davison.
1962. EMMONS, LILLIAN NINA MILLER. B.H.E. '54, University of British Columbia; M.Sc. '57, University of Manitoba.
Major: Home Economics. Minor: Public Health.
Thesis: The Relationship of the Quantity and Quality of Dietary Fat to Serum Cholesterol Levels in Men of Different Ages and Weights.
Major Adviser: Prof. L. M. Morse.
1963. NYMON, MAVIS CARLOTTA. B.S. '43, North Dakota State College; M.S. '45, Cornell University.
Major: Home Economics. Minor: Public Health.
Thesis: A Nitrogen Balance Study on Young College Women Consuming Low Protein Vegetarian Diets.
Major Adviser: Prof. L. M. Morse.

1956. GOWEN, FREDERICK ARTHUR. B.S. '49, University of New Hampshire
Major: Horticulture. Minor: Plant Genetics.
Thesis: Selfing in the Potato as a Means of Securing Improved Parental Clones.
Major Adviser: Prof. F. A. Krantz.
1956. UNRAU, ABRAHAM MARTIN. B.S.A. '52, M.S.A. '53, University of British Columbia.
Major: Horticulture. Minor: Agricultural Biochemistry.
Thesis: Chemical and Physical Aspects of Potato Quality: A Comparative Study of Similar and Dissimilar Specific Gravity Tuber Groups within and between Varieties.
Major Adviser: Prof. R. E. Nylund.
1957. LAUER, FLORIAN ISADORE. B.S. with distinction '51, University of Minnesota.
Major: Horticulture. Minor: Plant Genetics.
Thesis: Recovery of Recurrent Parent Characters from Crosses of Solanum demissum x S. tuberosum in Successive Backcrosses.
Major Adviser: Prof. F. A. Krantz.
1957. NICKESON, RICHARD LINCOLN. B.S. '51, Pennsylvania State College.
Major: Horticulture. Minor: Plant Pathology.
Thesis: Selection for Combining Ability in a Male-Sterile Tomato Line Having Two Recessive Seedling Genes.
Major Adviser: Prof. T. M. Currence.
1958. PEIRCE, LINCOLN CARRET. B.S. '52, Cornell University.
Major: Horticulture. Minor: Plant Genetics.
Thesis: Heritability of Certain Economic Characters in the Tomato.
Major Adviser: Prof. T. M. Currence.
1959. KALLIO, ARVO. B.S. '42, M.S. '47, University of Minnesota.
Major: Horticulture. Minor: Plant Pathology.
Thesis: A Study of the Effect of Photoperiod on the Growth and Development of the Potato (Solanum tuberosum L.) at Fairbanks, Alaska.
Major Adviser: Prof. R. E. Nylund.
1959. PYO, HYUN KOO. B.S. '43, Seoul National University.
Major: Horticulture. Minor: Agricultural Botany.
Thesis: A Study of Factors Influencing Pithiness in the Radish (Raphanus sativus L.).
Major Adviser: Prof. R. E. Nylund.
1960. DINKEL, DONALD HARPER. B.S. '54, University of Minnesota.
Major: Horticulture. Minor: Agricultural Botany.
Thesis: A Study of Factors Influencing the Development of Hollow Heart in Irish Cobbler Potatoes (Solanum tuberosum L.).
Major Adviser: Prof. A. E. Hutchins.
1960. KEMP, GAVIN ARTHUR. B.Sc. '51, University of Alberta.
Major: Horticulture. Minor: Plant Genetics.
Thesis: Evaluation of the Progeny of F₂ Tomato Selections by Replicated Field Tests.
Major Adviser: Prof. T. M. Currence.

1961. MATSUURA, RICHARD MICHITO. B.S. '54, Oregon State College.
Major: Horticulture. Minor: Plant Genetics.
Thesis: A Male Sterile and an Early Ripening Mutant from Irradiation of Tomato Seeds.
Major Adviser: Prof. T. M. Currence.
1961. NELSON, DONALD CARL. B.S. '53, University of Minnesota.
Major: Horticulture. Minor: Agricultural Botany.
Thesis: A Study of Plant Competition between Peas (Pisum sativum L.), and Two Weeds, Mustard (Brassica hirta Monech) and Foxtail Millet, (Setaria italica [L.] Beauv.).
Major Adviser: Prof. R. E. Nylund.
1961. TOYAMA, THOMAS KAZUO. B.S. with high distinction '53, University of Minnesota.
Major: Horticulture. Minor: Plant Genetics.
Thesis: The Breeding Behavior of Selected Varieties of the Red Raspberry Especially with Respect to Certain Fruit Characters Which May Be Related to Seediness.
Major Adviser: Prof. A. N. Wilcox.
1961. WEAVER, MERLE LAROE. B.S. '55, Iowa State College.
Major: Horticulture. Minor: Agricultural Botany.
Thesis: A Study of the Factors Influencing the Tolerance of Pea (Pisum sativum L.) to MCPA (2-Methyl-4-Chlorophenoxyacetic Acid).
Major Adviser: Prof. R. E. Nylund.
1962. ANDERSEN, EMIL THORVALD. B.Sc. '41, M.Sc. '43, University of Alberta.
Major: Horticulture. Minor: Botany.
Thesis: Some Factors Affecting Iron Uptake by Strawberry Plants.
Major Adviser: Prof. R. E. Nylund.
1962. URE, CHARLES RAYMOND. B.Sc. '37, M.Sc. '39, University of Alberta.
Major: Horticulture. Minor: Plant Genetics.
Thesis: A Study of the Parental Value of Nine Red Raspberry Varieties with Respect to Combining Ability and Inheritance of Vigor and Hardiness.
Major Adviser: Prof. A. N. Wilcox.
1963. BLOMQUIST, ARNOLD WILLIAM. B.S. with honors '58, Michigan State University; M.S. '61, University of Minnesota.
Major: Horticulture. Minor: Genetics.
Thesis: A Quantitative Genetic Analysis of Resistance to Common Scab (Streptomyces scabies Thaxt.) in the Irish Potato (Solanum tuberosum L.).
Major Adviser: Prof. F. I. Lauer.
1963. MULLIN, ROBERT. B.S. with high distinction '57, M.S. '59, University of Minnesota.
Major: Horticulture. Minor: Genetics.
Thesis: Breeding Behavior of F₁ and Inbred Clones of Irish Potato (Solanum tuberosum L.) Selected for Tuber Appearance and Yield.
Major Adviser: Prof. T. M. Currence.

1963. STADTHERR, RICHARD JAMES. B.S. '49, M.S. '51, University of Minnesota.
Major: Horticulture. Minor: Agricultural Plant Physiology.
Thesis: Studies on the Use of Arsenicals for Crabgrass Control in Turf.
Major Adviser: Prof. R. E. Nylund.
1964. ITO, PHILIP JITSUO. B.S. '58, University of Hawaii.
Major: Horticulture. Minor: Genetics.
Thesis: Combining Ability of Specific Crosses in Asparagus (Asparagus officinalis L. var. altilis) Using a Perfect Flowered Male Parent.
Major Adviser: Prof. T. M. Currence.
1964. SHETTY, BARKUR SHAMBHUSHANKER. B.S. '51, Karnatak University; D.I.H. '52, University of Madras; M.S. '59, University of Minnesota.
Major: Horticulture. Minor: Agricultural Plant Physiology.
Thesis: Effects of Polyethylene Firm Mulches and Sawdust on the Vegetative and Reproductive Behavior of Red Rich Strawberry Plants.
Major Adviser: Prof. A. E. Hutchins.
1964. SPANGELO, LLOYD PERSHING SELTHUN. B.S. in Agric. '44, M.S. '48, University of Manitoba.
Major: Horticulture. Minor: Genetics.
Thesis: Combining Ability in Strawberries.
Major Adviser: Prof. T. M. Currence.
1964. TORFASON, WILMER ESPLIN. B.S. in Agric. '49, University of Manitoba; M.Sc. in Agric. '52, University of Alberta.
Major: Horticulture. Minor: Agricultural Plant Physiology.
Thesis: Effects of Time of Harvest, Sprout Inhibition, and Storage Temperature on the Chemical Constitution and Processed Quality of Netteed Gem Potatoes.
Major Adviser: Prof. R. E. Nylund.
1964. VAN HUYSTEE, ROBERT BERNARD. B.A. '59, M.A. '61, University of Saskatchewan.
Major: Horticulture. Minor: Agricultural Biochemistry.
Thesis: Cold Acclimation and Accompanying Metabolic Changes in Red-Osier Dogwood with Emphasis on Proteins.
Major Adviser: Prof. L. C. Snyder.
1965. MAHADEVA, SITHAMPARAPILLAI. B.Sc.(Agric.) '55, Poona University (India); M.S. '62, University of Minnesota.
Major: Horticulture. Minor: Agricultural Plant Physiology.
Thesis: A Study of Factors Influencing the Effectiveness of Diquat (1:1-Ethylene 2:2' Dipyridilium Dibromide) for Potato Vine Killing.
Major Adviser: Prof. R. E. Nylund.
1965. MILES, NELL WAYNE. B.S. '59, M.S. '64, University of Minnesota.
Major: Horticulture. Minor: Agricultural Plant Physiology.
Thesis: A Study of Rest Period in September and Latham Red Raspberry and Its Association with Winter Hardiness.
Major Adviser: Prof. A. E. Hutchins.
1965. PELLETT, NORMAN EUGENE. B.S. '58, Iowa State University; M.S. '64, University of Minnesota.
Major: Horticulture. Minor: Agricultural Plant Physiology.
Thesis: Cold Acclimation of Container Grown Hetzi Juniper.
Major Adviser: Prof. R. E. Widmer.

1965. VAN DER SCHANS, CORNELIS. B.Sc.(Agric.) '61, McGill University.
Major: Horticulture. Minor: Agricultural Plant Physiology.
Thesis: Cold Acclimation of Bark and Roots of Cornus stolonifera
Accompanying Changes in the Saturation of Fatty Acids.
Major Adviser: Prof. C. J. Weiser.
1966. CHUBEY, BOHDAN BERT. B.S.Agric. '57, University of Manitoba;
M.S. '59, Pennsylvania State University.
Major: Horticulture. Minor: Agricultural Plant Physiology.
Thesis: Oxidative Browning of Carrots Daucus carota.
Major Adviser: Prof. R. E. Nylund.
1966. COULTAS, CHARLES LYNN. B.S.(Agric.) with high honors '49,
University of Illinois; M.S. '51, Iowa State University.
Major: Horticulture. Minor: Soil Science.
Thesis: The Influence of Fertilizers on the Nutrition and Performance
of Certain Container-Grown Evergreens.
Major Adviser: Prof. R. E. Widmer.

PLANT GENETICS

1956. ASLAM, CHAUDHARI MUHAMMAD. B.Sc. '45, M.Sc. '52, University of
Punjab.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Relationship of Genes for Rust Resistance in Vulgare Wheat
Varieties.
Major Adviser: Prof. E. R. Ausemus.
1956. CLARK, EDWARD MAURICE. B.S. '49, M.S. '55, University of
Minnesota.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: A Comparison of Crossing Over in Pollen and Ovules in
Translocations Involving the Short Arm of Chromosome 9 in Maize.
Major Adviser: Prof. C. R. Burnham.
1956. DEWEY, DOUGLAS R. B.S. '51, M.S. '54, Utah State Agricultural
College.
Major: Plant Genetics. Minor: Biostatistics.
Thesis: Combining Ability and Related Studies of Selected Lines of
Red Clover, Trifolium pratense.
Major Adviser: Prof. W. M. Myers.
1956. GERRISH, EVERETT ELMER. B.S. with high distinction '50, Univer-
sity of Maine; M.S. '54, University of Minnesota.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Studies of the Monoploid Method of Producing Homozygous
Diploids in Zea mays.
Major Advisers: Profs. E. H. Rinke and E. L. Pinnell.
1956. LEHMAN, WILLIAM FRANCIS. B.S. '50, Wartburg College; M.S. '56,
University of Minnesota.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: The Inheritance and Interrelation of Maturity and Other
Characters in Soybeans.
Major Adviser: Prof. W. M. Myers.

1957. DICKENSON, DONALD DWIGHT. B.S. '49, M.S. '50, University of Illinois.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: The Characteristics of Six Bromegrass (Bromus inermis Leys.) Clones, Their Polycross and Single Cross Progeny.
Major Adviser: Prof. H. L. Thomas.
1957. INMAN, LAWRENCE LLOYD. B.S. '47, Iowa State College
Major: Plant Genetics. Minor: Horticulture.
Thesis: Studies on the Methods of Production and Theoretical Applications of Large Rings of Chromosomes in Maize.
Major Adviser: Prof. C. R. Burnham.
1957. LEWIS, WILLIAM MASON. B.S. '52, Texas Agricultural and Mechanical College; M.S. '56, University of Minnesota.
Major: Plant Genetics. Minor: Botany.
Thesis: Combining Ability of Alfalfa Clones for Seasonal Growth Responses and Forage Yield.
Major Adviser: Prof. W. M. Myers.
1957. LIVERS, RONALD WILSON. B.S. '48, M.S. '49, Kansas State College of Agriculture and Applied Science.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Linkage Studies with Chromosomal Translocation Stocks in Barley.
Major Adviser: Prof. C. R. Burnham.
1957. MCKENZIE, RONALD IAN HECTOR. B.S.A. '51, M.Sc. '54, University of Saskatchewan.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: A Comparison of F₃ Lines and Their Related F₆ Lines in Two Barley Crosses.
Major Adviser: Prof. J. W. Lambert.
1957. PETERSON, GLENN ARTHUR. B.S. with honor '52, North Dakota Agricultural College; M.S. '56, University of Minnesota.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: A Statistical Evaluation of Early Generation Testing in a Barley Cross Using Related F₃, F₄, and F₅ Lines Grown Simultaneously.
Major Adviser: Prof. J. W. Lambert.
1957. SANDHU, RANBIR SINGH. B.Sc. '48, Khalsa College; B.Sc. '50, M.Sc. (honors) '52, Punjab University.
Major: Plant Genetics. Minor: Botany.
Thesis: Mutagenic Effects of 2,4-D in Barley and Wheat.
Major Advisers: Profs. W. M. Myers and E. R. Ausemus.
1957. SLINKARD, ALFRED EUGENE. B.S. '52, M.S. '54, State College of Washington.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: The Relationships in Two Barley Crosses between F₂ Plants and Their Progenies Grown in Hills.
Major Adviser: Prof. J. W. Lambert.
1958. JOHNSON, ELMER CARL. B.S. '47, Oregon State College.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Inheritance Studies, Including Reaction to Certain Foliage Diseases, in Alfalfa.
Major Adviser: Prof. W. M. Myers.

1958. KARCHI, ZVI. B.S. '53, M.S. '54, University of California.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Study on the Resistance in Alfalfa to Common Leaf Spot and on the Relation of Infection Rating to Plant Color.
Major Adviser: Prof. W. M. Myers.
1958. PEARSON, LAURIE CLARENCE. B.S. '52, Utah State Agricultural College; M.S. '52, University of Utah.
Major: Plant Genetics. Minor: Botany.
Thesis: Predicting the Performance of Synthetic Varieties of Alfalfa from Single Cross Data.
Major Adviser: Prof. W. M. Myers.
1958. TURCOTTE, EDGAR LEWIS. B.A. '51, M.S. '57, University of Minnesota.
Major: Plant Genetics. Minor: Botany.
Thesis: A Cytogenetic Study of Certain Translocation Intercrosses Involving the Same Chromosomes in Maize.
Major Adviser: Prof. C. R. Burnham.
1959. CHANG, TE-TZU. B.S. '49, University of Nanking; M.S. '54, Cornell University.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Analysis of Genes Conditioning Resistance of Oat Varieties to Races of Puccinia coronata Corda var. avenae F. and L.
Major Adviser: Prof. W. M. Myers.
1959. COMSTOCK, VERNE EDWARD. B.S. with honors '41, M.S. '47, State College of Washington.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Variation, Association, and Heritability of Several Morphological and Seed Characteristics in F₂ and F₃ Populations of Two Flax Crosses.
Major Advisers: Profs. J. W. Lambert and J. C. Sentz.
1959. ESCURO, PEDRO BOLIVAR. B.S.A. magna cum laude '52, University of the Philippines; M.S. '54, Cornell University.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Relative Effectiveness of Selection for Quantitative Traits in F₂ of Crosses among Related and Unrelated Lines of Oats.
Major Advisers: Profs. W. M. Myers and J. C. Sentz.
1959. GIESBRECHT, JOHAN. B.S.A. '48, M.S. '52, University of Manitoba.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: The Inheritance of Maturity in Zea mays.
Major Adviser: Prof. E. H. Rinke.
1959. MACDONALD, MALCOLM DUNCAN. B.Sc.A. '50, University of Alberta.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Studies in the Building of Large Chromosome Rings in Barley.
Major Adviser: Prof. C. R. Burnham.
1959. MARSHALL, HAROLD GENE. B.S.Agr. with distinction '52, Purdue University; M.S. '53, Kansas State College.
Major: Plant Genetics. Minor: Botany.
Thesis: A Cytogenetic Study of Interspecific Avena Hybrids, and the Inheritance of Resistance in Diploid and Tetraploid Varieties to Races of Crown and Stem Rust.
Major Adviser: Prof. W. M. Myers.

1959. TABATA, MAMORU. B.Agric. '53, Kyoto University; M.S. '59, University of Minnesota.
Major: Plant Genetics. Minor: Botany.
Thesis: Studies of Chromosome Pairing in Maize by Using Interchanges Involving the Same Two Chromosomes.
Major Adviser: Prof. C. R. Burnham.
1959. VENTURA, YAACOV. Graduate '51, Hebrew University.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Inheritance Studies of the Gold Test Reaction of Zea mays.
Major Adviser: Prof. E. H. Rinke.
1960. IZUNO, TAKUMI, B.S. '50, University of Hawaii.
Major: Plant Genetics. Minor: Botany.
Thesis: Characters Affecting Ear Retention in Parental Inbreds and F₁ Progeny of Zea mays L.
Major Adviser: Prof. E. H. Rinke.
1960. MILLER, OSCAR LEE, JR. B.S. with honors '48, M.S. '50, North Carolina State College of Agriculture and Engineering.
Major: Plant Genetics. Minor: Botany.
Thesis: Cytological Studies in Asynaptic Maize.
Major Adviser: Prof. C. R. Burnham.
1960. SUNDERMAN, DONALD WAYNE. B.S. '50, M.S. '51, University of Minnesota.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Inheritance of Reaction to Stem Rust in Crosses between Certain Vulgare Spring Wheats.
Major Adviser: Prof. E. R. Ausemus.
1961. FUAD, JAMAL ABDUL-KARIM. B.Sc. in Agronomy '52, North Carolina State College of Agriculture and Engineering; M.S. '53, University of Maryland.
Major: Plant Genetics. Minor: Agricultural Botany.
Thesis: Inheritance of Stem Rust Reaction to Races 15 B, 11, and 56, in Crosses of Some Vulgare Wheats.
Major Adviser: Prof. E. R. Ausemus.
1961. NELSON, ELTON GLEN. B.S. '37, M.S. '46, Oregon State College.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Inheritance in Kenaf as Related to Selection of Inbred Lines for Composite Varieties.
Major Adviser: Prof. W. M. Myers.
1961. WARD, DAVID JUSTIN. B.Sc. in Agr. '47, M.Sc. '48, University of Nebraska.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Some Evolutionary Aspects of Certain Morphologic Characters in a World Collection of Barleys.
Major Adviser: Prof. J. W. Lambert.
1962. CORTAZAR, RENE. Ing. Agr. '40, University of Chile; M.S. '43, University of Minnesota.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Inheritance of Stem Rust Reaction and Certain Other Characters in a Cross of Thatcher X II-53-521 and Several Other Wheat Crosses.
Major Adviser: Prof. E. R. Ausemus.

1962. FERGUSON, DAVID BLAINE. B.S. '50, Montana State College.
Major: Plant Genetics. Minor: Botany.
Thesis: Combining Ability in Zea mays as Influenced by Planting Density.
Major Adviser: Prof. E. H. Rinke.
1962. SHEEN SHUH-JI. B.S. '53, Taiwan Provincial College of Agriculture; M.S. '58, North Dakota Agricultural College.
Major: Plant Genetics. Minor: Agricultural Biochemistry.
Thesis: Studies on Genetic Factors Controlling Stem Rust Resistance in Chromosome Substitution Lines of Two Wheat Varieties.
Major Adviser: Prof. W. M. Myers.
1962. SMITH, EDWARD LEE. B.S. '54, M.S. '59, Oklahoma State University.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: Early Generation Testing of Diallel Crosses in Barley.
Major Adviser: Prof. J. W. Lambert.
1962. THEURER, JESSOP CLAIR. B.S. '53, M.S. '57, Utah State University.
Major: Plant Genetics. Minor: Plant Pathology.
Thesis: The Comparative Performance of Diallel Crosses of Alfalfa and Their Related Second Generation Synthetics.
Major Adviser: Prof. W. M. Myers.

PLANT PATHOLOGY

1956. DRESCHER, ROBERT FREDERICK. B.A. '50, M.S. '53, University of Minnesota.
Major: Plant Pathology. Minor: Agricultural Biochemistry.
Thesis: The Relation of Certain Microorganisms to the Plugging of Paper Machine Wet Felts.
Major Adviser: Prof. C. M. Christensen.
1956. HAWN, ELMER JOSEPH. B.S.A. with distinction '49, M.Sc. '50, University of Saskatchewan.
Major: Plant Pathology. Minor: Botany.
Thesis: Studies on Crown Bud Rot of Alfalfa in Southern Alberta.
Major Adviser: Prof. M. F. Kernkamp.
1956. HAYDEN, EUGENE BENTON, JR. B.S. '50, Rhode Island State College; M.S. '54, University of Minnesota.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: Progressive Development of Infection by Puccinia graminis var. tritici Eriks. and E. Henn. (Guyot) on Certain Varieties of Wheat and the Relation of Stem Rust to Yield.
Major Advisers: Profs. Helen Hart and J. J. Christensen.
1956. NAIR, PADMANABHAN NARAYANAN. B.Sc. '49, M.Sc. '51, Trivandrum University College.
Major: Plant Pathology. Minor: Botany.
Thesis: Factors Affecting Resistance of Flax to Fusarium lini Bolley.
Major Advisers: Profs. J. J. Christensen and Thor Kommedahl.
1956. SINGH, SHEODHAN. B.Sc. '49, M.Sc. '51, Agra University.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: Physiology and Epidemiology of Helminthosporium teres.
Major Adviser: Prof. J. J. Christensen.

1957. BIRD-PINERO, JULIO. B.S. '48, University of Puerto Rico; M.S. '50, University of Minnesota.
Major: Plant Pathology. Minor: Horticulture.
Thesis: Mosaic of Jatropha gossypifolia in Relation to the Leafcurl Virus of Tobacco in Puerto Rico.
Major Adviser: Prof. T. H. King.
1957. BROMFIELD, KENNETH RAYMOND. B.S. '49, Pennsylvania State College.
Major: Plant Pathology. Minor: Botany.
Thesis: The Effect of Temperature on Seedling Reaction of Selected Wheat Varieties to Puccinia graminis tritici.
Major Adviser: Prof. J. J. Christensen.
1957. CAMPBELL, ROBERT N. B.S. with distinction '52, M.S. '54, University of Minnesota.
Major: Plant Pathology. Minor: Botany.
Thesis: Studies on the Biology of Some Wood-Staining Fungi.
Major Advisers: Profs. C. M. Christensen and D. W. French.
1957. ELLINGBOE, ALBERT HARLAN. B.S. '53, M.S. '55, University of Minnesota.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: A Comparative Study of Fungi that Cause Spring Blackstem of Forage Legumes, Particularly Alfalfa and Red Clover.
Major Adviser: Prof. M. F. Kernkamp.
1957. HILDRETH, ROBERT CLAIRE. B.S. '49, M.S. '50, University of Wyoming.
Major: Plant Pathology. Minor: Horticulture.
Thesis: Genetic Variation and Variability of Fusarium solani f. pisi and F. oxysporum f. pisi Race 2.
Major Adviser: Prof. T. H. King.
1957. LIU, STEPHEN CHIEH-YUAN. B.Sc. '51, M.S. '54, National Taiwan University.
Major: Plant Pathology. Minor: Botany.
Thesis: Biochemical Variability, Biological Reactions of Certain Strawberry Viruses and Their Mechanical Transmission.
Major Adviser: Prof. T. H. King.
1957. OLIEEN, CHARLES ROBERT. B.A. cum laude '50, M.S. '55, University of Minnesota.
Major: Plant Pathology. Minor: Agricultural Biochemistry.
Thesis: Studies on Necrosis in the Infection of Khapli Emmer by the Stem Rust Fungus, Puccinia graminis var. tritici.
Major Advisers: Profs. Helen Hart and J. B. Rowell.
1957. ORJUELA-NAVARRETTE, JUAN. Agr. Eng. '41, University of Colombia.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: Variability in Reaction of Wheats to Isolates of Races 38 and 48 of Puccinia graminis var. tritici.
Major Advisers: Profs. Helen Hart and J. J. Christensen.
1957. OSHIMA, NAGAYOSHI. B.A. '51, Tokyo University; M.S. '53, Colorado Agricultural and Mechanical College.
Major: Plant Pathology. Minor: Botany.
Thesis: Physiology of Hypoxyton pruinaum (Klot.) Cke.
Major Adviser: Prof. D. W. French.

1957. PAPAIVIZAS, GEORGE CONSTANTINOS. Graduate '47, University of Thessaloniki; M.S. '53, University of Minnesota.
Major: Plant Pathology. Minor: Botany.
Thesis: Factors Influencing Invasion of Stored Wheat Seed by *Aspergillus* spp. and the Effects of Such Invasion on Germination and Amount of Germ Damage.
Major Adviser: Prof. C. M. Christensen.
1957. REILING, THEODORE PAUL. B.S. '51, University of Minnesota; M.S. '53, Iowa State College.
Major: Plant Pathology. Minor: Horticulture.
Thesis: Studies on Virus Diseases of Canning Peas in Minnesota.
Major Adviser: Prof. T. H. King.
1957. WILCOXSON, ROY DELL. B.S. '53, Utah State Agricultural College; M.S. '55, University of Minnesota.
Major: Plant Pathology. Minor: Entomology.
Thesis: A Study of Penetration by *Puccinia graminis* var. *tritici*.
Major Adviser: Prof. J. J. Christensen.
1958. CAMPOS, ALFREDO TIERRAFRIA. B.S. '49, National College of Agriculture (Mexico); M.S. '50, University of Minnesota.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: The Importance of Stem Rust Races in Relation to the Production of Rust Resistant Wheats for Mexico.
Major Advisers: Profs. Helen Hart and J. J. Christensen.
1958. SILVERMAN, WILLIAM BERNARD. B.S. '53, College of the City of New York; M.S. '56, University of Minnesota.
Major: Plant Pathology. Minor: Botany.
Thesis: A Study of the Necrosis Sometimes Associated with Infection of Cereal Plants by *Puccinia graminis* Pers.
Major Adviser: Prof. Helen Hart.
1958. THURSTON, HERBERT DAVID. B.S. with distinction '50, M.S. '53, University of Minnesota.
Major: Plant Pathology. Minor: Horticulture.
Thesis: The Relative Survival Ability of Races of *Phytophthora infestans* in Mixtures.
Major Adviser: Prof. C. J. Eide.
1958. WOOD, LEON SHELBY. B.S. '49, Kent State University; M.S. '51, Ohio State University.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: Genetic Variation of *Heiminthosporium sativum* in Relation to Seedling Blight of Small Grains.
Major Adviser: Prof. J. J. Christensen.
1959. QASEM, SUBHI ABDEL-FATTAH AHMAD. B.S. in Ag. '56, Kansas State College; M.S. '57, University of Minnesota.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: Studies on Deterioration of Stored Corn by Fungi.
Major Adviser: Prof. C. M. Christensen.

1960. ANDERSON, NEIL ALBERT. B.S. '51, M.S. '57, University of Minnesota.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: Studies on the Effects of the Cronartium Rusts on Jack Pine and the Epidemiology of These Fungi.
Major Adviser: Prof. D. W. French.
1960. CHAKRAVARTI, BIMALA PADA. B.Sc.(Ag.) '47, Government Agricultural College at Kanpur; Graduate '52, Indian Agricultural Research Institute.
Major: Plant Pathology. Minor: Entomology.
Thesis: Pathogenic Capabilities of the Wheat Stem Rust Fungus Puccinia graminis tritici in Certain Rust Resistant and Tolerant Varieties of Wheat.
Major Adviser: Prof. Helen Hart.
1960. HAGLUND, WILLIAM ARTHUR. B.S. '53, M.S. '58, University of Minnesota.
Major: Plant Pathology. Minor: Horticulture.
Thesis: Studies on the Sulfur Nutrition of Aphanomyces Euteiches and Its Relationship to Root Rot of Peas.
Major Adviser: Prof. T. H. King.
1960. KAVANAGH, THOMAS. B.Agr.Sc. '49, M.Agr.Sc. '55, B.Soc.Sci. '56, National University of Ireland.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: Infection and Developmental Studies on Ustilago nuda and Ustilago tritici.
Major Adviser: Prof. J. J. Christensen.
1960. KNUTSON, KENNETH WAYNE. B.S. '54, M.S. '56, University of Minnesota.
Major: Plant Pathology. Minor: Botany.
Thesis: Studies on the Nature of Field Resistance of the Potato to Phytophthora infestans.
Major Adviser: Prof. C. J. Eide.
1960. ORTEGA, JACOBO. Ing.Agr. '56, Escuela Superiod de Agricultura (Mexico); M.S. '58, Oklahoma State University.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: Genetic Factors Controlling Stem Rust Resistance in Kenya Farmer Wheat.
Major Advisers: Profs. L. A. Snyder and J. J. Christensen.
1960. RENFRO, B. L. B.S.Ed. '52, Central State College (Oklahoma); M.S. '55, Oklahoma A. and M. College.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: Studies concerning Epidemiology of Black Stem of Alfalfa.
Major Adviser: Prof. M. F. Kernkamp.
1960. TAYLOR, DONALD PIERCE. B.A. '54, Dartmouth College; M.S. '56, University of Maryland.
Major: Plant Pathology. Minor: Zoology.
Thesis: Biology and Host-Parasite Relationships of the Spiral Nematode, Helicotylenchus microlobus.
Major Adviser: Prof. J. J. Christensen.

1960. WYLLIE, THOMAS D. B.A. '52, San Diego State College; M.S. '57, University of Minnesota.
Major: Plant Pathology. Minor: Entomology.
Thesis: Host-Parasite Relationships between Soybean and Rhizoctonia solani.
Major Adviser: Prof. J. J. Christensen.
1961. ELLIOT, ARTHUR MCAULEY. B.S. '53, M.S. '60, University of Minnesota.
Major: Plant Pathology. Minor: Entomology.
Thesis: Ecological Studies of Pseudoplea trifolii.
Major Advisers: Profs. R. D. Wilcoxson and J. J. Christensen.
1961. FREDERIKSEN, RICHARD ALLAN. B.S. '55, M.S. '57, University of Minnesota.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: Studies on the Transmission, Effect, and Control of Two Viruses on Linum usitatissimum L.
Major Adviser: Prof. M. F. Kernkamp.
1961. GOTH, ROBERT WILLIAM. B.S. '54, Wisconsin State College (Superior); M.S. '57, University of Minnesota.
Major: Plant Pathology. Minor: Botany.
Thesis: Studies on the Effects of Viruses on Trifolium pp.
Major Adviser: Prof. J. J. Christensen.
1961. GUZMAN-NARANJO, JULIA. B.S. '42, University Pedagogica (Colombia); M.S. '45, Washington University.
Major: Plant Pathology. Minor: Botany.
Thesis: The Nature of the Partial Resistance of Certain Clones of Three Species of Potatoes to Phytophthora infestans (Mont.) de By.
Major Adviser: Prof. C. J. Eide.
1961. KENNEDY, BILL WADE. B.S. in Ed. '51, Southeastern State College; M.S. '55, Oklahoma State University.
Major: Plant Pathology. Minor: Botany.
Thesis: Studies on Bacterial Angular Leafspot, a New Disease of Strawberry in Minnesota.
Major Adviser: Prof. T. H. King.
1961. OHMAN, JOHN HAMILTON. B.S. with distinction '57, M.S. '58, University of Minnesota.
Major: Plant Pathology. Minor: Forestry.
Thesis: The Role of Agropyron repens in the Germination and Growth of Certain Crop Plants.
Major Advisers: Profs. Thor Kommedahl and D. W. French.
1961. RODRIGUEZ, RICARDO ARTURO. Graduate '52, Universidad de Costa Rica; M.S. '55, Purdue University.
Major: Plant Pathology. Minor: Botany.
Thesis: The Nature of Resistance in Muskmelons to Fusarium Wilt.
Major Adviser: Prof. C. J. Eide.
1961. WOOD, FRANCIS ALOYSIUS. B.S.F. '55, M.A. '56, University of Missouri.
Major: Plant Pathology. Minor: Botany.
Thesis: A Study of the Epiphytology of Hypoxylon Canker of Aspen.
Major Adviser: Prof. D. W. French.

1962. BANTTARI, ERNEST EINO. B.S. with distinction '54, M.S. '59, University of Minnesota.
Major: Plant Pathology. Minor: Forestry.
Thesis: The Effect of Inoculum Concentration, Nutritive Substances and Host Response on Spring Black Stem of Alfalfa.
Major Adviser: Prof. R. D. Wilcoxson.
1962. BRINKERHOFF, LLOYD A. B.S. '37, M.S. '39, University of Arizona.
Major: Plant Pathology. Minor: Plant Genetics.
Thesis: Variability of Xanthomonas malvacearum, the Cotton Bacterial Blight Pathogen.
Major Adviser: Prof. C. J. Eide.
1962. COVEY, RONALD PERRIN, JR. B.S. '56, M.S. '59, University of Minnesota.
Major: Plant Pathology. Minor: Botany.
Thesis: Field Resistance of Flax to PasmO.
Major Adviser: Prof. R. D. Wilcoxson.
1962. GARRETT, WILEY NATHAN. B.S. '57, M.S. '58, Agricultural and Mechanical College of Texas.
Major: Plant Pathology. Minor: Entomology.
Thesis: The Asexual Production of New Biotypes of Puccinia graminis var. tritici.
Major Adviser: Prof. Helen Hart.
1962. GERWITZ, DAVID LAWRENCE. B.S. with honors '58, Michigan State University; M.S. '61, University of Minnesota.
Major: Plant Pathology. Minor: Agricultural Biochemistry.
Thesis: Some Physiological Changes in Bean Due to Infection by Uromyces phaseoli typica.
Major Adviser: Prof. M. F. Kernkamp.
1962. HARRISON, MONTY DEVERL. B.S. with honor '57, M.S. '58, University of Wyoming.
Major: Plant Pathology. Minor: Entomology.
Thesis: Studies on Potato Russet Scab.
Major Adviser: Prof. C. J. Eide.
1962. JORGENSEN, JOHANNES. B.S. '53, Lic. Agro. '59, Royal Veterinary and Agriculture College (Denmark).
Major: Plant Pathology. Minor: Genetics.
Thesis: Intra- and Interspecific Matings of Barley Smut Fungi.
Major Adviser: Prof. M. F. Kernkamp.
1962. LINE, ROLAND FRANCIS. B.S. with distinction '56, M.S. '59, University of Minnesota.
Major: Plant Pathology. Minor: Genetics.
Thesis: Factors Affecting the Germination of Spores of Puccinia graminis.
Major Adviser: Prof. M. F. Kernkamp.
1962. LUTEY, RICHARD WILLIAM. B.S. '57, Michigan State University; M.S. '59, University of Minnesota.
Major: Plant Pathology. Minor: Botany.
Thesis: Studies on the Microflora of Barley Kernels.
Major Adviser: Prof. C. M. Christensen.

1962. MUMFORD, DAVID LOUIS. B.S. '56, M.S. '58, Brigham Young University.
Major: Plant Pathology. Minor: Botany.
Thesis: Studies on the Identification and Nature of Resistance in Barley to Spot Blotch Caused by Helminthosporium sativum.
Major Adviser: Prof. M. F. Kernkamp.
1962. ROBERTS, BILL JILES. B.S. '51, M.S. '53, Oklahoma A. and M. College.
Major: Plant Pathology. Minor: Genetics.
Thesis: Seedling Reaction of Oats to Puccinia graminis var. avenae.
Major Advisers: Profs. Helen Hart and M. F. Kernkamp.
1962. RYAN, EDWARD WILLIAM. B.Agr.Sc. '57, M.Agr.Sc. '58, University College (Dublin).
Major: Plant Pathology. Minor: Genetics.
Thesis: The Effects of 5 Grass Species on Growth and Root Rot of Wheat.
Major Adviser: Prof. R. D. Wilcoxson.
1963. ANDERSON, GERALD WILLIAM. B.S. '52, M.F. '58, University of Minnesota.
Major: Plant Pathology. Minor: Forestry.
Thesis: The Biology and Control of Some Cronartium Rusts on Jack Pine.
Major Adviser: Prof. D. W. French.
1963. BEAN, GEORGE ALBERT. B.S. '58, Cornell University; M.S. '60, University of Minnesota.
Major: Plant Pathology. Minor: Botany.
Thesis: Studies on the Physiology and Pathogenicity of Helminthosporium Species Attacking Bluegrass (Poa pratensis L.).
Major Adviser: Prof. R. D. Wilcoxson.
1963. HORRICKS, JACK STEWART. B.S. in Agric. '50, M.S. '52, University of Alberta.
Major: Plant Pathology. Minor: Botany.
Thesis: The Influence of Crop Residues on Soil Microorganisms in Relation to Plant Growth.
Major Adviser: Prof. Thor Kommedahl.
1963. MERRILL, WILLIAM, JR. B.S. in For. magna cum laude '58, University of New Hampshire; M.S. '61, University of Minnesota.
Major: Plant Pathology. Minor: Forestry.
Thesis: The Physical and Chemical Effects of Common Mold Fungi on Wood Fiberboard.
Major Adviser: Prof. D. W. French.
1963. MILHOLLAND, ROBERT DONALD. B.S. '57, M.S. '59, Oklahoma A. and M. College.
Major: Plant Pathology. Minor: Botany.
Thesis: Biological Adjustments of Rust Fungus Cells to Wheat Cells.
Major Adviser: Prof. Helen Hart.
1963. TELNESET, STEIN ORNULF. Diploma '54, Agriculture College of Norway.
Major: Plant Pathology. Minor: Agricultural Biochemistry.
Thesis: Studies on Potato Tuber Rot.
Major Adviser: Prof. C. J. Eide.

1964. BISSONNETTE, HOWARD LOUIS. B.S. '52, College of St. Thomas;
M.S. '58, University of Minnesota.
Major: Plant Pathology. Minor: Botany.
Thesis: The Effect of Soil Mycoflora on the Seedling Diseases of
Sugar Beets.
Major Adviser: Prof. T. H. King.
1964. FOLLSTAD, MERLE NORMAN. B.S. '55, University of Wisconsin;
M.S. '61, University of Minnesota.
Major: Plant Pathology. Minor: Botany.
Thesis: Identification, Characteristics, and Biology of Pullubaria
pullulans (De Bary) Berkhout, a Common Fungus on Barley Grains.
Major Adviser: Prof. C. M. Christensen.
1964. OLD, KENNETH MALCOLM. B.Sc. (honors) '61, University of
Nottingham (England).
Major: Plant Pathology. Minor: Genetics.
Thesis: Fungistatic Effects of Bacteria on Root Rotting Fungi.
Major Adviser: Prof. Thor Kommedahl.
1964. ROGERS, WALLACE EDWARD. B.S. '57, University of Rhode Island;
M.S. '59, North Carolina State College.
Major: Plant Pathology. Minor: Botany.
Thesis: The Effect of Micro-Environment on Germination, Infection
and Sporulation of Septoria Passerinii on Barley, Hordeum vulgare.
Major Adviser: Prof. M. F. Kernkamp.
1964. LITTLEFIELD, LARRY JAMES. B.S. '60, Cornell University;
M.S. '62, University of Minnesota.
Major: Plant Pathology. Minor: Botany.
Thesis: Translocation in Fungi: Rhizoctonia solani and Lentinus
tigrinus.
Major Adviser: Prof. R. D. Wilcoxson.
1964. STINGL, HELMUT OTTO. Diploma '61, Technical Institute of Munich
(Germany).
Major: Plant Pathology. Minor: Genetics.
Thesis: Studies on the Strawberry Virus Complex.
Major Adviser: Prof. R. D. Wilcoxson.
1964. SUNDHEIM, LEIF. Diploma '61, Agricultural College of Norway.
Major: Plant Pathology. Minor: Botany.
Thesis: Epidemiology, Ecology, and Host-Parasite Relationships of
Leptosphaerulina briosiana on Medicago sativa.
Major Adviser: Prof. R. D. Wilcoxson.
1964. ZAKI, ABDEL-HAMID IBRAHIM. B.Sc. '58, Alexandria University
(Egypt).
Major: Plant Pathology. Minor: Agricultural Biochemistry.
Thesis: Some Physiological Studies on Healthy and Rust-Infected
Bean Plants.
Major Adviser: Prof. Helen Hart.

1965. ASARE-NYAKO, ANDREW. B.Sc. '58, B.Sc. '59, University College of Ghana; M.S. '63, University of Minnesota.
Major: Plant Pathology. Minor: Genetics.
Thesis: The Role of Leaf Microflora on Epidemiology of the Northern Leaf Blight of Corn.
Major Adviser: Prof. Thor Kommedahl.
1965. BERNIER, CLAUDE CHARLES. B.A. '53, B.S. in Agric. '57, M.S. '61, University of Manitoba.
Major: Plant Pathology. Minor: Horticulture.
Thesis: Mechanical Transmission of Aphid-Borne Raspberry Viruses to Herbaceous Hosts.
Major Adviser: Prof. R. D. Wilcoxson.
1965. BROWN, GEORGE ELDON. B.S. in Agric. '56, M.S. '61, University of Missouri.
Major: Plant Pathology. Minor: Genetics.
Thesis: Effect of Oxygen Concentration on Pythium Seed Rot of Soybean.
Major Adviser: Prof. M. F. Kernkamp.
1965. BUGBEE, WILLIAM MAYNARD. B.A. '57, State University of Iowa; M.S. '62, University of Minnesota.
Major: Plant Pathology. Minor: Botany.
Thesis: Studies on the Aggressiveness of Race 15B and Race 56 and Progenies from Crosses of These Races and Puccinia graminis var. tritici.
Major Adviser: Prof. M. F. Kernkamp.
1965. CARLSON, LAUREN EARL. B.S. '59, M.S. '62, University of Minnesota.
Major: Plant Pathology. Minor: Soil Science.
Thesis: Studies on the Root Rot of Peas Caused by Aphanomyces euteiches Drechs.
Major Adviser: Prof. M. F. Kernkamp.
1965. EL-KANDELGY, SAYED MOSTAFA. B.Sc.(Agric.) '58, Cairo University (Egypt); M.S. '64, University of Minnesota.
Major: Plant Pathology. Minor: Entomology.
Thesis: Effect of Red Clover Flower Extract and Sugars on Infection of Gomphrena globosa by Red Clover Vein-Mosaic Virus.
Major Adviser: Prof. R. D. Wilcoxson.
1965. GARZA-CHAPA, RAUL. Certificate '57, University of Nuevo Leon (Mexico); M.S. '61, Graduate College of the School of Agriculture (Mexico).
Major: Plant Pathology. Minor: Genetics.
Thesis: Studies on the Behavior of Single-Basidiospore Isolates and Heterokaryons of Rhizoctonia solani.
Major Adviser: Prof. N. A. Anderson.
1965. SCHROEDER, DAVID BRUCE. B.S. '57, M.S. '62, University of Minnesota.
Major: Plant Pathology. Minor: Forestry.
Thesis: Seedling Blight, Stalk Rot and Ear Rot of Sweet Corn Caused by Penicillium Oxalicum.
Major Adviser: Prof. M. F. Kernkamp.

1965. WELTY, RONALD EARLE. B.S. '56, Winona State College; M.S. '61, University of Minnesota.
Major: Plant Pathology. Minor: Entomology
Thesis: Factors Influencing Wilt of Muskmelon Caused by Fusarium oxysporum form melonis.
Major Adviser: Prof. C. J. Eide.
1966. CROSS, JOHN EDGAR. B.Sc. '56, University of Wales; M.S. '59, University of Minnesota.
Major: Plant Pathology. Minor: Genetics.
Thesis: Variability in Pathogenicity in the Bacterial Blight Pathogen of Soybeans.
Major Adviser: Prof. C. J. Eide.
1966. FRIAS, LUIS CESAR LOPEZ. Ing. Agronomo '60, University of Coahuila (Mexico); M.S. '62, University of Minnesota.
Major: Plant Pathology. Minor: Entomology.
Thesis: Factors Affecting Invasion of Grains and Seeds by Aspergillus flavus, and Effects of the Fungus on Germination of the Seeds.
Major Adviser: Prof. C. M. Christensen.
1966. LIVINGSTON, CLARK HOLCOMB. B.S. '51, M.S. '53, Colorado State University.
Major: Plant Pathology. Minor: Botany.
Thesis: Phenolic Compounds of Potato Tubers in Relation to Pre-disposition to Bacterial Soft Rot.
Major Adviser: Prof. C. J. Eide.

POULTRY HUSBANDRY, POULTRY SCIENCE

1956. HELBACKA, NORMAN VICTOR LEONARD. B.S. '52, M.S. '54, University of Minnesota.
Major: Poultry Husbandry. Minor: Veterinary Physiology.
Thesis: Studies on Blood and Meat Spots in the Hen's Egg.
Major Adviser: Prof. M. H. Swanson.
1956. TSIEN, WEI SHIANG. B.S. '44, National Central University; M.S. '54, Iowa State College.
Major: Poultry Husbandry. Minor: Food Technology.
Thesis: Availability of Several Amino Acids in Torula Yeast
Major Adviser: Prof. E. L. Johnson.
1960. BENSON, HAROLD NICHOLAS. B.S. with distinction '55, M.S. '57, University of Minnesota.
Major: Poultry Husbandry. Minor: Bacteriology.
Thesis: Requirement of Avian C'1 for Fixation of Guinea Pig Complement by Avian Antibody-Antigen Complexes.
Major Adviser: Prof. M. H. Swanson.
1960. LEIGHTON, ALVAH THEODORE JR. B.S. '51, University of Maine; M.S. '53, University of Massachusetts.
Major: Poultry Husbandry. Minors: Veterinary Anatomy and Veterinary Physiology.
Thesis: Effect of Light Regime-Hatch Interactions on Reproduction of Turkey Populations.
Major Adviser: Prof. R. N. Shoffner.

1960. REDMAN, CHARLES EDWIN. B.S. '54, M.S. '56, University of Massachusetts.
Major: Poultry Husbandry. Minor: Statistics.
Thesis: Estimation of Genetic and Phenotypic Parameters Utilizing Experimental Polyallelele Matings in Poultry.
Major Adviser: Prof. R. N. Shoffner.
1961. FRONING, GLENN WESLEY. B.S. in Agr. '53, M.S. '57, University of Missouri.
Major: Poultry Husbandry. Minor: Agricultural Biochemistry.
Thesis: Some Physical and Chemical Changes Occurring in Oiled and Unoiled Eggs during Short Storage Periods.
Major Adviser: Prof. M. H. Swanson.
1961. SKALA, JAMES HERBERT. B.S. '50, Beloit College; M.S. '57, University of Minnesota.
Major: Poultry Husbandry. Minor: Agricultural Biochemistry.
Thesis: A Study of Certain Physical and Chemical Properties of Chicken Eggs in Relation to Their Initial Albumen Quality and to Some Characteristics of the Hens Which Laid Them.
Major Adviser: Prof. M. H. Swanson.
1962. ROBERTS, CHARLES WILLIAM. B.S. '55, Oklahoma Agricultural and Mechanical College; M.S. '58, University of Minnesota.
Major: Poultry Husbandry. Minors: Zoology and Statistics.
Thesis: Genetic-Nutritional Interactions as Affecting the Early Growth Rate of Chickens.
Major Adviser: Prof. E. L. Johnson.
1963. FEDDE, MARION ROGER. B.S. with honors '57, Kansas State University; M.S. '59, University of Minnesota.
Major: Poultry Science. Minor: Veterinary Anatomy.
Thesis: Neural Control of Avian Respiration.
Major Adviser: Prof. R. E. Burger.
1963. FRANK, FRED RICHARD. B.S. '55, M.S. '60, University of Minnesota.
Major: Poultry Science. Minor: Agricultural Biochemistry.
Thesis: Some Physical and Chemical Factors Associated with Shell Strength.
Major Adviser: Prof. R. E. Burger.
1963. KINNEY, TERRY BRANK, JR. B.S. '55, M.S. '56, University of Massachusetts.
Major: Poultry Science. Minor: Statistics.
Thesis: Estimates of Genetic Parameters and Responses to Selection in Meat Type Poultry Populations.
Major Adviser: Prof. E. L. Johnson.
1963. RICHARDS, JAMES FRANK. B.S. in Agric. '58, M.S. '60, University of Manitoba.
Major: Poultry Science. Minor: Agricultural Economics.
Thesis: A Study of Some Factors Influencing Consumer Preferences and Buying Habits for Turkey and Turkey Products.
Major Adviser: Prof. M. H. Swanson.

1965. FITZSIMMONS, ROBERT CHARLES. B.S. in Agric. '58, Washington State University; M.S. '60, University of Minnesota.
Major: Poultry Science. Minor: Biochemistry.
Thesis: Amino Acid Composition and Metabolic Interrelationships in the Avian Embryo.
Major Adviser: Prof. P. E. Waibel.
1965. WAGH, PREMANAND VINAYAK. B.Sc.(honors) '54, M.Sc. '56, University of Bombay (India); M.S. '62, Southern Illinois University.
Major: Poultry Science. Minor: Biochemistry.
Thesis: Nutritional and Biochemical Aspects of Arabinose and Xylose for Chicks.
Major Adviser: Prof. P. E. Waibel.
1966. KRISTA, LAVERNE MATHEW. B.S. '58, M.S. '60, South Dakota State College.
Major: Poultry Science. Minors: Veterinary Physiology and Pharmacology.
Thesis: The Influence of Diet, Hormonal Administration, and Correlation of Indirect Blood Pressure to the Incidence of Dissecting Aneurysm in the Turkey.
Major Adviser: Prof. P. E. Waibel.

SOILS, SOIL SCIENCE

1957. CHIN, NAI LIN. B.S. '52, Michigan State College; M.S. '54, University of Minnesota.
Major: Soils. Minor: Agronomy.
Thesis: The Influence of Various Nitrogen Carriers on the Availability of Fertilizer Phosphorus by Plants.
Major Adviser: Prof. A. C. Caldwell.
1957. PAWLUK, STEVE. B.Sc. with distinction '53, M.Sc. '55, University of Alberta.
Major: Soils. Minor: Forestry.
Thesis: A Study of Some Forest Soil Characteristics and Their Relations to Jack Pine Growth.
Major Adviser: Prof. H. F. Arneman.
1958. BAKER, DONALD GARDNER. B.S. '49, M.S. '51, University of Minnesota.
Major: Soils. Minors: Geology and Botany.
Thesis: A Comparison of Two Evapotranspiration Calculation Methods and the Application of One to Determine Some Climatic Differences between Great Soil Groups of Minnesota.
Major Adviser: Prof. A. C. Caldwell.
1958. PAUL, ELDOR ALVIN. B.Sc.A. with distinction '54, M.Sc. '56, University of Alberta.
Major: Soils. Minor: Bacteriology.
Thesis: The Extraction and Quantitative Estimation of Free Amino Acids in Soils.
Major Adviser: Prof. E. L. Schmidt.

1959. CHO, CHAI MOO. B.S. '53, Seoul National University; M.S. '57, University of Minnesota.
Major: Soils. Minor: Physical Chemistry.
Thesis: Effect of pH upon the Charge of Clays and Cationic Distribution around Clay Particles.
Major Adviser: Prof. J. M. MacGregor.
1959. HOVLAND, DWIGHT. B.A. '52, St. Olaf College; M.S. '56, University of Minnesota.
Major: Soils. Minor: Agronomy.
Thesis: Some Soil-Plant Relationships of Potassium and Magnesium.
Major Adviser: Prof. A. C. Caldwell.
1959. SCHWARTZBECK, RICHARD ARTHUR. B.S. '54, M.S. '55, University of Wisconsin.
Major: Soils. Minor: Botany.
Thesis: Studies on Fertilizer Nitrogen and Its Loss to the Atmosphere.
Major Adviser: Prof. J. M. MacGregor.
1961. HERMANSON, HARVEY PHILIP. B.S. '54, University of Minnesota; M.S. '57, Cornell University.
Major: Soils. Minor: Agricultural Biochemistry.
Thesis: The Fertility of Some Minnesota Peat Soils.
Major Adviser: Prof. W. P. Martin.
1961. JORGENSEN, JACQUES RICHARD. B.S. with honor '52, Michigan College of Mining and Technology; M.S. '57, Michigan State University.
Major: Soils. Minor: Forestry.
Thesis: Studies on the Nature and Occurrence of Organic Acids in Soils.
Major Adviser: Prof. E. L. Schmidt.
1962. BOELTER, DON HOWARD. B.S. '55, Iowa State College; M.S. '58, University of Minnesota.
Major: Soils. Minor: Plant Pathology.
Thesis: A Study of Some Physical Properties of Several Peat Materials and Their Relation to Field Water Conditions in the Peat Bog.
Major Adviser: Prof. G. R. Blake.
1962. HARPSTEAD, MILO IRVING. B.S. '53, M.S. '57, South Dakota State College.
Major: Soils. Minor: Geology.
Thesis: A Pedological Characterization of Some Profiles in the Gray Wooded Soil Area of Minnesota.
Major Advisers: Profs. W. P. Martin and R. H. Rust.
1963. BECKER, GEORGE EDWARD. B.S. in Pharm. '56, Fordham University; M.S. '60, University of Minnesota.
Major: Soil Science. Minor: Microbiology.
Thesis: Studies with Aspergillus flavus in Relation to Intermediates in Nitrification.
Major Adviser: Prof. E. L. Schmidt.

1963. BURAU, RICHARD GENE. B.S. with distinction '56, M.S. '60, University of Minnesota.
Major: Soil Science. Minor: Analytical Chemistry.
Thesis: An Investigation of Soil Factors in Iron Deficiency Chlorosis of Soybeans.
Major Adviser: Prof. J. M. MacGregor.
1963. HIREKERUR, LAXMIKANT RANGRAO. B.Sc.(Agric.) with distinction '52, Karnatak University (India); M.S. '60, University of Minnesota.
Major: Soil Science. Minor: Agricultural Biochemistry.
Thesis: Clay Mineralogy and Release and Fixation of Potassium in Some Soil Series of Minnesota.
Major Adviser: Prof. R. H. Rust.
1963. TAKYI, SAMUEL KWAKU. B.S. '59, Cornell University; M.S. '61, University of Minnesota.
Major: Soil Science. Minor: Agricultural Plant Physiology.
Thesis: Exchangeable Aluminum, Acidity, and Water-Soluble Phosphate in Some Acid Minnesota Soils as Affected by Added Potassium Monobasic Phosphate and Calcium Hydroxide.
Major Adviser: Prof. A. C. Caldwell.
1963. WEBER, JEROME BERNARD. B.S. '57, M.S. '59, University of Minnesota.
Major: Soil Science. Minor: Analytical Chemistry.
Thesis: Soil and Plant Potassium as Affected by Soil Temperature, Moisture and Continuous Cropping.
Major Adviser: Prof. A. C. Caldwell.
1964. BLANCHAR, ROBERT WAYNE. B.A. '58, Macalester College; M.S. '61, University of Minnesota.
Major: Soil Science. Minor: Agricultural Biochemistry.
Thesis: A Study of Mechanisms for the Effect of Ammonium on the Availability of Fertilizer Phosphorus to Plants.
Major Adviser: Prof. A. C. Caldwell.
1964. HANSON, ROGER GORDON. B.S. '57, Wisconsin State College (River Falls); M.S. '61, University of Minnesota.
Major: Soil Science. Minor: Horticulture.
Thesis: An Investigation of Fertilizer Nitrogen Losses to the Atmosphere from Three Minnesota Soils.
Major Adviser: Prof. J. M. MacGregor.
1964. KLINE, JERRY ROBERT. B.S. with distinction '57, M.S. '60, University of Minnesota.
Major: Soil Science. Minor: Analytical Chemistry.
Thesis: An Investigation of Copper and Other Selected Elements in Soils Utilizing Gamma Radiations Induced by Thermal Neutron Activation.
Major Adviser: Prof. R. H. Rust.
1964. MILLER, ROBERT HAROLD. B.S. '58, Wisconsin State College (River Falls); M.S. '61, University of Minnesota.
Major: Soil Science. Minor: Microbiology.
Thesis: Intact Assimilation of Amino Acids from Sterile Soil by Phaseolus vulgaris.
Major Adviser: Prof. E. L. Schmidt.

1964. PHILLIPS, MARVIN WAYNE. B.S. in Agric. '53, M.S. '58, Purdue University.
Major: Soil Science. Minor: Agricultural Plant Physiology.
Thesis: Importance of Organic Phosphorus in Predicting Soil Phosphorus Availability.
Major Adviser: Prof. A. C. Caldwell.
1965. AHLRICHS, LOREN EDWIN. B.S. '54, Iowa State University; M.S. '59, University of Minnesota.
Major: Soil Science. Minor: Botany.
Thesis: Ammonium Fixation and Release on Some Minnesota Soils.
Major Adviser: Prof. J. M. MacGregor.
1965. FOSS, JOHN EVERETT. B.S. '57, Wisconsin State College (River Falls); M.S. '59, University of Minnesota.
Major: Soil Science. Minor: Geology.
Thesis: Soil Genesis Study of a Lithologic Discontinuity Observed in Glacial Drift in Western Wisconsin.
Major Adviser: Prof. R. H. Rust.
1965. HANSON, LOWELL DENNIS. B.S. '51, M.S. '56, University of Minnesota.
Major: Soil Science. Minors: Agricultural Economics and Geography.
Thesis: Soil Characteristics and Changes in Minnesota Agricultural Land Use.
Major Adviser: Prof. W. P. Martin.
1965. PLUTH, DONALD JOHN. B.S. '58, M.S. '62, University of Minnesota.
Major: Soil Science. Minor: Forestry.
Thesis: A Site Evaluation for Jack Pine in North-Central Minnesota.
Major Adviser: Prof. H. E. Arneman.
1966. FINNEY, HARLAN RODERICK. B.Sc. in Agric. '52, M.Sc. '59, Ohio State University.
Major: Soil Science. Minor: Forestry.
Thesis: Some Characteristics of Four Raised Bogs in Northern Minnesota; Stratigraphic Relationships and Mineralogical Properties of the Inorganic Fraction.
Major Adviser: Prof. R. S. Farnham.

VETERINARY ANATOMY

1957. STROMBERG, MELVIN WILLARD. B.S. with distinction '53, D.V.M. '54, University of Minnesota.
Major: Veterinary Anatomy. Minor: Physiology.
Thesis: Studies of Congenital Tremor in Pigs.
Major Adviser: Prof. R. L. Kitchell.
1963. BREAZILE, JAMES EDWARD. B.S. in Agric. '58, D.V.M. '58, University of Missouri.
Major: Veterinary Anatomy. Minor: Physiology.
Thesis: A Study of Pain Mechanisms in Animals.
Major Adviser: Prof. R. L. Kitchell.

1964. HART, BENJAMIN LESLIE, III. B.S. with distinction '58, D.V.M. '60, University of Minnesota.
Major: Veterinary Anatomy. Minor: Psychology.
Thesis: Studies on Spinal Sexual Reflexes in the Male Dog and Their Relation to Sexual Behavior.
Major Adviser: Prof. R. L. Kitchell.
1964. RAO, GADDE SYAMASUNDARA. B.V.Sc. '52, University of Madras (India).
Major: Veterinary Anatomy. Minor: Dairy Husbandry.
Thesis: An Investigation of Pain Pathways in Sheep.
Major Adviser: Prof. R. L. Kitchell.
1965. FLETCHER, THOMAS FRANCIS. D.V.M. '61, Cornell University.
Major: Veterinary Anatomy. Minor: Neurology.
Thesis: Studies on the Canine Spinal Cord.
Major Adviser: Prof. A. F. Weber.
1966. PRIEDKALNS, JANIS. B.Vet.Sc. '59, University of Sydney (Australia).
Major: Veterinary Anatomy. Minor: Microbiology.
Thesis: Morphological Studies of the Wall of the Bovine Ovarian Follicle and Developing Corpus Luteum.
Major Adviser: Prof. A. F. Weber.

VETERINARY BACTERIOLOGY

1957. MATANEY, CHANCHALDAS FATEHCHAND. Graduate '43, Bombay Veterinary College; M.S. '55, University of Minnesota.
Major: Veterinary Bacteriology. Minor: Bacteriology.
Thesis: Studies on the Agent of Infectious Sinusitis of Turkeys and Chronic Respiratory Disease of Chickens.
Major Adviser: Prof. B. S. Pomeroy.
1958. GALE, CHARLES. D.V.M. with honor '52, Michigan State College; M.P.H. '55, University of Minnesota.
Major: Veterinary Bacteriology. Minor: Public Health.
Thesis: Characteristics of an Ornithosis Virus Strain of Low Virulence.
Major Adviser: Prof. B. S. Pomeroy.
1959. SUBRAMANYAM, PADMANABHA. B.V.Sc. '53, University of Madras; M.S. '57, University of Minnesota.
Major: Veterinary Bacteriology. Minor: Pathology.
Thesis: The Isolation and Characterization of Two Isolates of a Previously Unrecognized Enterovirus of Chickens.
Major Adviser: Prof. B. S. Pomeroy.
1961. CHO, BYUNG RYUL. D.V.M. '50, Seoul National University; M.S. '59, University of Minnesota.
Major: Veterinary Bacteriology. Minor: Public Health.
Thesis: Studies on an Agglutinin in Normal Chicken Serum for Periodate-Treated Erythrocytes.
Major Adviser: Prof. B. S. Pomeroy.

1962. DUTTA, SUKANTA KUMAR. B.Sc.(Vet.) '56, Bombay Veterinary College; M.S. '59, University of Minnesota.
Major: Veterinary Bacteriology. Minor: Pathology.
Thesis: Isolation and Characterization of an Enterovirus Isolated from Baby Chicks Having an Enteric Infection.
Major Adviser: Prof. B. S. Pomeroy.
1962. JEON, YUN SEONG. D.V.M. '51, Seoul National University; M.S. '59, University of Minnesota.
Major: Veterinary Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Modified Complement Fixation Test of Avian Infectious Bronchitis Virus.
Major Adviser: Prof. B. S. Pomeroy.
1962. KENYON, ALAN JOHN. B.S. with distinction '54, D.V.M. '57, University of Minnesota.
Major: Veterinary Bacteriology. Minor: Agricultural Biochemistry.
Thesis: The Isolation and Characterization of a 12S Brucella-Agglutinin from Bovine Milk.
Major Adviser: Prof. B. S. Pomeroy.
1962. KUMAR, SURENDRA. B.V.Sc. & A.H. '57, U. P. College of Veterinary Science and Animal Husbandry (India).
Major: Veterinary Bacteriology. Minor: Pathology.
Thesis: The Isolation and Characterization of Staphylococcal Alpha Hemolysin.
Major Advisers: Profs. B. S. Pomeroy and R. K. Lindorfer.
1963. BATES, HENRY ALBERT. B.A. '51, M.S. '60, University of Minnesota.
Major: Veterinary Bacteriology. Minor: Pathology.
Thesis: Immunological and Immunochemical Studies on Ornithosis Isolates of Turkeys.
Major Adviser: Prof. B. S. Pomeroy.
1964. DIERKS, RICHARD ERNEST. B.S. '57, D.V.M. '59, University of Minnesota.
Major: Veterinary Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Serological Studies and Characterization of Avian Mycoplasma.
Major Adviser: Prof. B. S. Pomeroy.
1964. SINGH, VIJAI BAHADUR. B.V.Sc. & A.H. '58, U. P. Veterinary College (India); M.S. '63, University of Minnesota.
Major: Veterinary Bacteriology. Minor: Dairy Husbandry.
Thesis: Studies on the Etiology of a Transmissible Disease Causing Infertility in Female Turkeys.
Major Adviser: Prof. B. S. Pomeroy.
1964. WEDMAN, ELWOOD EDWARD. D.V.M. '45, Kansas State College; M.P.H. '57, University of Minnesota.
Major: Veterinary Bacteriology. Minor: Public Health.
Thesis: GEL Double Diffusion Studies for Tuberculosis in Bovine Serum.
Major Adviser: Prof. B. S. Pomeroy.

1966. MANOHAR, MURLI. B.V.Sc. & A.H. '59, University of Rajasthan (India); M.S. '64, M.P.H. '65, University of Minnesota.
Major: Veterinary Bacteriology. Minor: Pathology.
Thesis: Characterization of Purified Staphylococcal Alpha Toxin.
Major Advisers: Profs. B. S. Pomeroy and R. K. Lindorfer.

VETERINARY MEDICINE

1956. GROSS, WALTER BURNHAM. D.V.M. '46, Ohio State University; M.S. '52, University of Minnesota.
Major: Veterinary Medicine. Minor: Pathology.
Thesis: Chronic Respiratory Disease of Chickens and Infectious Sinusitis of Turkeys--Escherichia coli as a Complicating Factor.
Major Adviser: Prof. B. S. Pomeroy.
1956. LOW, DONALD GOTTLÖB. D.V.M. '47, Kansas State College of Agriculture and Applied Science.
Major: Veterinary Medicine. Minor: Pharmacology.
Thesis: Experimental Canine Leptospirosis.
Major Adviser: Dr. G. W. Mather.
1956. ROWSELL, HARRY CECIL. D.V.M. '49, D.V.P.H. '50, University of Toronto.
Major: Veterinary Medicine. Minor: Pathology.
Thesis: Studies on the Experimental Production of Swine Erysipelas.
Major Adviser: Prof. J. H. Sautter.
1957. LARSON, LESTER LEROY. B.S. with high distinction '50, D.V.M. '53, M.S. '53, University of Minnesota.
Major: Veterinary Medicine. Minor: Bacteriology.
Thesis: Neuroanatomical and Neurophysiological Studies of the External Genitalia of the Bull and Ram.
Major Adviser: Prof. R. L. Kitchell.
1957. LUMB, WILLIAM VALJEAN. D.V.M. '43, Kansas State College of Agriculture and Applied Science; M.S. '53, Agricultural and Mechanical College of Texas.
Major: Veterinary Medicine. Minor: Pharmacology.
Thesis: A Study of Canine Haemobartonellosis.
Major Adviser: Prof. G. W. Mather.
1957. SAUER, FRANK. D.V.M. '51, Ontario Veterinary College; M.S. '53, University of Minnesota.
Major: Veterinary Medicine. Minor: Agricultural Biochemistry.
Thesis: Studies of the Oxygen Uptake by Liver Homogenates from Normal and Ketotic Cows.
Major Adviser: Prof. H. H. Hoyt.
1957. USENIK, EDWARD ANTHONY. B.S. '50, D.V.M. '52, University of Minnesota.
Major: Veterinary Medicine. Minor: Pathology.
Thesis: Sympathetic Innervation of the Head and Neck of the Horse; Neuropharmacological Studies of Sweating in the Horse.
Major Adviser: Prof. R. L. Kitchell.

1957. ZEMJANIS, RAIMUNDS. D.V.M. '48, Royal Veterinary College (Sweden).
Major: Veterinary Medicine. Minor: Pharmacology.
Thesis: The Effect of Enzyme Inhibitors and Growth Factors on Vibrio fetus, Proteus vulgaris and Pseudomonas aeruginosa as Related to the Diagnosis of Bovine Vibriosis.
Major Adviser: Prof. H. H. Hoyt.
1959. CLIFFORD, DONALD HANSON. D.V.M. '50, University of Montreal; M.P.H. '55, University of Minnesota.
Major: Veterinary Medicine. Minor: Public Health.
Thesis: Effect of Preanesthetic Medication on Barbiturate Anesthesia, Hypothermia, Traumatic Shock and Lethal Dose of Pentobarbital in the Feline Species.
Major Adviser: Prof. G. W. Mather.
1959. CONNER, GABEL HENRY. B.S. '40, D.V.M. '41, Washington State College; M.S. '43, Iowa State College.
Major: Veterinary Medicine. Minor: Physiology.
Thesis: The Effects of Collection Methods and Certain Stimuli on the Secretion Rate and Physico-Chemical Properties of Mixed and Individual Gland Saliva of the Bovine.
Major Adviser: Prof. G. W. Mather.
1959. JOHNSTON, RAYMOND FRANK. B.S. '35, University of Missouri; M.S. '48, D.V.M. with distinction '49, Michigan State College.
Major: Veterinary Medicine. Minor: Pharmacology.
Thesis: Toxicological Studies on Certain Tranquilizing Drugs.
Major Adviser: Prof. G. W. Mather.
1959. LOKEN, KEITH IRVING. B.S. with high distinction '51, D.V.M. '53, University of Minnesota.
Major: Veterinary Medicine. Minor: Bacteriology.
Thesis: Studies on Infection of the Bovine Mammary Gland with Staphylococci.
Major Adviser: Prof. H. H. Hoyt.
1959. SCHWARTZMAN, ROBERT MAYER. D.V.M. '52, University of Pennsylvania; M.P.H. '58, University of Minnesota.
Major: Veterinary Medicine. Minor: Public Health.
Thesis: A Clinico-Pathological Study of Small Animal Dermatoses.
Major Adviser: Prof. G. W. Mather.
1961. JHA, SAROJ KANT. G.B.V.C. '51, Bihar Veterinary College; M.S. '59, Michigan State University.
Major: Veterinary Medicine. Minor: Pharmacology.
Thesis: Effects of Preanesthetic Medication with Morphine Sulfate, Oxymorphone Hydrochloride and Atropine Sulfate on the Anesthetic Dose and Lethal Dose of Pentobarbital Sodium in the Dog; Experimental and Clinical Study.
Major Advisers: Profs. H. H. Hoyt and J. P. Arnold.
1961. WASS, WALLACE MILTON. B.S. with distinction '51, D.V.M. '53, University of Minnesota.
Major: Veterinary Medicine. Minor: Pathology.
Thesis: Studies on Bovine Porphyria.
Major Adviser: Prof. H. H. Hoyt.

1962. ENGEL RONALD EUGENE. B.S. '52, D.V.M. '54, University of Minnesota.
Major: Veterinary Medicine. Minor: Radiology.
Thesis: Hematological Studies of the Burro Exposed to Cobalt -60 Irradiation to the Region of the Head.
Major Adviser: Prof. F. A. Spurrell.
1962. GOURLEY, IRA MALCOM GARY. B.S. '50, Utah State Agricultural College; D.V.M. '55, The State College of Washington.
Major: Veterinary Medicine. Minor: Pathology.
Thesis: Studies of Experimental Canine Leptospirosis.
Major Adviser: Prof. J. P. Arnold.
1962. HANSON, LYLE JAY. B.S. '47, University of South Carolina; D.V.M. '52, University of Minnesota.
Major: Veterinary Medicine. Minor: Pathology.
Thesis: Studies on Parakeratosis and Exudative Epidermitis in Swine.
Major Adviser: Prof. D. K. Sorensen.
1962. HERSCHLER, RICHARD CARROLL. B.S. '54, D.V.M. '56, University of Minnesota.
Major: Veterinary Medicine. Minor: Bacteriology.
Thesis: The Diagnosis of Vibriosis in the Bovine.
Major Adviser: Prof. D. K. Sorensen.
1962. TYAGI, RAJ PAL SINGH. B.V.Sc. '53, U. P. College of Veterinary Science and Animal Husbandry (India); M.S. '59, Michigan State University.
Major: Veterinary Medicine. Minor: Pathology.
Thesis: Effects of Pentothal Sodium Anesthesia on the Horse.
Major Adviser: Prof. J. P. Arnold.
1963. BARNES, DONALD MCLEOD. B.S. with high distinction '53, D.V.M. '55, University of Minnesota.
Major: Veterinary Medicine. Minor: Pathology.
Thesis: Mechanisms of Pathogenesis of Clostridial Myonecrosis.
Major Adviser: Prof. D. K. Sorensen.
1963. CATES, WILLIAM FRANCIS. B.S. with distinction '52, D.V.M. '54, University of Minnesota.
Major: Veterinary Medicine. Minor: Microbiology.
Thesis: Minimum Daily Exogenous Progesterone Requirement for Implantation in the Bovine Species.
Major Adviser: Prof. Raimunds Zemjanis.
1963. JOHNSON, DONALD WILBUR. B.S. with high distinction '51, D.V.M. '53, University of Minnesota.
Major: Veterinary Medicine. Minor: Microbiology.
Thesis: Clinical and Experimental Studies on Shipping Fever of Cattle.
Major Advisers: Profs. H. H. Hoyt and D. K. Sorensen.
1963. SIDDIQUE, IRTAZA HUSAIN. Graduate '50, Bihar Veterinary College (India); M.S. '61, University of Minnesota.
Major: Veterinary Medicine. Minor: Pathology.
Thesis: In vivo Diffusion of Certain Antibiotics in the Milk of Dairy Cattle.
Major Adviser: Prof. H. H. Hoyt.

1964. OLSON, NED ELDON. B.S. with distinction '58, D.V.M. '60, University of Minnesota.
Major: Veterinary Medicine. Minor: Microbiology.
Thesis: Studies on the Effects of Vaccination of Dairy Cattle against Staphylococcic Mastitis.
Major Adviser: Prof. H. H. Hoyt.
1964. SINGH, RAJENDRA PRASAD. B.S. '56, B.V.Sc. & A.H. '58, Agra University; M.S. '62, University of Minnesota.
Major: Veterinary Medicine. Minor: Microbiology.
Thesis: Microbiological Survey of Poultry Houses and Hatcheries--The Isolation, Characterization and Pathogenicity of the More Commonly Found Bacteria.
Major Adviser: Prof. H. H. Hoyt.
1966. FINCO, DELMAR ROY. B.S. with distinction '57, D.V.M. '59, University of Minnesota.
Major: Veterinary Medicine. Minor: Biochemistry.
Thesis: Studies of Canine Leptospirosis and Leptospira canicola.
Major Adviser: Prof. D. G. Low.

VETERINARY OBSTETRICS AND GYNECOLOGY

1966. SCHULTZ, RICHARD HAROLD. B.S. '59, D.V.M. '61, University of Minnesota.
Major: Veterinary Obstetrics and Gynecology. Minor: Biochemistry.
Thesis: Some Chemical Studies of Uterine Fluids and Blood Serum in Normal Cows.
Major Adviser: Prof. Raimunds Zemjanis.

VETERINARY PARASITOLOGY

1965. SCHLOTTHAUER, JOHN CARL. B.S. '52, D.V.M. '54, University of Minnesota.
Major: Veterinary Parasitology. Minor: Microbiology.
Thesis: Host-Parasite Relationships of Dirofilaria immitis in the Dog.
Major Adviser: Prof. H. J. Griffiths.
1965. SHELTON, GEORGE CALVIN. D.V.M. '48, Texas A. & M. College; M.S. in Vet. Med. '52, Auburn University.
Major: Veterinary Parasitology. Minor: Microbiology.
Thesis: Host-Parasite Relationship Studies of Oesophagostomum columbianum (Curtice, 1890) Stossich, 1899 in Domestic Sheep.
Major Adviser: Prof. H. J. Griffiths.

VETERINARY PATHOLOGY

1959. CLARK, JOHN JEFFERSON. D.V.M. '53, University of Georgia.
Major: Veterinary Pathology. Minor: Bacteriology.
Thesis: Experimental Porcine Leptospirosis.
Major Adviser: Prof. J. H. Sautter.

1960. WILLIGAN, DONALD ALEXANDER. B.S. in Ag. '48, University of Manitoba; D.V.M. '52, University of Toronto; M.S. '55, University of Illinois.
Major: Veterinary Pathology. Minor: Agricultural Biochemistry.
Thesis: Studies on the Distribution and Excretion of Cobalt 60-Vitamin B₁₂ in the Dog and Rat.
Major Adviser: Prof. J. H. Sautter.
1961. SIMPSON, CHARLES FLOYD. B.S. in Agric. '40, Rutgers University; D.V.M. '43, Cornell University; M.Sc. '55, The Ohio State University.
Major: Veterinary Pathology. Minor: Bacteriology.
Thesis: The Etiology and Pathology of Dissecting Aneurysms of Turkeys.
Major Adviser: Prof. J. H. Sautter.
1962. PERMAN, VICTOR. B.S. with high distinction '53, D.V.M. '55, University of Minnesota.
Major: Veterinary Pathology. Minor: Agricultural Biochemistry.
Thesis: The Regenerative Ability of Hematopoietic Tissue Following Lethal X-Irradiation in Dogs.
Major Adviser: Prof. J. H. Sautter.
1963. NIELSON, NIELS OLE. D.V.M. '56, University of Toronto.
Major: Veterinary Pathology. Minor: Agricultural Biochemistry.
Thesis: Studies on Edema Disease of Swine.
Major Adviser: Prof. J. H. Sautter.
1963. STRAFUSS, ALBERT CHARLES. B.S. '54, D.V.M. '54, Kansas State University; M.S. '58, Iowa State University.
Major: Veterinary Pathology. Minor: Microbiology.
Thesis: The Effects of S-(Dichlorovinyl)-L-Cysteine (DCVC) on Tissues with Particular Emphasis on the Kidney.
Major Adviser: Prof. J. H. Sautter.
1964. BALL, ROGER ALLEN. D.V.M. '54, Iowa University.
Major: Veterinary Pathology. Minor: Physiological Chemistry.
Thesis: A Study of Dissecting Aneurysm in the Turkey.
Major Adviser: Prof. J. H. Sautter.
1964. JOEL, DARREL DEAN. B.S. with high distinction '56, D.V.M. '58, University of Minnesota.
Major: Veterinary Pathology. Minor: Agricultural Biochemistry.
Thesis: Studies on Lymph and Lymphopoieses in the Calf and the Relationship to S-(Dichlorovinyl)-L-Cysteine Toxicity.
Major Adviser: Prof. J. H. Sautter.
1965. BERGELAND, MARTIN ELISHA. B.S. with high distinction '57, D.V.M. '59, University of Minnesota.
Major: Veterinary Pathology. Minor: Microbiology.
Thesis: Studies of a Porcine Enterotoxemia Caused by Clostridium perfringens Type C.
Major Adviser: Prof. D. K. Sorensen.

1965. JOHNSON, KENNETH HARVEY. B.S. '58, D.V.M. '60, University of Minnesota.
Major: Veterinary Pathology. Minor: Microbiology.
Thesis: Experimental Feline Panleukopenia.
Major Adviser: Prof. Victor Perman.
1965. MOON, HARLEY WILLIAM. B.S. with distinction '58, D.V.M. '60, University of Minnesota.
Major: Veterinary Pathology. Minor: Microbiology.
Thesis: The Association of Escherichia coli with Diarrheal Disease of the Newborn Pig.
Major Adviser: Prof. D. K. Sorensen.
1965. PAYNE, BOBBY JOE. D.V.M. '56, M.S. '60, Texas A. & M. College.
Major: Veterinary Pathology. Minor: Physical Chemistry.
Thesis: Pathology of Malignant Lymphoma (Lymphocytic Leukemia) in Cattle.
Major Adviser: Prof. J. H. Sautter.
1965. WARNER, STANLEY DEAN. B.S. with high honor '57, D.V.M. '59, Michigan State University.
Major: Veterinary Pathology. Minor: Agricultural Biochemistry.
Thesis: Studies on the Pathogenesis of *Vibrio coli* Infection of Swine.
Major Adviser: Prof. Victor Perman.
1966. KURTZ, HAROLD JOHN. B.S. '54, South Dakota State College; D.V.M. '58, University of Minnesota.
Major: Veterinary Pathology. Minor: Microbiology.
Thesis: A Study of Factors Influencing Aortic Dissecting Aneurysms.
Major Adviser: Prof. J. H. Sautter.

VETERINARY PHYSIOLOGY AND PHARMACOLOGY

1958. STEVENS, CHARLES EDWARD. B.S. '51, D.V.M. '55, M.S. '55, University of Minnesota.
Major: Veterinary Physiology. Minor: Pharmacology.
Thesis: Studies on the Reflex Regulation of the Ruminant Stomach, with Special Reference to the Eructation Reflex.
Major Advisers: Profs. A. F. Sellers and C. M. Stowe.
1959. BERGMAN, EMMETT NORLIN. B.S. with high distinction '50, D.V.M. '53, M.S. '53, University of Minnesota.
Major: Veterinary Physiology and Pharmacology. Minor: Pharmacology.
Thesis: Metabolic Studies on Hypoglycemic Ketosis in Pregnant Guinea Pigs.
Major Adviser: Prof. A. F. Sellers.
1960. DZIUK, HAROLD EDMUND. B.S. with distinction '51, D.V.M. '54, M.S. '55, University of Minnesota.
Major: Veterinary Physiology and Pharmacology. Minor: Agricultural Biochemistry.
Thesis: Physiological Studies of Some Chemical Factors in Legumes as Related to Motor Functions of the Ruminant Stomach.
Major Adviser: Prof. A. F. Sellers.

1960. SULLIVAN, JOHN PATRICK. B.S. with high distinction '51, D.V.M. '53, Colorado Agricultural and Mechanical College.
Major: Veterinary Physiology and Pharmacology. Minor: Physiological Chemistry.
Thesis: Studies on Progesterone Metabolism in Normal Dairy Cows.
Major Adviser: Prof. A. F. Sellers.
1961. DICKSON, WILLIAM MORRIS. D.V.M. '49, Colorado State College of Agriculture and Mechanic Arts; M.S. in V.M. '53, The State College of Washington.
Major: Veterinary Physiology and Pharmacology. Minor: Physiological Chemistry.
Thesis: Studies concerning Adrenal Cortical Function in Pregnant and Fasted-Pregnant Sheep.
Major Advisers: Prof. P. B. Hammond and A. F. Sellers.
1961. DUNLOP, ROBERT HUGH. D.V.M. '56, University of Toronto.
Major: Veterinary Physiology and Pharmacology. Minor: Agricultural Biochemistry.
Thesis: A Study of Factors Related to the Functional Impairment Resulting from Loading the Rumen of Cattle with High Carbohydrate Feeds.
Major Adviser: Prof. P. B. Hammond.
1963. ARONSON, ARTHUR LAWRENCE. B.S. '55, D.V.M. '57, University of Minnesota; M.S. '59, Cornell University.
Major: Veterinary Physiology and Pharmacology. Minor: Agricultural Biochemistry.
Thesis: Factors Determining the Efficiency and Degree of Lead Mobilization from Soft Tissue by a Chelating Agent.
Major Adviser: Prof. P. B. Hammond.
1964. SISODIA, CHATURBHUI SINGH. B.V.Sc. & A.H. '58, Agra University (India); M.S. '60, Michigan State University.
Major: Veterinary Physiology and Pharmacology. Minor: Agricultural Biochemistry.
Thesis: The Mechanism of Excretion of Various Drugs in the Bovine Milk.
Major Adviser: Prof. C. M. Stowe.
1965. GEHRING, PERRY JAMES. B.S. with distinction '60, D.V.M. '60, University of Minnesota.
Major: Veterinary Physiology and Pharmacology. Minor: Physical Chemistry.
Thesis: The Interrelationship between Thallium and Potassium in Animals.
Major Adviser: Prof. P. B. Hammond.
1965. WHIPP, SHANNON CARL. B.S. with distinction '57, D.V.M. '59, University of Minnesota.
Major: Veterinary Physiology and Pharmacology. Minor: Agricultural Biochemistry.
Thesis: Studies of the Secretion of Aldosterone, Corticosterone and Hydrocortisone in Salt Depleted Calves.
Major Adviser: Prof. A. L. Good.

BIOLOGICAL SCIENCES

BOTANY

1956. BLAISDELL, JAMES PERSHING. B.S. '39, Utah State Agricultural College; M.S. '42, University of Idaho.
Major: Botany. Minors: Biostatistics and Animal Husbandry.
Thesis: Seasonal Development and Yield of Native Plants on the Upper Snake River Plains of Idaho and Their Relation to Climatic Factors, Especially Precipitation and Temperature.
Major Adviser: Prof. D. B. Lawrence.
1956. EHRlich, HOWARD GEORGE. B.S. '48, Marquette University.
Major: Botany. Minor: Plant Pathology.
Thesis: Cytological Studies in Saintpaulia Wendl. (Gesneriaceae).
Major Adviser: Prof. A. O. Dahl.
1656. HABERMANN, HELEN MARGARET. B.A. summa cum laude '49, New York State College for Teachers; M.S. '51, University of Connecticut.
Major: Botany. Minor: Agricultural Biochemistry.
Thesis: Investigation of the Mehler Reaction and Related Light Dependent Oxygen Metabolism of Chloroplast Preparations.
Major Adviser: Prof. A. H. Brown.
1957. PIERCE, RICHARD LEROY. B.S. with honors '49, Michigan College of Mining and Technology; M.S. '54, University of Minnesota.
Major: Botany. Minor: Geology.
Thesis: Early Upper Cretaceous Plant Microfossils of Minnesota.
Major Adviser: Prof. J. W. Hall.
1957. ROWLEY, JOHN RAYMOND. B.A. '50, University of California at Los Angeles; M.A. '53, University of Oregon.
Major: Botany. Minor: Zoology.
Thesis: The Fine Structure of the Pollen Wall in the Commelinaceae Reichenb.
Major Adviser: Prof. A. O. Dahl.
1957. WEBER, A. VINCENT. B.E. '50, M.S. '52, Duquesne University.
Major: Botany. Minor: Plant Genetics.
Thesis: Growth of the Shoot Apex in Dwarf-1 and Its Normal Segregates in Four Inbred Lines of Maize.
Major Adviser: Prof. E. C. Abbe.
1958. MOIR, DAVID ROSS. B.Sc. (honors) '40, M.Sc. '42, University of Manitoba.
Major: Botany. Minors: Geology and Zoology.
Thesis: A Floristic Survey of the Severn River Drainage Basin of Northwestern Ontario.
Major Adviser: Prof. G. B. Ownbey.
1959. PETERSON, ROALD ARNOLD. B.S. '38, M.S. '39, North Dakota Agricultural College.
Major: Botany. Minors: Biostatistics and Soils.
Thesis: Influence of Grazing History Upon Responses of Stipa comata Trin. and Rupr. to Frequent Defoliation and Other Treatments at Miles City, Montana.
Major Advisers: Profs. G. B. Ownbey and W. E. Martin.

1959. STERN, KINGSLEY ROWLAND. B.S. '49, Wheaton College; M.A. '50 University of Michigan.
Major: Botany. Minor: Horticulture.
Thesis: A Revision of the Genus Dicentra Bernh. (Fumariaceae).
Major Adviser: Prof. Thomas Morley.
1960. HSI, YU-TSENG. B.S. '40, National Central University; M.S. '54, University of Minnesota.
Major: Botany. Minor: Horticulture.
Thesis: Taxonomy, Distribution and Relationships of the Species of Cirsium Belonging to the Series Undulata.
Major Adviser: Prof. G. B. Ownbey.
1960. PRATT, DOUGLAS CHARLES. B.S. with distinction '52, M.A. '59, University of Minnesota.
Major: Botany. Minor: Agricultural Biochemistry.
Thesis: Studies on the Metabolism of Molecular Nitrogen and Carbon Dioxide by Rhodospirillum rubrum.
Major Adviser: Prof. A. W. Frenkel.
1961. MALONEY, NORMA ALEJANDRO. B.S. Phar. cum laude '48, University of the Philippines; M.S. '52, Emory University.
Major: Botany. Minors: Zoology and Plant Genetics.
Thesis: Comparative Morphology of Spores of the Ferns and Fern Allies of Minnesota.
Major Adviser: Prof. A. O. Dahl.
1963. ABELES, FRED BERNARD. B.S. '57, Cornell University.
Major: Botany. Minor: Agricultural Biochemistry.
Thesis: Cell Free Photoreduction.
Major Adviser: Prof. A. H. Brown.
1963. NORTON, NORMAN JAMES. B.A. '58, Southern Illinois University; M.S. '60, University of Minnesota.
Major: Botany. Minor: Geology.
Thesis: Palynology of the Upper Cretaceous and Lower Tertiary in the Type Locality of the Hell Creek Formation.
Major Adviser: Prof. J. W. Hall.
1964. CAHOON, ELIZABETH JERABEK. B.A. summa cum laude '55, University of Minnesota.
Major: Botany. Minors: Geology and Zoology.
Thesis: Lower Cretaceous Pollen and Spores from the Southern Black Hills.
Major Adviser: Prof. J. W. Hall.
1964. KAUL, ROBERT BRUCE. B.S. with distinction '57, M.A. '59, University of Minnesota.
Major: Botany. Minor: Geography.
Thesis: A Phylogenetic Study of the Flowers of the Butomaceae and the Hydrocharitaceae.
Major Adviser: Prof. E. C. Abbe.

1964. MCANDREWS, JOHN HENRY. B.S. '57, College of St. Thomas; M.S. '59, University of Minnesota.
Major: Botany. Minor: Geology.
Thesis: Postglacial Vegetation History of the Prairie-Forest Transition of Northwestern Minnesota.
Major Adviser: Prof. D. B. Lawrence.
1965. COST, KONSTANTINE. B.S. '53, Long Island University; M.A. '56, Brooklyn College.
Major: Botany. Minor: Zoology.
Thesis: Enzymatic Reactions in Rhodospirillum Rubrum: Studies on the Reduction of 2,3-Dimethoxy-5-Methyl-1,4-Benzoquinone by Isolated Chromatophores.
Major Adviser: Prof. A. W. Frenkel.
1965. KIHARA, TORU. B.S. '57, M.S. '64, University of Minnesota.
Major: Botany. Minors: Biochemistry and Organic Chemistry.
Thesis: Studies on Bacteriopeophytin-Containing Particles Isolated from Rhodospirillum Rubrum.
Major Adviser: Prof. A. W. Frenkel.
1965. MELCHIOR, ROBERT CHARLES. B.S. '58, Moorhead State College; M.S. '60, University of Minnesota.
Major: Botany. Minor: Geology.
Thesis: Pollen and Spores of the Shawmut Anticline, Montana.
Major Adviser: Prof. J. W. Hall.
1965. MEYER, RICHARD LEE. B.S. in Ed. '54, Missouri Valley College.
Major: Botany. Minor: Zoology.
Thesis: Morphology, Cytology and Life History of Certain Chrysophyceae.
Major Advisers: Profs. A. J. Brook and R. E. Norris.

PHARMACOGNOSY

1956. CALL, TRACEY GILLETTE. B.S. '40, Idaho State College; M.S. '44, University of Maryland; B.A. '47, Brigham Young University.
Major: Pharmacognosy. Minors: Pharmacology and Botany.
Thesis: A Pharmacognostical Investigation of Pteryxia terebinthina (Hook.) Coult. and Rose var. terebinthina.
Major Adviser: Prof. E. B. Fischer.

ZOOLOGY

1956. STEINBERG, MALCOLM SAUL. B.A. cum laude '52, Amherst College; M.A. '54, University of Minnesota.
Major: Zoology. Minor: Physiological Chemistry.
Thesis: The Tissue Architecture Factor in the Differentiation Process.
Major Adviser: Prof. N. T. Spratt, Jr.
1957. BELLIS, EDWARD DAVID. B.S. '51, Pennsylvania State College; M.S. '53, University of Oklahoma.
Major: Zoology. Minor: Botany.
Thesis: An Ecological Study of the Wood Frog, Rana sylvatica Le Conte.
Major Adviser: Prof. Samuel Eddy.

1957. KROMAN, RONALD AVRON. B.A. cum laude '49, M.A. '54 University of Minnesota.
Major: Zoology. Minor: Botany.
Thesis: An Investigation of an Hereditary Melanotic Tumor in Drosophila melanogaster: tu^{51f}.
Major Adviser: Prof. D. J. Merrell.
1957. MYRIANTHOPOULOS, NTINOS CLEOVOULOU. B.S. '52, George Washington University; M.S. '54, University of Minnesota.
Major: Zoology. Minors: Biostatistics and Pathology.
Thesis: A Genetic Study of Multiple Sclerosis in Twins and Their Relatives.
Major Adviser: Prof. S. C. Reed.
1957. SCHLESINGER, ALLEN BRIAN. B.A. cum laude '49, M.S. '51, University of Minnesota.
Major: Zoology. Minor: Agricultural Biochemistry.
Thesis: The Structural Significance of the Avian Yolk in Embryogenesis.
Major Adviser: Prof. N. T. Spratt.
1958. CLARK, HULDA REGEHR. B.A. '49, M.A. '50, University of Saskatchewan.
Major: Zoology. Minor: Botany.
Thesis: A Study of the Ion Balance of Crayfish Muscle; Evidence for Two Compartments of Cellular Potassium.
Major Advisers: Profs. D. E. Minnich and H. B. Steinbach.
1958. CLARK, TRUMAN BENTON, JR. B.A. '51, M.S. '53, University of Minnesota.
Major: Zoology. Minor: Entomology.
Thesis: A Comparative Serological and Morphological Study of the Family Trypanosomidae Doflein, 1901.
Major Adviser: Prof. F. G. Wallace.
1958. DIAMOND, LOUIS STANLEY. B.A. '40, University of Pennsylvania; M.S. '41, University of Michigan.
Major: Zoology. Minor: Bacteriology.
Thesis: A Study of the Morphology, Biology and Taxonomy of the Trypanosomes of Anura.
Major Adviser: Prof. F. G. Wallace.
1958. FRIEDL, FRANK EDWARD. B.A. '52, University of Minnesota.
Major: Zoology. Minor: Agricultural Biochemistry.
Thesis: Studies on the in vitro Survival of Larval Stages of the Trematode, Fascioloides magna, with Analyses of the Hemolymph and Tissue Culture of a Snail Host, Lymnaea stagnalis.
Major Adviser: Prof. F. G. Wallace.
1958. GIBBS, BYRON JUNIUS. B.S. magna cum laude '46, College of St. Thomas; M.S. '50, University of Minnesota.
Major: Zoology. Minor: Anatomy.
Thesis: A Study of Histomonas meleagridis, a Protozoal Parasite Transmitted by a Nematode.
Major Adviser: Prof. F. G. Wallace.

1958. RUTHMANN, AUGUST. Technische Hochschule Darmstadt (Germany).
Major: Zoology. Minor: Physiological Chemistry.
Thesis: Spermatocytic Ultrastructure and Basophilia in the Testis of the Crayfish, Cambarus virilis.
Major Adviser: Prof. J. G. Gall.
1959. COTTON, TIMOTHY DURWARD. B.S. '40, Prairie View State Normal and Industrial College; M.S. '46, University of Minnesota.
Major: Zoology. Minor: Botany.
Thesis: A Study of Avian Trypanosomes.
Major Adviser: Prof. F. G. Wallace.
1959. HARRELL, BYRON EUGENE. B.A. '47, M.A. '51, University of Minnesota.
Major: Zoology. Minor: Botany.
Thesis: Ecological Biogeography of the Birds of the Cloud Forests of Northern Middle America.
Major Adviser: Prof. D. W. Warner.
1959. MCKINNELL, ROBERT GILMORE. B.A. '48, University of Missouri; B.S. '49, Drury College.
Major: Zoology. Minor: Physiological Chemistry.
Thesis: Differentiation of Early Chick Embryonic Tissues Pretreated in Non-Nutrient Saline.
Major Adviser: Prof. N. T. Spratt, Jr.
1959. SHOGER, ROSS L. B.A. with high honor '51, North Central College; M.S. '53, Purdue University.
Major: Zoology. Minor: Botany.
Thesis: An Investigation of Interactions between the primordial Germ Layers of the Early Chick Embryo.
Major Adviser: Prof. N. T. Spratt, Jr.
1959. THOMAS, BERT ORAM. B.S. '50, M.S. '52, Colorado State College of Agriculture and Mechanic Arts.
Major: Zoology. Minor: Botany.
Thesis: The Biodynamics of Sedimentation in Horseshoe Lake, Isanti County, Minnesota.
Major Adviser: Prof. Samuel Eddy.
1959. WATKINS, MARGARET JEAN. B.A. '49, De Pauw University; M.S. '53, University of Minnesota.
Major: Zoology. Minor: Biophysics.
Thesis: Interferometric Measurements of the Chromosomal Mass in a Grasshopper.
Major Adviser: Prof. J. G. Gall.
1960. ROBINSON, GERALD GARLAND. B.S. with high distinction '55, University of Minnesota.
Major: Zoology. Minor: Botany.
Thesis: Some Effects of the Hormone Prolactin on the Reproductive Behavior of the Brown-headed Cowbird (Molothrus ater).
Major Adviser: Prof. D. W. Warner.

1961. DICKERMAN, ROBERT WILLIAM. B.S. '51, Cornell University; M.S. '54, University of Arizona.
Major: Zoology. Minors: Botany and Geology.
Thesis: The Song Sparrows of the Mexican Plateau.
Major Adviser: Prof. D. W. Warner.
1961. HIGGINS, JAMES VICTOR. B.S. '54, Michigan State College; M.S. '58, University of Minnesota.
Major: Zoology. Minors: Biostatistics and Psychology.
Thesis: An Analysis of Intelligence of 1,016 Families.
Major Adviser: Prof. S. C. Reed.
1961. ISAAK, DANIEL. B.A. '54, Tabor College; M.A. '57, University of Minnesota.
Major: Zoology. Minor: Botany.
Thesis: The Ecological Life History of the Fathead Minnow, Pimephales promelas (Rafinesque).
Major Adviser: Prof. Samuel Eddy.
1961. NORDLIE, FRANK GERALD. B.S. '54, St. Cloud State College; M.A. '58, University of Minnesota.
Major: Zoology. Minor: Botany.
Thesis: Some Effects of Thermal Acclimation on Peptic Digestive Capacity in the Black Bullhead Ictalurus melas (Raf.).
Major Adviser: Prof. Samuel Eddy.
1962. HARMS, CLARENCE EUGENE. B.A. with high honors '55, Tabor College; M.A. '57, University of Kansas.
Major: Zoology. Minor: Botany.
Thesis: The Development and Cultivation of the Acanthocephalan, Octospinifer macilentis Van Cleane, 1919.
Major Adviser: Prof. F. G. Wallace.
1962. LEFEBVRE, EUGENE ALLEN. B.S. with distinction '52, M.S. '58, University of Minnesota.
Major: Zoology. Minor: Botany.
Thesis: Energy Metabolism in the Pigeon (Columba livia) at Rest and in Flight.
Major Adviser: Prof. D. W. Warner.
1962. SCHMID, WILLIAM DALE. B.S. with distinction '59, University of Minnesota.
Major: Zoology. Minor: Biostatistics.
Thesis: Some Aspects of the Water Economics of Nine Species of Anuran Amphibians.
Major Adviser: Prof. J. C. Underhill.
1963. ARNOLD, JOHN MILLER. B.A. '58, University of Minnesota.
Major: Zoology. Minor: Botany.
Thesis: An Embryological Study of the Squid Loligo Pealii.
Major Adviser: Prof. N. T. Spratt, Jr.
1963. GREEN, JONATHAN PASCAL. B.S. '57, Pennsylvania State University.
Major: Zoology. Minors: Entomology and Philosophy.
Thesis: An Analysis of Morphological Color Change in Two Species of Brachyuram Crustaceans.
Major Adviser: Prof. G. C. Stephens.

1963. JOHNSON, WILLIAM WAYNE. B.S. with distinction '57, M.S. '59, University of Minnesota.
Major: Zoology. Minors: Biostatistics and Botany.
Thesis: The Effect of Selection for DDT Resistance on the Frequency and Allelism of Recessive Lethal Factors in Populations of Drosophila melanogaster.
Major Adviser: Prof. D. J. Merrell.
1963. LARSON, OMER RICHARD. B.A. with honors '54, University of North Dakota; M.S. '60, University of Minnesota.
Major: Zoology. Minor: Entomology.
Thesis: A Study of the Larval Stages of a Strigeoid Fluke and the Pathological Conditions Incurred by the Fish Host, Ictalurus melas (Rafinesque).
Major Adviser: Prof. F. G. Wallace.
1963. LUKENS, PAUL WOOLMAN, JR. B.S. with distinction '52, University of Minnesota; M.S. '56, Agricultural and Mechanical College of Texas.
Major: Zoology. Minors: Botany and Geology.
Thesis: Some Ethnozoological Implications of Mammalian Faunas from Minnesota Archeological Sites.
Major Adviser: Prof. D. W. Warner.
1963. NELSON, WILLIAM FRANK. B.A. magna cum laude '57, University of Minnesota.
Major: Zoology. Minor: Geology.
Thesis: Natural History of the Northern Prairie Skink, Eumeces septentrionalis septentrionalis (Baird).
Major Adviser: Prof. Samuel Eddy.
1964. CHELBERG, DALE AMANDUS. B.A. '50, Gustavus Adolphus College; MA. '58, University of Minnesota.
Major: Zoology. Minor: Botany.
Thesis: An Ecological Study of the Life History of the Fairy Shrimp Chirocephalopsis bundyi (Forbes 1876) Linder 1941.
Major Advisers: Profs. Samuel Eddy and J. C. Underhill.
1964. DYER, MELVIN IVON. B.S. '55, University of Idaho; M.S. '61, University of Minnesota.
Major: Zoology. Minors: Botany and Geology.
Thesis: Radar and Morphometric Studies on Transient Red-Winged Blackbird Populations.
Major Adviser: Prof. D. W. Warner.
1964. ERICKSON, DUANE GORDON. B.A. cum laude '53, M.S. '57, University of Minnesota.
Major: Zoology. Minor: Agricultural Biochemistry.
Thesis: Effects of Gamma Irradiation of Cercariae on the Host-Parasite Relationships of Schistosoma mansoni.
Major Adviser: Prof. F. G. Wallace.
1964. FORBES, RICHARD BRYAN. B.A. cum laude '58, University of South Dakota; M.S. '61, University of New Mexico.
Major: Zoology. Minor: Botany.
Thesis: Ecological Studies of the Eastern and Least Chipmunks.
Major Adviser: Prof. J. C. Underhill.

1964. VIRKAR, RAGHUNATH ATMARAM. B.Sc. '50, M.Sc. '52, University of Bombay (India).
Major: Zoology. Minor: Entomology.
Thesis: The Uptake of Amino Acids by the Sipunculid Golfingia gouldii and the Behavior of Its Free Amino Acid Pool in Response to Osmotic Stress.
Major Adviser: Prof. G. C. Stephens.
1965. DUERR, FREDERICK GRANT. B.A. '56, University of Minnesota.
Major: Zoology. Minor: Botany.
Thesis: Some Effects of Digenetic Trematode Parasitism on the Excretory and Respiratory Metabolism of the Fresh Water Pulmonate, Lymnaea stagnalis Appressa (Say).
Major Adviser: Prof. G. C. Stephens.
1965. HASKINS, EDWARD FREDERICK. B.A. magna cum laude '59, M.S. '62, University of Minnesota.
Major: Zoology. Minor: Botany.
Thesis: The Developmental Biology of the Eumycetozoan Echinostelium minutum.
Major Adviser: Prof. N. S. Kerr.
1965. JEFFERSON, NILES HENRY. B.S. in Educ. '46, Moorhead State College; M.S. '53, University of Minnesota.
Major: Zoology. Minor: Botany.
Thesis: The Biology of Trypanosoma chrysemydis Roudabush and Coatney.
Major Adviser: Prof. F. G. Wallace.
1965. JOHNSON, ALLEN DALE. B.S. '56, Winona State College; M.S. '61, University of Minnesota.
Major: Zoology. Minor: Entomology.
Thesis: A Study of the Biology of Strigeid Flukes of the Genus Alaria.
Major Adviser: Prof. F. G. Wallace.
1965. TROLL, RALPH. B.S. with honors '57, M.S. '58, University of Illinois.
Major: Zoology. Minor: Botany.
Thesis: Parasitic Amoebae and Associated Micro-Organisms in Laticiferous Plants.
Major Adviser: Prof. F. G. Wallace.
1965. YADEN, SENKALONG. B.Sc. (honors) '56, M.Sc. '58, University of Bombay (India).
Major: Zoology. Minor: Entomology.
Thesis: Uptake of Organic Compounds by Euglena gracilis.
Major Adviser: Prof. N. S. Kerr.
1966. BAKER, JOHN RAYMOND. B.S. '52, B.A. '56, M.S. '56, University Wyoming.
Major: Zoology. Minor: Botany.
Thesis: Some Histochemical Studies of the Early Chick Blastoderm.
Major Adviser: Prof. N. T. Spratt, Jr.

EDUCATION, PHILOSOPHY, MUSIC AND PSYCHOLOGY

CHILD PSYCHOLOGY

1956. PASRICHA, PREM. B.A. '45, Fateh Chand College for Women; M.A. '47, Forman Christian College; M.A. '55, University of Minnesota.
Major: Child Welfare. Minor: Psychology.
Thesis: Psychological Analysis of Activities and Social Behavior of Five-Year-Olds.
Major Adviser: Prof. J. E. Anderson.
1956. WURTZ, CONRAD RICHARD. B.A. '48, M.A. '50, State University of Iowa.
Major: Child Welfare. Minor: Educational Psychology.
Thesis: A Study of the Relationship of Leadership Status of Elementary School Children to Their Social Interaction in Classroom and Experimental Situations.
Major Adviser: Prof. M. C. Templin.
1957. CLIFFORD, EDWARD. B.A. '49, Roosevelt College; M.A. '50, University of Chicago.
Major: Child Welfare. Minor: Psychology.
Thesis: Discipline in the Home: A Controlled Observational Study of Parental Practices.
Major Adviser: Prof. J. E. Anderson.
1957. MEDINNUS, GENE ROLAND. B.A. '51, M.S. '53, University of Minnesota.
Major: Child Welfare. Minor: Speech Pathology.
Thesis: An Investigation of Piaget's Concept of the Development of Moral Judgment in Six- to Twelve-Year-Old Children from the Lower Socio-Economic Group.
Major Adviser: Prof. M. C. Templin.
1957. QUAIST, WENTWORTH. B.S. '38, Massachusetts State College.
Major: Child Welfare. Minor: Psychology.
Thesis: Visual-Motor Performance in the Reproduction of Geometric Figures as a Developmental Phenomenon in Children.
Major Adviser: Prof. D. B. Harris.
1957. WALKER, RICHARD NORRIS. B.A. '49, Yale University; M.A. '51, University of Minnesota.
Major: Child Welfare. Minor: Psychology.
Thesis: Children's Mosaic Designs: A Normative and Validating Study of the Lowenfeld Mosaic Test.
Major Adviser: Prof. D. B. Harris.
1958. DENO, EVELYN DREIER. B.S. with high distinction '48, M.A. '50, University of Minnesota.
Major: Child Welfare. Minor: Psychology.
Thesis: Changes in the Home Activities of Junior High School Girls over a Twenty-Seven Year Period.
Major Adviser: Prof. D. B. Harris.
1958. ROBINSON, ELEANOR LOUISE. B.A. with honors '38, M.S. '40, Pennsylvania State College.
Major: Child Welfare. Minor: Psychology.
Thesis: The Form and the Imaginative Content of Children's Block Buildings.
Major Adviser: Prof. D. B. Harris.

1959. JOHNSON, RONALD CHARLES. B.A. '49, University of Minnesota; M.A. '50, University of Denver.
Major: Child Welfare. Minor: Sociology.
Thesis: A Study of Children's Moral Judgments.
Major Adviser: Prof. D. B. Harris.
1959. REED, MURRAY KING. B.A. '49, Yale University.
Major: Child Welfare. Minor: Psychology.
Thesis: The Intelligence, Social Maturity, Personal Adjustment, Physical Development, and Parent-Child Relationships of Children with Congenital Heart Disease.
Major Adviser: Prof. D. B. Harris.
1959. WHITEMAN, PAUL HENRY. B.S. '48, M.A. '50, Western Reserve University.
Major: Child Welfare. Minor: Psychology.
Thesis: The Relation of Religious Affiliation to Parents' Opinions concerning Child Rearing and Children's Problems, and Parents' Evaluations of Their Own Personalities.
Major Adviser: Prof. D. B. Harris.
1959. WOLKING, WILLIAM DAVID. B.A. '50, Macalester College; M.A. '54, University of Minnesota.
Major: Child Welfare. Minor: Psychology.
Thesis: Patterns of Social Perception within the Families of Well-Adjusted and Maladjusted Adolescents.
Major Adviser: Prof. J. E. Anderson.
1961. RING MCLAUGHLIN, ELIZABETH JANE. B.A. magna cum laude '57, University of Minnesota.
Major: Child Development. Minor: Psychology.
Thesis: The Relationship of Paired-Associate Learning and Retention in Retarded and Normal Children to Length of Anticipation Interval and Selected Ability Measures.
Major Advisers: Profs. D. S. Palermo and J. G. Hurst.
1961. SHECHTMAN, AUDREY M. B.S. '53, Wisconsin State College (Milwaukee); M.A. '55, University of Minnesota.
Major: Child Development and Welfare. Minor: Psychology.
Thesis: The Relationship of Variability in Children's Verbal and Non-Language Test Performance to Current and Later Behavioral Functions.
Major Adviser: Prof. M. F. Roff.
1962. HOWELL, MARY CATHERINE. B.A. cum laude '54, Radcliffe College; M.A. '58, University of Minnesota.
Major: Child Development. Minor: Psychology.
Thesis: Some Effects of Chronic Illness on Children and Their Mothers.
Major Adviser: Prof. H. W. Stevenson.
1963. HALL, MARIAN DEKKER. B.A. '37, Calvin College; M.A. '38, University of Michigan; M.A. '60, University of Minnesota.
Major: Child Psychology. Minor: Educational Psychology.
Thesis: Parent-Child Interactions in Latency-Age Boys with Learning Inhibitions.
Major Adviser: Prof. B. K. Ruebush.

1963. HICKMAN, RACHEL KEEN. B.A. '59, Berea College; M.A. '60, University of Minnesota.
Major: Child Psychology. Minor: Psychology.
Thesis: Auditory Habituation and Discrimination in the Human Neonate.
Major Adviser: Prof. H. W. Stevenson.
1963. MCCOY, NORMA LOUISE. B.A. '56, Stanford University; M.A. '60, University of Minnesota.
Major: Child Psychology. Minor: Psychology.
Thesis: Effects of Test Anxiety on Children's Performance as a Function of Instructions and Type of Task.
Major Adviser: Prof. B. K. Ruebush.
1963. ODOM, RICHARD DEAN. B.A. '56, M.A. '60, University of Texas.
Major: Child Psychology. Minor: Psychology.
Thesis: The Effects of Brief Auditory and Visual Stimulus Deprivation and Satiation on Children's Performance in a Simple Operant Task.
Major Adviser: Prof. H. W. Stevenson.
1964. ALLEN, SARA ARMSTRONG. B.A. cum laude '54, Knox College; M.A. '63, University of Minnesota.
Major: Child Psychology. Minor: Psychology.
Thesis: Children's Performance as a Function of Task Difficulty and Verbal Reinforcement.
Major Adviser: Prof. H. W. Stevenson.
1964. WICKLUND, DAVID ALGOT. B.A. '60, M.A. '63, University of Minnesota.
Major: Child Psychology. Minor: Psychology.
Thesis: Paired-Associate Learning in Children as a Function of Free Association Strength and Type of Associative Response Hierarchy at Four Grade Levels.
Major Advisers: Profs. D. S. Palermo and J. C. Wright.
1965. FLAMER, GEORGE BROWNING. B.S. '61, North Dakota State University; M.A. '64, University of Minnesota.
Major: Child Psychology. Minor: Psychology.
Thesis: Conditions of Positive and Negative Transfer in Children's Verbal Learning.
Major Adviser: Prof. J. C. Wright.
1965. HARRIS, LAUREN. B.S. '61, University of Illinois; M.A. '63, University of Minnesota.
Major: Child Psychology. Minor: Psychology.
Thesis: The Effects of Delayed Reward and Stimulus Environment on Children's Visual Orientation and Speed of Performance in Instrumental Conditioning.
Major Adviser: Prof. J. C. Wright.
1965. HILL, KENNEDY THOEN. B.A. magna cum laude '62, Yale University.
Major: Child Psychology. Minor: Psychology.
Thesis: The Effects of Social Reinforcement and Nonreinforcement Following Success and Failure as a Function of Test Anxiety of Subject, and Sex of Subject, and Sex of Experimenter.
Major: Prof. H. W. Stevenson.

1966. FALK, CLAIRE A. TEITELBAUM. B.A. '62, Barnard College; M.A. '64, University of Minnesota.
Major: Child Psychology. Minor: Psychology.
Thesis: Object and Pattern Discrimination Learning by Young Children as a Function of Availability of Cues.
Major Adviser: Prof. H. W. Stevenson.
1966. KLEIN, ROBERT EVERETT. B.A. '56, San Diego State College; M.A. '63, Cornell University.
Major: Child Psychology. Minor: Psychology.
Thesis: A Developmental Study of Perception under Conditions of Conflicting Sensory Cues.
Major Adviser: Prof. H. W. Stevenson.

EDUCATION

1956. ARCHER, BLAIR CLIFFORD. B.S. '42, Moorhead State Teachers College; M.Ed. '47, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Measurement of Change in Certain Aspects of Art Ability.
Major Adviser: Prof. N. L. Bossing.
1956. KLAEGER, MAX LUDWIG. Graduate '49, University of Munich; M.Ed. '51, University of Minnesota.
Major: Education. Minor: History and Philosophy of Education.
Thesis: A Comparative Study of the Preparation of Art Teachers for American and German Secondary Schools.
Major Adviser: Prof. R. E. Eckert.
1956. KRAUS, SILVY ASHER. B.A. with distinction '34, M.A. '48, Bradley University.
Major: Education. Minor: English.
Thesis: A Comparison of Three Methods of Teaching Sentence Structure.
Major Adviser: Prof. D. V. Smith.
1956. MEYER, ROY FRANCIS. B.A. '39, Hamline University; M.A. '52, University of Minnesota.
Major: Education. Minor: Educational Administration.
Thesis: A History of the Separate, Two Year Public and Private Junior Colleges of Minnesota, 1905-55.
Major Adviser: Prof. G. H. McCune.
1956. MUDGETT, ALBERT GORDON. B.S. with distinction '42, M.A. '48, University of Minnesota.
Major: Education. Minor: Industrial Education.
Thesis: The Effects of Periodic Testing on Learning and Retention in Engineering Drawing.
Major Adviser: Prof. W. J. Micheels.
1956. NEUBAUER, GERHARDT WILLIAM. B.S. '38, M.S. '44, The Stout Institute.
Major: Education. Minor: Industrial Education.
Thesis: The Significance of Selected Aspects of Wood Technology for Western Culture.
Major Adviser: Prof. W. J. Micheels.

1956. PYNE, FRANCIS FORD. B.P.H.E. '48, University of Toronto; M.A. '52, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Relationship of Measures of Self-Concept, Motivation and Ability to Success in Competitive Athletics.
Major Adviser: Prof. L. F. Keller.
1956. STRAND, HELEN AMALIA. B.A. cum laude '33, St. Olaf College; M.A. '51, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Differential Contribution of Specific Word Recognition Techniques to Reading Ability at Various Levels of Educational Advancement.
Major Advisers: Profs. G. L. Bond and C. J. Hoyt.
1957. ANDREWS, DALE WALKER. B.S. '41, University of California; M.A. '52, California State Polytechnic College.
Major: Education. Minor: Curriculum and Instruction.
Thesis: Problem Oriented Teaching and Pupil Achievement in Vocational Agriculture.
Major Advisers: Profs. G. I. Swanson and M. J. Peterson.
1957. APPLGATE, IRVAMAE VINCENT. B.S. '41, North Dakota Agricultural College; M.A. '52, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Survey of Selected Inservice Practices in Minnesota Public Schools with Implications for the Organization of Inservice Education Activities.
Major Adviser: Prof. N. L. Bossing.
1957. DEVEAU, BURTON WILLIAM. B.S. '47, Iowa State College; M.S. '48, Cornell University.
Major: Education. Minor: Educational Psychology.
Thesis: A Study of the Ways in Which Educational Personnel, Parents, Pupils, and Other Citizens Participate in Secondary School Curriculum Development in Ohio.
Major Adviser: Prof. N. L. Bossing.
1957. FURLONG, JOHN. B.S. '54, M.A. '55, University of Minnesota.
Major: Education. Minor: Industrial Education.
Thesis: Case Studies of Beginning Trade and Industrial Instructors in a Vocational Evening School.
Major Adviser: Prof. W. J. Micheels.
1957. HAAS, MARY HELEN. B.A. cum laude '51, Upland College; M.S. '52, University of California.
Major: Education. Minor: Home Economics.
Thesis: A Study of Certain Factors Related to the Vocational Activity of Home Economics-Education Graduates.
Major Advisers: Profs. L. A. Stedman and R. R. Ford.
1957. HEIDEMAN, PAUL JOHN. B.S. '43, M.A. '48, University of Omaha.
Major: Education. Minor: Psychology.
Thesis: A Study of the Relationship between Televiewing and Reading Abilities of Eighth Grade Students.
Major Adviser: Prof. G. L. Bond.

1957. LARSEN, TORA MARIE. B.A. '32, St. Olaf College; M.A. '42, Columbia University; B.S. '47, Mankato State Teachers College.
Major: Education. Minor: Educational Psychology.
Thesis: A Study of the Student Personnel Records at East Carolina College as Relates to Prediction in Elementary Accounting.
Major Advisers: Profs. R. G. Price and C. J. Hoyt.
1957. MCCUTCHEON, GEORGE JAMES. B.S. with distinction '33, M.A. '45, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: An Analytical Study of Achievement in Grade Eight General Science and in Grade Eight General Mathematics in Minnesota Public Schools.
Major Adviser: Prof. P. O. Johnson.
1957. OLSON, KENNETH VICTOR. B.A. '42, Augsburg College; M.A. '50, University of Minnesota.
Major: Education. Minor: Biological Science.
Thesis: An Experimental Evaluation of a Student-Centered Method and a Teacher-Centered Method of Biological Science Instruction for General Education of College Students.
Major Adviser: Prof. P. O. Johnson.
1957. SARTAIN, HARRY WENDELL. B.S. '48, Bemidji State Teachers College; M.A. '49, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Effect of Workbook Use on Reading Growth of Third Grade Groups at Two Levels of Ability.
Major Adviser: Prof. G. L. Bond.
1957. STOUT, RUTH ALBERTINE. B.A. '31, M.A. '35, University of Kansas.
Major: Education. Minor: Educational Psychology.
Thesis: A Study of Admissions and Retention Practices in College and University Programs of Teacher Education.
Major Advisers: Profs. C. G. Wrenn and Ruth Eckert.
1957. WALKER, VIRGIL ROY. B.S. with distinction '28, M.A. '33, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Utilization of Machine Punched Card Procedures in Large City Public School Systems.
Major Adviser: Prof. O. E. Domian.
1957. WIGEN, RAY A. B.S. '30, M.A. '33, University of Minnesota.
Major: Education. Minor: Industrial Education.
Thesis: Technical Offerings for Industrial Arts Teachers at the Graduate Level.
Major Adviser: Prof. W. J. Micheels.
1958. ADKINS, ARTHUR. B.S. '42, St. Cloud State Teachers College; M.A. '47, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Program for the Preparation of Core Teachers Based upon a Survey of Teachers in the Core Curriculum.
Major Adviser: Prof. N. L. Bossing.

1958. ALWIN, VIRGINIA VIVIAN. B.A. summa cum laude '33, Hamline University; M.A. '46, State University of Iowa.
Major: Education. Minor: English
Thesis: A Study of the Possible Contributions of Modern Linguistic Science to the Teaching of the English Language in High School.
Major Adviser: Prof. D. V. Smith.
1958. CHASE, NAOMI CAROLINE. B.A. '41, Western Washington College of Education. M.A. '52, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparative Study of the Word Recognition Abilities of Good and Poor Spellers in the Third Grade.
Major Adviser: Prof. G. L. Bond.
1958. GRANGER, LAUREN BENTON. B.S. '40, M.S. '53, University of Minnesota.
Major: Education. Minor: Agricultural Education.
Thesis: Some Farm Business Factors Differentiating Earning of Farmers in the Minnesota Vocational Agriculture Farm Management Program.
Major Adviser: Prof. M. J. Peterson.
1958. HABITO, CELESTINO PABELLO. B.S.A. '44, University of the Phillipines; M.S. '52, University of Minnesota
Major: Education. Minor: Agricultural Education.
Thesis: The Development of an Adult Farmer Education Program for the Philippines.
Major Adviser: Prof. M. J. Peterson.
1958. HANSON, ROBERT ALFRED. B.S. with high distinction '50, M.S. '53, University of Minnesota.
Major: Education. Minor: Agricultural Economics.
Thesis: The Relationship between Different Levels of Preparation in High School Vocational-Agriculture, Science, and Mathematics and First Year Achievement in a College of Agriculture.
Major Adviser: Prof. M. J. Peterson.
1958. HENDERSON, HARRY DANNER. B.S. '47, M.S. '49, Iowa State College.
Major: Education. Minor: Agricultural Engineering.
Thesis: Spatial Requirements for a Farm Mechanics Laboratory.
Major Advisers: Profs. M. J. Peterson and H. W. Kitts.
1958. HUDLI, VISHWANATH JEEWANRAO. B.Sc.(Agr.) honors '52, University of Karnatak (India); M.S. '54, M.A. '56, University of Minnesota.
Major: Education. Minor: Dairy Husbandry.
Thesis: A Program for Vocational Agriculture in India.
Major Adviser: Prof. M. J. Peterson.
1958. HULS, HARRY EDWARD. B.S. '45, St. Cloud State Teachers College; M.A. '48, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: State Limitations on Local Public School Expenditures in the United States.
Major Adviser: Prof. O. E. Domian.
1958. JOHNSON, ROBERT IRVING. B.S. '40, Winona State Teachers College; M.Ed. '46, University of Minnesota.
Major: Education. Minor: Industrial Education.
Thesis: Design Competencies of Beginning Students in Woodworking.
Major Adviser: Prof. W. J. Micheels.

1958. KEGLER, STANLEY BENJAMIN. B.S. with distinction '50, M.A. '52, University of Minnesota.
Major: Education. Minor: English
Thesis: A Comparative Study of the Size and Nature of Reading and Listening Vocabularies.
Major Adviser: Prof. D. V. Smith.
1958. LINDBECK, JOHN ROBERT. B.S. with distinction '54, M.A. '55, University of Minnesota.
Major: Education. Minor: Industrial Education.
Thesis: A Framework for Research in Industrial Arts.
Major Adviser: Prof. W. J. Micheels.
1958. LOREEN, CARL OSCAR. B.S. '30, M.S. '49, State College of Washington.
Major: Education. Minor: Agricultural Education.
Thesis: An Examination of Adult Education in Vocational Agriculture in the United States.
Major Adviser: Prof. M. J. Peterson.
1958. MALMSTROM, JEAN. B.A. '28, M.A. '29, Washington University at St. Louis.
Major: Education. Minor: English.
Thesis: A Study of the Validity of Textbook Statements about Certain Controversial Grammatical Items in the Light of Evidence from the Linguistic Atlas.
Major Advisers: Profs. D. V. Smith and H. B. Allen.
1958. MILLER, JOSEPH WASHBURN. B.S. '40, B.A. '41, Southeast Missouri State Teachers College; M.A. '47, Columbia University.
Major: Education. Minor: English.
Thesis: An Analysis of Freshman Writing at the Beginning and End of a Year's Work in Composition.
Major Advisers: Profs. H. B. Allen and R. J. Keller.
1958. MURRA, WILBUR FIM. B.S. with high distinction '31, M.A. '35, University of Minnesota; M.A. in Teaching '37, Harvard University.
Major: Education. Minor: History.
Thesis: An Inquiry into the Role of Religion in the Public Schools of a Secular State.
Major Adviser: Prof. F. E. Ellis.
1958. NOVAK, JOSEPH DONALD. B.S. '52, M.A. '54, University of Minnesota.
Major: Education. Minor: Botany.
Thesis: A Comparison of Two Methods of Teaching a College General Botany Course.
Major Advisers: Profs. P. O. Johnson and J. W. Hall.
1958. ODLAND, RUBY NORINE. B.A. '39, Iowa State Teachers College; M.A. '51, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparative Study of the Word Recognition Abilities of Good and Poor Readers in the Third Grade.
Major Adviser: Prof. G. L. Bond.

1958. OLSON, GARETH RAYMOND. B.S. with distinction '48, M.Ed. '49, University of Minnesota.
Major: Education. Minor: Curriculum and Instruction.
Thesis: A Study of Predictive Efficiency of Selected Mental and Motor Measures and Success in Athletics.
Major Advisers: Profs. L. F. Keller and R. J. Keller.
1958. SPERRY, GALE LAVERNE. B.S. '43, M.Ed. '49, University of Minnesota.
Major: Education. Minor: Music.
Thesis: A Study of Music Education Graduates from the University of Minnesota (1947-56) with Particular Reference to Their Participation and Persistence in the Profession.
Major Adviser: Prof. G. M. A. Mork.
1958. STARR, WENDELL R. B.A. '36, Ottawa University; M.A. '47, University of Colorado.
Major: Education. Minor: English.
Thesis: Structural Dislocation in the Conversation of High School Students.
Major Advisers: Profs. D. V. Smith and H. B. Allen.
1958. TESKE, PHILIP RALPH. B.S. with distinction '47, M.S. '50, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Attitudes of Farm and Farm-Related Groups toward College Training in Agriculture as Preparation for Farming.
Major Adviser: Prof. M. J. Peterson.
1958. TINGLE, MARY JANE. B.A. '30, Bessie Tift College; M.A. '36, George Peabody College for Teachers.
Major: Education. Minor: Educational Psychology.
Thesis: An Analysis of Family Relations in Fiction Recommended for Adolescents.
Major Adviser: Prof. D. V. Smith.
1958. TURNER, DEANE A. B.S. '41, M.S. '52, University of Minnesota.
Major: Education. Minor: Agricultural Education.
Thesis: A Study of the Effectiveness of Visual Aids in Farm Management Instruction among Students of Senior High School Grades.
Major Adviser: Prof. M. J. Peterson.
1958. WOESTEHOFF, ELLSWORTH STANLEY. B.S. '42, St. Cloud State Teachers College; M.Mus. '47, Northwestern University; M.A. '54, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Specific Reading Proficiencies of Pupils Having Normal and Accelerated Reading Growth.
Major Adviser: Prof. G. L. Bond.
1958. WORTHINGTON, ROBERT MELVIN. B.S. '48, Eastern Kentucky State Teachers College; M.A. '49, University of Minnesota.
Major: Education. Minor: Industrial Education.
Thesis: Factors Affecting the Delayed Imitation of a Demonstrated Psychomotor Skill.
Major Adviser: Prof. W. J. Micheels.

1958. YOUNGQUIST, BERNARD EDWARD. B.S. '40, M.A. '50, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Critical Study and Analysis of the University of Minnesota Schools of Agriculture.
Major Advisers: Profs. C. P. Archer and M. J. Peterson.
1959. AMIDON, EDMUND JAMES. B.S. '53, M.A. '57, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Dependent-Prone Students in Experimental Learning Situations.
Major Advisers: Profs. T. W. Clymer and N. A. Flanders.
1959. ARNSDORF, VAL EARL. B.S. '50, M.A. '57, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: An Investigation of Teaching of Chronology in Sixth Grade.
Major Adviser: Prof. G. L. Bond.
1959. DEARDEN, DOUGLAS MOREY. B.A. '47, M.A. '49, University of Utah.
Major: Education. Minor: Zoology.
Thesis: An Evaluation of the Laboratory and Supplementary Teaching Techniques Used in a College General Biology Course.
Major Advisers: Profs. R. E. Eckert and P. O. Johnson.
1959. DEBOER, WENDELL JAMES. B.S. '50, M.S. '54, South Dakota State College of Agriculture and Mechanic Arts.
Major: Education. Minor: Agricultural Education.
Thesis: The Relationship of Vocational Agriculture Instruction and Farm Experience to Achievement in the Introductory Courses in Agriculture at the University of Minnesota.
Major Adviser: Prof. M. J. Peterson.
1959. HARMER, WILLIAM RICHARD. B.S. '50, M.A. '57, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Effect of a Library Training Program on Summer Loss or Gain in Reading Abilities.
Major Adviser: Prof. G. L. Bond.
1959. HARTZOG, DAVID HENRY. B.S. '40, Oregon State College; M.S. '51, State College of Washington.
Major: Education. Minor: Agricultural Education.
Thesis: A Study of the Effect of Farmer Opinion on Course Content in Farm Mechanics.
Major Adviser: Prof. M. J. Peterson.
1959. HOHENHAUS, HELEN STEPHENS. B.S. '48, M.A. '52, University of Minnesota.
Major: Education. Minor: Home Economics.
Thesis: Faculty and Student Perceptions of the Home Management Residence.
Major Advisers: Profs. R. P. Ford and R. E. Eckert.
1959. HOLTZ, H. ARNOLD. B.S. '41, Superior State Teachers College; M.A. '45, University of Minnesota.
Major: Education. Minor: History and Philosophy of Education.
Thesis: A Study of Pre-Service Core-Teacher Education in the United States.
Major Adviser: Prof. N. L. Bossing.

1959. JOOS, LOYAL WILSON. B.S. '41, University of Wisconsin; M.S. '57, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Measurement of Personnel Differences Between Self-Selected Groups of Adult Farmers in Farm Management and Adult Education.
Major Adviser: Prof. G. I. Swanson.
1959. KEYS, SAMUEL ROBERT. B.A. '48, Olivet Nazarene College; M.A. '51, University of Kansas City.
Major: Education. Minor: Educational Administration.
Thesis: A Study of Expected and Described Leader Behavior of Principals of Senior High Schools in the State of Minnesota.
Major Advisers: Profs. W. R. Lane and E. P. Torrance.
1959. KROMANN, INGA. B.S. with distinction '54, M.A. '56, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparative Study of the Speech and Auditory Characteristics of Children with Discrepancies Between Spelling and Reading Achievement.
Major Adviser: Prof. G. L. Bond.
1959. MCCARDLE, HUGH JOSEPH. B.A. '48, River Falls State Teachers College; M.A. '55, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: An Investigation of the Relationships Between Pupil Achievement in First-Year Algebra and Some Teacher Characteristics.
Major Advisers: Profs. W. W. Cook and D. A. Johnson
1959. PILAPIL, BONIFACIO EBARLE. B.S.E. '51, Southern Luzon College; M.A. '53, Adamson University.
Major: Education. Minor: Sociology.
Thesis: A Study of Certain Attitudes Toward School and Community Functions in Small School Districts.
Major Adviser: Prof. C. P. Archer.
1960. ABEL, FREDERICK PAUL. B.S. '43, Winona State College; M.A. '48, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Use of Closed Circuit Television in Teacher Education: Relationship to Achievement and Subject Matter Understandings.
Major Adviser: Prof. R. J. Keller.
1960. ANDERSON, JOHN PAUL. B.S. '42, M.A. '48, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Student Perceptions of Teacher Influence.
Major Advisers: Profs. R. J. Keller and N. A. Flanders.
1960. BASSIRI, TORAB. Licentiate '36, University of Teheran; Graduate '50, University of London.
Major: Education. Minor: History and Philosophy of Education.
Thesis: Aspects of American College Teaching Which Have an Implication for High Education in Iran.
Major Adviser: Prof. G. H. McCune.

1960. BRAUN, FRANK RAYMOND. B.S. '48, M.A. '51, University of Minnesota.
Major: Education. Minor: Political Science.
Thesis: A Study of the Relationships in the Planning for School Buildings between the City Planning Agencies and School Authorities in American Cities over 100,000 Population.
Major Adviser: Prof. O. E. Domian.
1960. CAPPS, LELON ROGER. B.S. '54, Wisconsin State College (LaCrosse); M.A. '57, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparison of the Common Denominator and Inversion Method in Teaching Division of Fractions.
Major Adviser: Prof. James Curtin.
1960. CHARLIER, PATRICIA SIMONET. B.S. '44, M.A. '58, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Contemporary Teacher Education in France and Belgium.
Major Advisers: Profs. R. J. Keller and R. H. Beck.
1960. FERGUS, PATRICIA MARGUERITA. B.S. '39, M.A. '41, University of Minnesota.
Major: Education. Minor: Music.
Thesis: Factors Affecting the Development of the Orchestra and String Program in Minnesota Secondary Schools, 1940-1960.
Major Adviser: Prof. N. L. Bossing.
1960. GHOBRIAL, GIRGIS BAKHOUM. B.A. '45, Alexandria University; Graduate '47, Cairo University; M.A. '56, University of Minnesota.
Major: Education. Minor: Geography.
Thesis: The Maladies of the Egyptian Secondary Education in Historical Perspective.
Major Adviser: Prof. R. H. Beck.
1960. GOULD, ORRIN EVERETT. B.S. '48, Iowa State College.
Major: Education. Minor: Educational Psychology.
Thesis: The Character of Observation under Closed Circuit Television, Classroom Visitation and Instructional Films in an Introductory Education Course.
Major Advisers: Profs. C. H. Boeck and R. J. Keller.
1960. GUNDERSON, DORIS VIRGINIA. B.A. '46, Concordia College (Moorhead); M.A. '54, University of Oregon.
Major: Education. Minor: English.
Thesis: The Influence of College Reading Instruction upon Academic Achievement.
Major Adviser: Prof. G. L. Bond.
1960. HICKS, WILLIAM R. B.S. '42, Wiley College; M.A. '54, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparative Study of Native and Transfer Students in Liberal Arts and Education at the University of Minnesota.
Major Adviser: Prof. R. J. Keller.

1960. HILLESTAD, MILDRED CHRISTINE. B.Ed. '43, Whitewater State Teachers College; M.Bus.Ed. '52, University of Colorado.
Major: Education. Minor: Educational Psychology.
Thesis: Investigation of Factors Which Contribute to the Difficulty of Shorthand Dictation Materials.
Major Adviser: Prof. R. G. Price.
1960. INSKEEP, JAMES EDWARD, JR. B.S. '49, U.S. Naval Academy; M.A. '54, San Diego State College.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparison of Several Methods of Estimating Readability of Elementary School Reading Material.
Major Adviser: Prof. G. L. Bond.
1960. KOEHN, EDNA B. B.S. '52, Moorhead State Teachers College; M.A. '54, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Relationship of the Basic Skill Development of Sixth Grade Gifted Children to Ninth Grade Achievement in the Content Fields.
Major Adviser: Prof. G. L. Bond.
1960. LYNCH, PATRICK DANIEL. B.A. '50, St. John's University (Collegeville); M.A. '57, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparison of Expectations of the Superintendent's Exercise of Social Power in the State of Minnesota.
Major Advisers: Profs. O. E. Domian and E. P. Torrance.
1960. MARVIN, ROBERT PAUL. B.S. with distinction '48, M.S. '57, University of Minnesota.
Major: Education. Minor: Educational Administration.
Thesis: The Development and Experimental Trial of a Unit Operation Method of Instruction in Mechanized Agriculture.
Major Adviser: Prof. M. J. Peterson.
1960. PEARSON, NEVILLE P. B.A. '39, Gustavus Adolphus College; M.A. '51, University of Minnesota.
Major: Education. Minor: Educational Administration.
Thesis: Organization and Use of Audio Visual Education in Minnesota Public Schools.
Major Adviser: Prof. G. H. McCune.
1960. RAWLAND, PERRY GARDNER. B.A. '28, State University of Iowa; M.A. '42, Ohio State University.
Major: Education. Minor: Industrial Education.
Thesis: Mutual Fund Investing with Implications for General Education.
Major Advisers: Profs. A. K. Wickesberg and R. G. Price.
1960. THOMPSON, FRANKLIN JAMES. B.A. '48, M.A. '49, Whitman College.
Major: Education. Minor: Educational Psychology.
Thesis: Use of Closed Circuit Television in Teacher Education: Relationship to Professional Attitudes and Interests.
Major Adviser: Prof. R. J. Keller

1960. WARMKE, ROMAN FRANCIS. B.S. '51, M.A. '52, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Distributive Education Issues.
Major Advisers: Profs. W. G. Meyer and R. G. Price.
1960. WOESTEHOFF, ARNOLD SYLVESTOR. B.Ed. '38, St. Cloud State College; M.A. '48, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Changes in Offerings of Selected Teacher-Preparatory Colleges Continuously Accredited and State Supported, 1927-1955.
Major Adviser: Prof. W. W. Cook.
1960. WOLD, STANLEY GORDON. B.S. with high distinction '48, M.Ed. '50, University of Minnesota.
Major: Education. Minor: Art.
Thesis: A Comparison of College Students' Performance on Selected Art Tasks and on the Graves Design Judgment Test.
Major Advisers: Profs. R. E. Eckert and C. J. Hoyt.
1960. WRIGHT, EUGENE STEWART. B.S. with distinction '42, M.A. '51, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: An Investigation into the Effect of Reading Training on Academic Achievement among Freshmen in the College of Agriculture, Forestry, and Home Economics.
Major Adviser: Prof. G. L. Bond.
1961. ADOLPHSEN, LOUIS JOHN. B.A. '39, Cornell College; M.A. '57, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparison of the Effectiveness of Selected Observational Procedures in Developing Teacher Perception.
Major Adviser: Prof. R. J. Keller.
1961. CORNWELL, RAYMOND LELAND. B.S. '49, M.S. '52, The Stout Institute.
Major: Education. Minor: Industrial Education.
Thesis: Written Instructional Materials: An Experimental Comparison of Problem centered and Traditional Assignment Sheets.
Major Adviser: Prof. W. J. Micheels.
1961. DAVIES, LILLIAN SCHOLLJEGERDES. B.S. '44, Mankato State College; M.A. '50, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Some Relationships between Attitudes, Personality Characteristics, and Verbal Behavior of Selected Teachers.
Major Advisers: Profs. R. J. Keller and N. A. Flanders.
1961. DUNCANSON, DONALD LEROY. B.S. '51, Wisconsin State College (Eau Claire); M.A. '55, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Relationship of Role Expectations and the Behavior of School Superintendents in the State of Minnesota.
Major Adviser: Prof. W. R. Lane.

1961. ELFIKY, HASSAN SALAMA. B.A. '47, Alexandria University (Egypt);
M.A. '59, University of Minnesota.
Major: Education. Minor: History and Philosophy of Education.
Thesis: A History of Teacher In-Service Education in the United States:
With Recommendations for Egyptian Education.
Major Adviser: Prof. G. H. McCune.
1961. FARMER, GERALDINE MARY. B.Ed. '48, University of Alberta;
M.A. '55, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: An Experiment to Test the Validity of a Measure of the
Difficulty of Shorthand Dictation Materials.
Major Adviser: Prof. R. G. Price.
1961. GARDNER, WILLIAM EARL. B.S. with distinction '50, M.A. '59,
University of Minnesota.
Major: Education. Minor: History.
Thesis: The Relationship between Time Sense, Evaluating Information,
and Achievement in American History.
Major Advisers: Profs. Edith West and R. J. Keller.
1961. JACKMAN, DUANE ALAN. B.S. '41, Wisconsin State College (River
Falls); M.A. '47, University of Minnesota.
Major: Education. Minor: Industrial Education.
Thesis: Industrial Arts Competencies in Training Occupational
Therapists.
Major Adviser: Prof. W. J. Micheels.
1961. JACOBSON, MILTON DURWOOD. B.S. '51, University of Minnesota.
Major: Education. Minors: Physics and Chemistry.
Thesis: Reading Difficulty of Physics and Chemistry Textbooks in Use
in Minnesota.
Major Advisers: Profs. R. O. Collier and C. H. Boeck.
1961. JOHNSON, FRED ARNOLD. B.A. cum laude '52, M.A. '58, University of
Minnesota.
Major: Education. Minor: Political Science.
Thesis: Depth Versus Breadth in Teaching American History to High
School Students.
Major Advisers: Profs. Edith West and R. J. Keller.
1961. LAMBERT, RONALD THOMAS. B.S. with distinction '50, M.A. '56,
University of Minnesota.
Major: Education. Minor: Educational Administration.
Thesis: A Study of the Administration and Curriculum of the 1960
Elementary Summer School Program of the City of Minneapolis.
Major Advisers: Profs. J. R. Curtin and Don Davies.
1961. LANTZ, DONALD LEROY. B.A. '51, Wheaton College; M.A. '54,
University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Relationships Between Self Concepts and Teaching Behaviors
Among Elementary Student Teachers.
Major Advisers: Profs. N. L. Bossing and C. J. Hoyt.

1961. LIS, ANTHONY STANLEY. B.S. in Ed. cum laude '50, Salem State Teachers College; M.S. '51, Oklahoma A. & M. College.
Major: Education. Minor: Area Studies: Russia.
Thesis: Attitudes and Practices of Executives and Secretaries Concerning Disputable Items of English Usage in Secretarial Handbooks: A Study Made in the Oil Industry in Tulsa, Oklahoma.
Major Adviser: Prof. R. G. Price.
1961. MARKER, ROBERT WINSLOW. B.Mus.E. '52, Northwestern University; M.A. '57, University of South Dakota.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparative Analysis of Selected Generalized Formulas for the Distribution of State Aid for School Plants in Minnesota.
Major Advisers: Profs. O. E. Domian and C. P. Hooker.
1961. NELSON, THEODORE MURRAY. B.S. '49, M.A. '57, University of Minnesota.
Major: Education. Minor: Curriculum and Instruction.
Thesis: The Occupational Status of Minnesota Farm Male High School Graduates.
Major Advisers: Profs. W. E. Dugan and M. J. Peterson.
1961. PETITT, DOROTHY JEANETTE. B.S. with high distinction '45, M.A. '49, University of Minnesota.
Major: Education. Minor: English.
Thesis: A Study of the Qualities of Literary Excellence Which Characterize Selected Fiction for Younger Adolescents.
Major Adviser: Prof. S. B. Kegler.
1961. RANDLEMAN, ROBERT RONALD. B.S. with distinction '52, M.A. '56, University of Minnesota.
Major: Education. Minor: Curriculum and Instruction.
Thesis: Technical Vocabulary and Its Relationships to Selected Student Characteristics and Industrial Education Programs.
Major Adviser: Prof. H. F. Nelson.
1961. RUEHL, PHILIP WILLIAM. B.S. '41, M.S. '48, Stout State College.
Major: Education. Minor: Industrial Education.
Thesis: An Experiment in the Use of An Auto Instructional Aid in Teaching Electricity.
Major Adviser: Prof. W. J. Micheels.
1961. SAHLSTROM, STANLEY DAVID. B.S. with distinction '42, M.S. '53, University of Minnesota.
Major: Education. Minor: Agricultural Education.
Thesis: Factors Influencing College Attendance Plans of Capable Rural High School Seniors.
Major Adviser: Prof. M. J. Peterson.
1961. SAMPLE, ROY EVERETT. B.S. '53, M.Ed. '55, University of Minnesota.
Major: Education. Minor: Art.
Thesis: A Comparison of the Effects of Two Teaching Methods on General Creativity in Teacher Preparation for Elementary Art.
Major Adviser: Prof. C. A. Gayne.

1961. SOMMERS, WESLEY SHERRAN. B.S.E. '50, M.A. '55, University of Michigan.
Major: Education. Minor: Curriculum and Instruction.
Thesis: The Influence of Selected Teaching Methods on the Development of Creative Thinking.
Major Adviser: Prof. W. J. Micheels.
1961. STORLIE, THEODORE RUDOLPH. B.S. with distinction '54, M.A. '58, University of Minnesota.
Major: Education. Minor: Curriculum and Instruction.
Thesis: Selected Characteristics of Teachers Whose Verbal Behavior is Influenced by an In-service Course in Interaction Analysis.
Major Adviser: Prof. N. A. Flanders.
1961. SVENDSEN, ETHAN ANDREW TANGE. B.A. '41, Dana College; M.A. '47, University of Minnesota.
Major: Education. Minor: Industrial Education.
Thesis: The Matrix of a Philosophy for Industrial Arts Education.
Major Adviser: Prof. W. J. Micheels.
1961. TRACY, NORBERT JOHN. B.A. '47, Ph.L. '49, Loyola University; S.T.L. '57, St. Louis University.
Major: Education. Minor: Educational Psychology.
Thesis: Orientation of New Faculty Members in North Central Colleges and Universities.
Major Advisers: Profs. R. E. Eckert and H. T. Morse.
1961. VIKNER, CARL FILIP. B.A. '43, Gustavus Adolphus College; M.A. '46, University of Minnesota.
Major: Education. Minor: Curriculum and Instruction.
Thesis: Analyses of Some Values Held by the Faculties of the Colleges of the Augustana Lutheran Church.
Major Adviser: Prof. R. H. Beck.
1961. WALTERS, LOUIS LLOYD. B.A. '51, St. John's University (Minn.); M.A. '55, University of Minnesota.
Major: Education. Minor: Educational Administration.
Thesis: A Comparison of Achievement in High School Biology When Taught to Ninth Grade and Tenth Grade Pupils.
Major Adviser: Prof. C. H. Boeck.
1961. WILSON, DUSTIN WHITTIER, JR. B.S. '47, College of the Holy Cross; M.A. '48, Western Reserve University.
Major: Education. Minor: Educational Psychology.
Thesis: The Influence of Kinesthetic Ability on Learning to Read.
Major Adviser: Prof. G. L. Bond.
1962. BEATTIE, ARTHUR DONALD. B.S. '42, M.A. '49, University of Minnesota.
Major: Education. Minor: Economics.
Thesis: Relationships between Information and Attitudes of High School Pupils Toward Personal Finance.
Major Adviser: Prof. R. G. Price.

1962. BECK, CARLTON EUGENE. B.S. in Ed. '52, M.Ed. '54, Ohio University.
Major: Education. Minor: Educational Psychology.
Thesis: Guidance: Its Philosophical Presuppositions.
Major Adviser: Prof. R. H. Beck.
1962. BERGER, EMIL JOSEPH. B.E. '39, St. Cloud State College; M.A. '47, Colorado State College of Education.
Major: Education. Minor: Mathematics.
Thesis: An Investigation of the Effectiveness of Televised Presentations of Self-Contained Television-Adapted Lessons on Enrichment Topics in Mathematics.
Major Adviser: Prof. D. A. Johnson.
1962. BERWALD, HELEN D. B.A. magna cum laude '48, B.S. '51, M.A. '51, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Attitudes Toward Women College Teachers in Institutions of Higher Education Accredited by the North Central Association.
Major Advisers: Profs. Edith West and C. J. Hoyt.
1962. BICAK, LADDIE JOHN. B.S.Ed. '50, Wayne State Teachers College; M.Ed. '54, University of Nebraska.
Major: Education. Minor: Educational Administration.
Thesis: Achievement in Eighth Grade Science by Heterogeneous and Homogeneous Classes.
Major Adviser: Prof. C. H. Boeck.
1962. BROBERG, JOEL WILBUR. B.A. '32, Macalester College; M.A. '40, University of Minnesota.
Major: Education. Minor: Chemistry.
Thesis: An Experimental Evaluation of Two Methods of Problem Solving in Freshman College General Chemistry.
Major Adviser: Prof. C. H. Boeck.
1962. CALWAY, MARIAN FLADSTOL. B.S. '48, M.A. '60, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Relative Effects of Instruction with Narrative and Factual Materials on Listening Skills.
Major Adviser: Prof. C. P. Archer.
1962. DVORAK, EDWARD JOHN. B.S. '40, M.Ed. '47, M.P.H. '52, University of Minnesota.
Major: Education. Minor: Public Health.
Thesis: Characteristics of University Students with Regard to Acceptance and Rejection of Polio Vaccination.
Major Advisers: Profs. R. J. Donnelly and R. E. Grout.
1962. EASTWOOD, GORDON ROSS. B.Ed. '53, Cert. Ed.Ad. '53, B.A. '58, University of Western Australia; M.A. '60, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Philosophical Analysis and Language in Education.
Major Adviser: Prof. R. H. Beck.

1962. GRANGER, ROBERT LEE. B.A. '46, Iowa State Teachers College;
M.A. '53, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Administrative Staffing for Instructional Program Development
and Implementation in Selected Minnesota Schools.
Major Adviser: Prof. O. E. Domian.
1962. HANSEN, VIGGO PETER. B.A. '52, B.S. '58, M.A. '60, University of
Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Elementary Algebra Achievement as Related to Class Length and
Teaching Method.
Major Adviser: Prof. D. A. Johnson.
1962. HARRIS, MARTHA ISABEL. B.S. '34, University of Michigan;
M.Ed. '51, University of Minnesota.
Major: Education. Minor: Psychology.
Thesis: A Study of Conceptions of the Head Nurse Role Held by Students
in Selected Nursing Programs.
Major Adviser: Prof. R. E. Eckert.
1962. HENRICKSON, PAUL ROBERT. B.F.A. '51, Rhode Island School of
Design; M.Ed. '54, State Teachers College at Boston.
Major: Education. Minor: Art.
Thesis: A Study of the Behavior of Creative Children in the Manipu-
lation of Non-Verbal Material.
Major Adviser: Prof. W. R. Hastie.
1962. LARSON, HARVEY ALBERT. B.S. '48, M.A. '52, University of
Minnesota.
Major: Education. Minor: Educational Administration.
Thesis: An Evaluation of Laboratory Teaching Methods for a Beginning
College Course in Principles of Accounting.
Major Adviser: Prof. R. G. Price.
1962. LUND, DUANE RICHARD. B.A. cum laude '47, Macalester College;
M.A. '50, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Study of Counselor, Principal, and Teacher Perception of
the Role of the Secondary School Counselor.
Major Advisers: Profs. W. E. Dugan and C. P. Hooker.
1962. MADISON, ELDON HAROLD. B.S. '47, M.S. '54, University of
Minnesota.
Major: Education. Minor: Agricultural Economics.
Thesis: The Effectiveness of Visual Aids in Presenting an Analysis of
Selected Farm Management Factors.
Major Adviser: Prof. M. J. Peterson.
1962. NELSON, LEONARD DOYAL. B.Ed. '47, M.Ed. '49, University of
Alberta.
Major: Education. Minor: Educational Psychology.
Thesis: Relation of Textbook Difficulty to Mathematics Achievement in
Junior High School.
Major Adviser: Prof. D. A. Johnson.

1962. NOVAK, LADISLAV PETER. Graduate '48, Charles University (Prague); M.A. '61, University of Minnesota.
Major: Education. Minor: Physiological Hygiene and Anthropology.
Thesis: Age and Sex Differences in Body Density and Creatinine Excretion of High School Children.
Major Adviser: Prof. W. W. Heusner.
1962. PINKERTON, JEAN FACKLER. B.S. '45, M.S. '49, Iowa State College.
Major: Education. Minors: Child Psychology and Home Economics.
Thesis: Relation Between Ninth-Grade Home Economics Instruction and Changes in Pupils' Attitudes Toward Family Relationships.
Major Advisers: Profs. R. R. Ford and C. J. Hoyt.
1962. POOR, FREDERICK ALBERT. B.S. '48, Ball State Teachers College; M.S. '50, University of Michigan.
Major: Education. Minor: Educational Psychology.
Thesis: The Similarities and Differences in the Successful and Unsuccessful Second-Semester Accounting Students at Northern Illinois University.
Major Adviser: Prof. R. G. Price.
1962. RAINEY, ROBERT GLENN. B.S. '49, M.A. '55, University of Minnesota.
Major: Education. Minor: Chemistry.
Thesis: The Effects of Directed Versus Non-Directed Laboratory Work on High School Chemistry Achievement.
Major Advisers: Profs. C. H. Boeck and R. O. Collier, Jr.
1962. SCHNITZEN, JOSEPH PETER. M.A. '52, University of Chicago.
Major: Education. Minor: Educational Psychology.
Thesis: Assessment of Certain Personality Potentials in Relation to Student Teaching.
Major Advisers: Profs. C. G. Wrenn and R. E. Eckert.
1962. SHUFF, ROBERT VANCE. B.Ed. '45, University of Toledo; M.Ed. '53, State College of Washington.
Major: Education. Minor: Sociology.
Thesis: A Comparative Study of Achievement in Mathematics at the 7th and 8th Grade Levels under Two Approaches--School Mathematics Study Group and Traditional.
Major Adviser: Prof. O. E. Domian.
1962. SIMMONS, JOHN STEPHEN. B.A. '53, Boston University; B.S. '57, M.A. '57, University of Minnesota.
Major: Education. Minor: English.
Thesis: Comparison of a Theoretically Sound Reading Program with Current Practices of Secondary Schools in the Upper Midwest.
Major Advisers: Profs. S. B. Kegler and G. L. Bond.
1962. SOLDAHL, THOMAS ALAN. B.S. '47, M.A. '50, University of Minnesota.
Major: Education. Minor: Curriculum and Instruction.
Thesis: Secondary School Counselors Concept of Role in Relation to Personal Data and Psychogenic Needs.
Major Adviser: Prof. W. E. Dugan.

1962. SUNDAL, LORRAINE DELORES. B.S. with distinction '51, M.A. '57, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparative Analysis of the Emerging Nine-Year School in Norway.
Major Advisers: Profs. W. E. Dugan and R. H. Beck.
1962. TENHOFF, MARVIN LE ROY. B.S. with honors '49, Mankato State College; M.A. '57, Colorado State College.
Major: Education. Minor: Educational Psychology.
Thesis: Conditions Associated with Readiness for School Entrance at Selected Ages.
Major Adviser: Prof. C. P. Hooker.
1962. VANDER HORCK, KARL JOHN. B.A. '48, St. John's University; M.A. '55, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparative Analysis of the Equalizing Effect of Recent Legislation on the Financing of Education in the State of Minnesota.
Major Adviser: Prof. O. E. Domian.
1962. WEBB, HENRY CHARLES. B.S. with distinction '48, M.A. '49, University of Minnesota.
Major: Education. Minor: Social Sciences.
Thesis: An Investigation of Teacher Characteristics and Educational Film Utilization in Three Minnesota Urban Public School Systems.
Major Advisers: Profs. C. J. Hoyt and G. H. McCune.
1962. WILLIAMS, EMMET DAVID. B.S. with high distinction '48, M.A. '50, University of Minnesota.
Major: Education. Minor: Curriculum and Instruction.
Thesis: Comparative Study of SMSG and Traditional Mathematics.
Major Adviser: Prof. O. E. Domian.
1963. ANDERSON, DONALD NORRIS. B.S. '40, Mankato State College; M.A. '53, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: An Experimental Evaluation of Two Methods for Developing Creative Problem Solving Abilities in an Industrial Arts Course.
Major Adviser: Prof. H. F. Nelson.
1963. ANDERSON, WALDO KEITH. B.A. '45, Ottawa University; M.Ed. '53, University of South Dakota.
Major: Education. Minor: Educational Psychology.
Thesis: Factors Associated with Instructional Costs in Kansas Public Higher Education, 1958-1959.
Major Advisers: Profs. O. E. Domian and R. J. Keller.
1963. BLOCKHUS, WANDA ALEXANDER. B.B.A. '52, M.A. '54, Baylor University.
Major: Education. Minor: Educational Psychology.
Thesis: Creativity and Money Management Understanding.
Major Adviser: Prof. R. G. Price.

1963. BOHN, GERHARDT H. B.S. '54, Wisconsin State College (River Falls); M.S. '56, University of Minnesota.
Major: Education. Minor: Agricultural Engineering.
Thesis: An Evaluation of the Potential Value of a Maintenance Oriented Instructional Program in Vocational Agriculture as a Means of Improving the Operating Characteristics of the Farm Tractor.
Major Adviser: Prof. M. J. Peterson.
1963. BRODIE, THOMAS ADAMS, JR. B.A. '48, Macalester College; M.A. '50, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Factors Associated with Positive and Negative Attitudes toward Senior High School.
Major Adviser: Prof. R. J. Keller.
1963. BUCK, BENJAMIN ANTON. B.A. '46, Lawrence College; M.A. '50, University of Minnesota.
Major: Education. Minor: Curriculum and Instruction.
Thesis: Success in Teaching as Attained by Men in Elementary Education as Compared with Women in Elementary Education and as Compared with Men in Secondary Education.
Major Adviser: Prof. O. E. Domian.
1963. COURTER, ELOISE NORMA. B.A. with honors '37, Rutgers University; M.A. '46, Columbia University Teachers College.
Major: Education. Minor: English.
Thesis: The Language Beliefs and Attitudes of Minnesota Elementary Teachers.
Major Advisers: Profs. H. B. Allen and S. B. Kegler.
1963. DOLAN, SISTER MARY EDWARD. B.A. magna cum laude '49, Loras College; M.Ed. '53, St. Louis University.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparative Study of Reading Achievement at the Fourth Grade Level under Two Methods of Instruction: Modified Linguistic and Traditional Basal.
Major Adviser: Prof. G. L. Bond.
1963. ESPY, JAMES ALVIN. B.S. '20, Florida A. and M. College; M.A. '45, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Factors Influencing Choice of College Teaching as a Career: A Study of Faculties in Predominantly Negro Institutions.
Major Advisers: Profs. R. E. Eckert and R. J. Keller.
1963. EVEN, ROBERT LAWRENCE. B.S. in Educ. '51, Valley City State Teachers College; M.Ed. '52, University of Minnesota.
Major: Education. Minor: Art.
Thesis: An Experimental Study of the Comparative Effect of Selected Art Experiences on the Creative Performance and Attitudes of Academically Superior Students.
Major Adviser: Prof. C. A. Gayne.
1963. GREIS, NAGUIB AMIN FAHMY. B.A. '45, Cairo University; Diploma '54, University of Exeter (England).
Major: Education. Minor: English.
Thesis: The Pedagogical Implications of a Contrastive Analysis of Cultivated Cairene Arabic and the English Language.
Major Advisers: Profs. H. B. Allen and S. B. Kegler.

1963. GROVER, BURTON LOUIS. B.S. with high distinction '54, M.A. '60, University of Minnesota.
Major: Education. Minor: Curriculum and Instruction.
Thesis: Some Effects and Correlates of Different Types of Practice Used in Studying a Topic in Ninth Grade Classrooms.
Major Adviser: Prof. E. P. Torrance.
1963. HELLING, JOHN FEDJE. B.S. '50, Hamline University; M.A. '57, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Relationship of Selected Student and School Practices to Differences in Guidance Emphasis.
Major Adviser: Prof. C. P. Hooker.
1963. INMAN, LYDIA LUCILLE. B.S. '40, M.S. '50, Iowa State University.
Major: Education. Minor: Home Economics.
Thesis: Exploratory Study of Household Equipment Subject Matter for Secondary School Home Economics Curricula.
Major Adviser: Prof. R. R. Ford.
1963. LEHMKUHL, CARLTON BURDELL. B.S. in Educ. '53, M.S. in Educ. '56, Indiana University.
Major: Education. Minor: Educational Psychology.
Thesis: Test Performance Relationships among Occupational Patterns of Educational Administration Program Graduates.
Major Adviser: Prof. C. P. Hooker.
1963. LIESCH, JAMES RICHARD. B.A. summa cum laude '50, College of St. Thomas; M.Ed. '53, University of the Philippines.
Major: Education. Minor: Philosophy.
Thesis: Philosophic Presuppositions of the Community School Movement of the Philippines.
Major Adviser: Prof. R. H. Beck.
1963. MALONE, JOHN WILLIAM. Litt.B. cum laude '40, Xavier University; Ph.L. '43, S.T.L. '50, Loyola University.
Major: Education. Minor: Educational Psychology.
Thesis: Faculty Participation in Policy Making in Midwest Jesuit Colleges and Universities.
Major Adviser: Prof. R. E. Eckert.
1963. OLSTAD, ROGER GALE. B.S. '55, M.A. '59, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Secondary School Biology Achievement Related to Class Period Length and Teaching Method.
Major Adviser: Prof. C. H. Boeck.
1963. RINGO, EARL NOLTING. B.A. '42, University of Omaha.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparative Study of Native and Transfer Students in Professional and Technical Schools at the University of Minnesota.
Major Adviser: Prof. R. J. Keller.

1963. SOLSTAD, ARNOLD KALMAR. B.S. '41, Wisconsin State College (River Falls); M.S. '54, University of Minnesota.
Major: Education. Minor: Agricultural Engineering.
Thesis: A Study of the Relationship between Income of Farmers in the Minnesota Vocational Agriculture Farm Management Service and Their Activities in the Farm Power and Machinery Area with Implications to a Course of Study.
Major Advisers: Profs. P. R. Marvin and M. J. Peterson.
1963. STEDMAN, ROSE EDITH. B.A. '44, University of Arizona; M.A. '57, Claremont College.
Major: Education. Minor: Sociology.
Thesis: Relation of Masculinity-Femininity to Perception of Self, Chosen Occupation, and College Teaching among University Honor Students.
Major Advisers: Profs. R. E. Eckert and C. G. Wrenn.
1963. STOCHL, JAMES EVERETT. B.S. '55, University of Minnesota.
Major: Education. Minor: Statistics.
Thesis: A Comparison of Demonstration Teaching by Kinescopes and by Classroom Visitation in an Elementary Mathematics Methods Course.
Major Adviser: Prof. D. A. Johnson.
1963. SUMMERS, EDWARD GEORGE. B.S. '58, M.A. '60, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: An Evaluation of Reading Growth and Retention under Two Plans of Organization for Seventh Grade Developmental Reading.
Major Adviser: Prof. T. W. Clymer.
1963. TEMPLETON, DAVID EDWARD. B.F.A. '55, M.A. '58, University of Illinois.
Major: Education. Minor: Art.
Thesis: The Creative Process of Communication: An Examination of the Process of Analogizing of Students and Teachers of Art and Its Implication in the Area of Creativity.
Major Adviser: Prof. C. A. Gayne.
1963. TORGELSON, JOHN WINSTON. B.A. magna cum laude '50, Luther College; M.A. '56, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparison of Homogeneous and Heterogeneous Grouping for Below-Average Junior High School Students.
Major Adviser: Prof. R. J. Keller.
1963. WHITE, ADOLPH PETER. B.S. with distinction '40, University of Minnesota; M.Mus. '48, Northwestern University.
Major: Education. Minor: Educational Psychology.
Thesis: The Construction and Validation of a Group Test in Music Reading for Intermediate Grades.
Major Adviser: Prof. P. S. Ivory.
1963. WICK, MARSHALL ELDON. B.S. '51, Wisconsin State College (Eau Claire); M.A. '54, University of Minnesota.
Major: Education. Minor: Mathematics.
Thesis: A Study of the Factors Associated with Achievement in First-Year College Mathematics.
Major Adviser: Prof. D. A. Johnson.

1963. ZARRAGA, JOSE CRUZ. B.S.Ag.Ed. cum laude '57, Central Luzon Agricultural College (Philippines); M.A. '60, University of Minnesota.
Major: Education. Minor: Agricultural Economics.
Thesis: The Development and Experimental Trials of Programmed Learning Material in Teaching Farm Business Management to Vocational Agriculture Students.
Major Adviser: Prof. M. J. Peterson.
1963. ZIEBARTH, RAYMOND ALLAN. B.S. '54, M.A. '59, University of Minnesota.
Major: Education. Minor: Educational Administration.
Thesis: The Effect of Experimental Curricula on Mathematics Achievement in High School.
Major Adviser: Prof. D. A. Johnson.
1964. ANDERSON, DONALD PAUL. B.S. '51, St. Cloud State Teachers College; M.S. '52, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Relationships between Organizational Climate of Elementary Schools and Personal Variables of Principals.
Major Adviser: Prof. O. E. Domian.
1964. ANDERSON, ROBERT NEWTON. B.Ed. with distinction '52, B.A. '49, University of Saskatchewan; M.A. '58, University of Minnesota.
Major: Education. Minor: Curriculum and Instruction.
Thesis: The Role of Government in Canadian Education: An Analysis of Bureaucratic Structure.
Major Adviser: Prof. R. H. Beck.
1964. BAGGETT, HARRY WILLIAM, JR. B.A. '51, Chico State College; M.A. '57, San Francisco State College.
Major: Education. Minor: Business Administration.
Thesis: The Validity of a Measure of the Difficulty of Gregg Shorthand Dictation Materials.
Major Adviser: Prof. R. G. Price.
1964. BALDWIN, ROGER EDWIN. B.S. '51, M.S. '53, Oregon State College.
Major: Education. Minor: Botany.
Thesis: The Development and Evaluation of Voluntary-Choice Programmed Instruction in Mathematics.
Major Adviser: Prof. C. H. Boeck.
1964. BROWN, ROBERT JOHN. B.S. with honors '57, Winona State College; M.A. '58, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Identifying and Classifying Organizational Climates in Twin City Area Elementary Schools.
Major Adviser: Prof. C. P. Hooker.
1964. COX, SOREN FRANKLIN. B.A. with honors '52, M.A. '56, Brigham Young University.
Major: Education. Minor: English.
Thesis: A Study of the Teaching of Mass Communication in the Freshman Composition/Communication Course.
Major Advisers: Profs. H. B. Allen and S. B. Kegler.

1964. CUSICK, JAMES WALTER. B.S. '49, Montana State College; M.A. in Educ. '53, Washington State College.
Major: Education. Minor: Educational Psychology.
Thesis: An Analysis of Chemical Bond Principles in an Experimental Introductory Chemistry Course.
Major Adviser: Prof. C. H. Boeck.
1964. CVANCARA, JOSEPH GEORGE. B.S. '55, North Dakota State University; M.S. '57, University of Minnesota.
Major: Education. Minor: Agricultural Economics.
Thesis: Input-Output Relationships among Selected Intellectual Investments in Agriculture.
Major Advisers: Profs. M. J. Peterson and G. I. Swanson.
1964. GORALSKI, PATRICIA SCHWARZ. B.S. with high distinction '47, M.A. '56, University of Minnesota.
Major: Education. Minor: History and Philosophy of Education.
Thesis: Creativity: Student Teachers' Perceptions of Approaches to Classroom Teaching.
Major Advisers: Profs. G. M. A. Mork and E. P. Torrance.
1964. HALL, RUTH ELEANOR. B.S. '38, M.A. '50, Iowa State University.
Major: Education. Minor: Home Economics.
Thesis: The Place of Textiles and Clothing in the Required Curriculum and in Selected Specializations in Home Economics.
Major Adviser: Prof. R. R. Ford.
1964. HINMON, DEAN EVERETT. B.S. '52, M.A. '56, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Study of Catholic Parents' Characteristics and Opinions concerning the Need for Catholic Elementary Schools.
Major Adviser: Prof. L. L. Cunningham.
1964. LEA, HOPE MARILYN HALENBECK. B.S. with high distinction '49, M.A. '51, University of Minnesota.
Major: Education. Minor: History.
Thesis: A Study of Some Characteristics of the Variability of Teacher Activities in the Social Studies and Pupil Response and Achievement.
Major Adviser: Prof. J. R. Curtin.
1964. LEASE, ALFRED ARNOLD. B.S. '50, M.S. '58, St. Cloud State College.
Major: Education. Minor: Curriculum and Instruction.
Thesis: An Experimental Comparison of Linear Program and Standard Textbook in Learning Basic Electronics.
Major Adviser: Prof. H. F. Nelson.
1964. MCINTOSH, LUCY BELLE JONES. B.S. '44, Hampton Institute; M.A. '47, University of Minnesota.
Major: Education. Minor: Home Economics.
Thesis: The Pre-Service Preparation of Home Economics Teachers for Work with Adults.
Major Adviser: Prof. R. R. Ford.

1964. MYRBO, CALVIN LEONARD. B.A. '50, Bob Jones University; M.A. '56, University of Minnesota.
Major: Education. Minor: English.
Thesis: An Analysis of the Character of the Clergyman in Novels for Adolescents.
Major Adviser: Prof. S. B. Kegler.
1964. NORTON, DANIEL PATRICK. B.S. '49, M.A. '58, University of Minnesota.
Major: Education. Minor: Curriculum and Instruction.
Thesis: The Professional Attitudes of Minnesota Classroom Teachers.
Major Adviser: Prof. G. M. A. Mork.
1964. RAGOZIS, PERRY NICHOLAS. B.F.A. with honors '51, M.F.A. '54, University of Illinois.
Major: Education. Minor: Art.
Thesis: An Experimental Study of the Effects of Non-Grading of Student Art Products on Selected Aspects of Creativity, Personality Adjustment, and Art Quality in Art Education Courses for Elementary School Teachers.
Major Adviser: Prof. C. A. Gayne.
1964. RANTA, TAIMA MARIA. B.A. with honors '39, Northern Michigan College of Education; M.Ed. '44, Ohio University.
Major: Education. Minor: Educational Psychology.
Thesis: Methods and Materials of Teaching Reading in Finland under Church and State.
Major Adviser: Prof. C. J. Hoyt.
1964. REDMAN, BARBARA KLUG. B.S. '58, South Dakota State College; M.Ed. '59, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Clinical Nursing Instructors' Perceptions of Students' Attitudes toward Selected Interpersonal Relationships.
Major Adviser: Prof. R. E. Eckert.
1964. ROY, SISTER MARIE COLETTE. B.A. cum laude '60, M.A. '60, Cardinal Stritch College.
Major: Education. Minor: Educational Psychology.
Thesis: Multiple-Meaning Oral Vocabulary of Good and Poor Readers.
Major Adviser: Prof. T. W. Clymer.
1964. SAMSON, HARLAND EBBIE. B.S. '53, M.A. '56, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Critical Requirements for Distributive Education Teacher-Coordinators.
Major Adviser: Prof. R. G. Price.
1964. SEDERBERG, CHARLES HERBERT. B.S. with distinction '54, M.A. '58, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Comparison of Mathematics Teaching Methods for Average and Below-Average Ninth Grade Pupils.
Major Adviser: Prof. O. E. Domian.

1964. SYN, WAI YIN. B.S. '59, M.A. '60, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Progress of Education in Malaya during the Post War Period, 1947-1960.
Major Adviser: Prof. G. I. Swanson.
1964. TEN BRINKE, DIRK PIETER. B.S. with high distinction '43, M.A. '53, University of Minnesota.
Major: Education. Minor: Zoology.
Thesis: Homework: An Experimental Evaluation of the Effect on Achievement in Mathematics in Grades Seven and Eight.
Major Adviser: Prof. D. A. Johnson.
1964. WALLACE, HAROLD RONALD. B.S. with distinction '58, M.A. '60, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Creative Thinking: A Factor in the Performance of Industrial Salesmen.
Major Adviser: Prof. R. G. Price.
1964. WEISS, ROBERT FRANCIS. B.A. magna cum laude '51, M.A. '53, St. Louis University.
Major: Education. Minor: Educational Psychology.
Thesis: Student and Faculty Perceptions of Institutional Press at Saint Louis University.
Major Advisers: Profs. R. E. Eckert and R. J. Keller.
1964. WOODS, JOHN BARRIE. B.S. '57, Bemidji State College; M.S. '59, Washington State University.
Major: Education. Minor: Educational Psychology.
Thesis: The Effect of Varied Instructional Emphasis on the Development of a Motor Skill.
Major Adviser: Prof. R. J. Donnelly.
1965. ALCIATORE, ROBERT THOMAS. B.A. '54, Spring Hill College.
Major: Education. Minor: History and Philosophy of Education.
Thesis: The Relationship of Conventional and Experimental Ph.D. Programs to Later Faculty Service.
Major Adviser: Prof. R. E. Eckert.
1965. ALEXANDER, ROBERT RITCHIE. B.A. '34, B.T. '37, University of Calcutta (India); M.A. '50, University of New Zealand.
Major: Education. Minor: English.
Thesis: Integration in New Zealand and the Part Played by Education.
Major Adviser: Prof. R. H. Beck.
1965. ALTEVEER, ROBERT JAN GEORGE. M.S. '58, Springfield College.
Major: Education. Minor: Physiology.
Thesis: The Development, Standardization and Potential Application to Problems in Respiratory Physiology in Rest and Exercise of a New Miniature Oxygen Electrode.
Major Adviser: Prof. R. E. McAdam.

1965. BERGSTROM, HOWARD EMIL. B.S. with distinction '48, M.A. '55, University of Minnesota.
Major: Education. Minor: History and Philosophy of Education.
Thesis: Job Performance of Young Workers in Relation to School Background: A Pilot Approach.
Major Adviser: Prof. G. M. A. Mork.
1965. BERRYMAN, RUDOLPH BARTON. B.A. '50, University of Omaha; M.A. '52, University of Minnesota.
Major: Education. Minor: Music.
Thesis: Two Methods of Musical Stylistic Analysis: An Experimental Evaluation.
Major Adviser: Prof. P. S. Ivory.
1965. BJORKQUIST, DAVID CARL. B.S. '56, M.S. '57, Iowa State University.
Major: Education. Minor: Educational Psychology.
Thesis: Discrimination Transfer from Scale Models and Pictorial Drawings in Learning Orthographic Projection.
Major Adviser: Prof. H. F. Nelson.
1965. BRUNING, CHARLES RICHARD. B.S. '49, M.A. '53, University of Minnesota.
Major: Education. Minor: Educational Administration.
Thesis: Comparisons of Institutional Press as Perceived by Selected Students in Church Related Schools.
Major Adviser: Prof. R. J. Keller.
1965. CANNON, HAROLD LEE. B.S. in Educ. '54, M.S. '56, Kansas State Teachers College.
Major: Education. Minor: Educational Psychology.
Thesis: Personality Characteristics and Other Factors as Predictors of Achievement in College.
Major Adviser: Prof. R. G. Price.
1965. COULTER, JOHN CHESTER. B.S. '51, St. Cloud State College; M.A. '60, University of Minnesota.
Major: Education. Minor: Zoology.
Thesis: The Effectiveness of Inductive Laboratory, Inductive Demonstration, and Deductive Laboratory Instruction in Biology.
Major Adviser: Prof. C. H. Boeck.
1965. DEWALT, HOMER CLEMENT. B.A. '41, Canisius College; M.A. '57, John Carroll University.
Major: Education. Minor: Educational Psychology.
Thesis: An Analysis of the Status and the Functions of the Diocesan School Superintendency in the United States.
Major Adviser: Prof. C. P. Hooker.
1965. FIELD, ROBERT LEWIS. B.S. '48, Winona State College; M.A. '53, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: An Analysis of Selected Pre-Student Teaching Experiences of Students in the College of Education, University of Minnesota.
Major Advisers: Profs. R. J. Keller and D. C. Neale.

1965. HANSON, IRENE HELEN WUNDERLICH. B.S. in Educ. with honors '46, M.S. in Educ. '48, Temple University.
Major: Education. Minor: Educational Psychology.
Thesis: An Investigation of the Effects of Teaching Variant Word Endings to First Grade Children.
Major Adviser: Prof. G. L. Bond.
1965. HOWITZ, THOMAS ALLEN. B.S. '55, North Dakota State University; M.S. '58, University of North Dakota.
Major: Education. Minor: Mathematics.
Thesis: The Discovery Approach: A Study of Its Relative Effectiveness in Mathematics.
Major Adviser: Prof. D. A. Johnson.
1965. JACKSON, ROBERT LORING. B.S. '50, Hamline University; M.A. '59, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Numeration Systems: An Experimental Study of Achievement on Selected Objectives of Mathematics Education Resulting from the Study of Different Numeration Systems.
Major Adviser: Prof. D. A. Johnson.
1965. JOHNSON, DAVID CARLTON. B.A. '58, Colgate University.
Major: Education. Minor: Mathematics.
Thesis: Programed Learning: A Comparison of the School Mathematics Study Group Programed and Conventional Textbooks in Elementary Algebra.
Major Adviser: Prof. D. A. Johnson.
1965. JORDAN, WILLIAM LEE. B.S. '54, M.S. '58, Northern State Teachers College.
Major: Education. Minor: Educational Administration.
Thesis: The Results of Speed and Accuracy Emphases on the Learning of a Selected Motor Skill in Golf.
Major Adviser: Prof. R. J. Donnelly.
1965. KENMORE, JEANNE RICE. B.S. '48, University of Minnesota; M.A. '54, San Francisco State College.
Major: Education. Minor: Child Psychology.
Thesis: Associative Learning by Blind Versus Sighted Children with Words and Objects Differing in Meaningfulness and Identifiability without Vision.
Major Adviser: Prof. Robert Orlando.
1965. LAMB, GEORGE STANWOOD. B.A. '50, Macalester College; M.A. '60, University of Washington.
Major: Education. Minor: Educational Psychology.
Thesis: The Effect of Verbal Cues upon Second and Third Grade Pupils' Responses on a Group Reading Test.
Major Adviser: Prof. T. W. Clymer.
1965. MACLEOD, ROBERT NATHAN. B.S. '54, M.A. '58, University of Minnesota.
Major: Education. Minor: Educational Administration.
Thesis: Persistence in Teaching Among Male Special Area Graduates in Education.
Major Advisers: Profs. R. L. Donnelly and D. C. Neale.

1965. MADEJA, STANLEY STEPHAN. B.S. '56, M.A. '59, University of Minnesota.
Major: Education. Minor: Art.
Thesis: Comparison of Two Methods of Teaching Art to Students of High and Low Art Ability.
Major Adviser: Prof. W. R. Hastie.
1965. MOODY, WILLIAM JOSEPH. B.S. cum laude '52, University of Minnesota; M.Mus. '53, Butler University.
Major: Education. Minor: Music.
Thesis: An Experimental Evaluation of Two Methods of Triple Tonguing on Brass Instruments.
Major Adviser: Prof. P. S. Ivory.
1965. NULL, ELDON JAMES. B.A. cum laude '48, Augustana College; M.A. '54, University of South Dakota.
Major: Education. Minor: Educational Psychology.
Thesis: The Relationships between the Organizational Climate of a School and Personal Variables of Members of the Teaching Staff.
Major Adviser: Prof. S. H. Popper.
1965. PELTOLA, BETTE JEAN. B.A. magna cum laude '59, B.S. '62, M.A. '62, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: A Study of the Indicated Literary Choices and Measured Literary Knowledge of Fourth and Sixth Grade Boys and Girls.
Major Adviser: Prof. R. N. Odland.
1965. PETERS, ROBERT MORGAN. B.S. '55, M.S. '58, Mankato State College.
Major: Education. Minor: Educational Psychology.
Thesis: Some Factors Related to Achievement of Personal-Business Knowledges and Understandings of High School Students.
Major Adviser: Prof. R. G. Price.
1965. RAICHE, SISTER ALOISE. B.A. '60, College of St. Catherine; M.Ed. '62, Boston College.
Major: Education. Minor: Educational Psychology.
Thesis: Selected Teacher Characteristics and Verbal Behavior in the Classroom.
Major Adviser: Prof. J. R. Curtin.
1965. ROSEN, CARL LYLE. B.A. '51, Brooklyn College; B.S. '58, M.A. '61, University of Minnesota.
Major: Education. Minor: Educational Administration.
Thesis: A Study of Visual Perception Capabilities of First Grade Pupils and the Relationship between Visual Perception Training and Reading Achievement.
Major Adviser: Prof. G. L. Bond.
1965. STOPPEL, DAVID ARTHUR. B.S. '53, M.A. '55, University of Minnesota.
Major: Education. Minor: Inorganic Chemistry.
Thesis: An Experiment in Teaching College General Chemistry by Depictive and Quantitative Methods.
Major Adviser: Prof. G. M. A. Mork.

1965. VOTH, JOHN ABRAM. B.A. '55, B.Ed. '57, M.Ed. '59, University of Manitoba.
Major: Education. Minor: Educational Psychology.
Thesis: Dogmatism and Test Performance Relationships of Doctoral Graduates in Education.
Major Adviser: Prof. C. P. Hooker.
1965. WHITE, RICHARD EARL. B.B.A. '47, B.S. '49, M.A. '57, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Patterns of Institutional Press among Selected Groups of Minnesota Junior College Students.
Major Adviser: Prof. R. J. Keller.
1965. WILLIAMS, HOWARD Y., JR. B.A. cum laude '48, M.A. '51, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Student Perceptions of the Personal Traits and Teaching Procedures of Good and Poor College Teachers.
Major Adviser: Prof. R. E. Eckert.
1966. AMERSHEK, KATHLEEN GRACE. B.S. '51, Indiana State Teachers College; M.Ed. '57, Pennsylvania State University.
Major: Education. Minor: Educational Psychology.
Thesis: The Structure of Verbal Behavior of Student Teachers and Children During the First Student Teaching Quarter.
Major Advisers: Profs. R. E. Eckert and G. M. A. Mork.
1966. BALZER, DAVID MOORE. B.A. '51, Antioch College; M.A. '58, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Influence of Selected Personal and Situational Characteristics on Shifts in Preferences for Teacher Education.
Major Advisers: Profs. J. R. Curtin and C. J. Hoyt.
1966. DUENK, LESTER GERALD. B.A. '52, M.A. '54, Colorado State College; M.S. '62, Northern Illinois University.
Major: Education. Minor: Curriculum and Instruction.
Thesis: A Study of the Concurrent Validity of the Minnesota Tests of Creative Thinking, Abbr. Form VII, for Eighth Grade Industrial Arts Students.
Major Adviser: Prof. Jerome Moss, Jr.
1966. HANUMANTHAPPA, HANUMANTHAPPA SANJEEVAPPA. B.Sc.(Agric.) '59, University of Mysore (India); M.S. '62, University of Tennessee.
Major: Education. Minor: Educational Administration.
Thesis: A Basis for Developing Programs of Adult Farmer Education in India.
Major Adviser: Prof. M. J. Peterson.
1966. HEALY, SISTER MARY MARGARET IRENE. B.A. '47, M.A. '53, De Paul University.
Major: Education. Minor: Educational Psychology.
Thesis: Assessment of Academic Aptitude, Personality Characteristics, and Religious Orientation of Catholic Sister-Teacher-Trainees.
Major Adviser: Prof. R. E. Eckert.

1966. HINSON, MARILYN MARIE. B.S. in Sec. Ed. with honors '54, Western New Mexico University; M.S. in P.Ed. '55, Indiana University.
Major: Education. Minor: Educational Psychology.
Thesis: An Electromyographic Study of the Push-up for Women.
Major Adviser: Prof. M. Wilson.
1966. LANGE, DALE LOWELL. B.S. with distinction '58, M.A. '63, University of Minnesota.
Major: Education. Minor: French.
Thesis: An Evaluation of Pre-Reading Instruction in Beginning French in Secondary Schools.
Major Adviser: Prof. E. M. Birkmaier.
1966. NELSON, CLIFFORD LEON. B.S. '57, M.S. '62, Washington State University.
Major: Education. Minor: Journalism.
Thesis: Source and Extent of Economic Commitment to Public Vocational Education in Minnesota and Their Effect on the Nature of Training Opportunities.
Major Adviser: Prof. M. J. Peterson.
1966. OLSON, LOWELL ELLIS. B.S. '45, University of Illinois; M.A. '48, University of Chicago; M.S. '55, University of Minnesota.
Major: Education. Minor: Library Science.
Thesis: Teachers', Principals', and Librarians' Perceptions of the School Librarian's Role.
Major Advisers: Profs. D. K. Berninghausen and R. E. Eckert.
1966. O'ROURKE, RICHARD CLAIR. B.S. '53, College of St. Thomas; M.S. '58, University of Minnesota.
Major: Education. Minor: Botany.
Thesis: Structure of Knowledge in Hypothesis-Formation.
Major Adviser: Prof. R. H. Beck.
1966. PERSONS, EDGAR ALLEN. B.S. with distinction '63, M.A. '65, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: The Farmer and His Educational Investment: What are the Relationships of This Investment to Farm Success?
Major Adviser: Prof. G. I. Swanson.
1966. STONER, LELA JUNE. B.Ed. cum laude '56, Washburn University; M.A. '58, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Cardiovascular Efficiency of Minnesota Women Aged 45-60 Engaged in a Moderate Exercise Program.
Major Adviser: Prof. M. U. Wilson.
1966. UTHE, ELAINE F. B.A. '51, Marycrest College; M.A. '55, The Catholic University of America.
Major: Education. Minor: Business Administration.
Thesis: An Evaluation of the Difficulty Level of Shorthand Dictation Materials.
Major Adviser: Prof. R. G. Price.

1966. VIVIAN, NEAL EDWARD. B.S. '51, M.A. '52, University of Minnesota.
Major: Education. Minor: Educational Psychology.
Thesis: Economic Understanding of Distributive Education Students.
Major Adviser: Prof. R. G. Price.

EDUCATIONAL ADMINISTRATION

1956. INGWELL, PAUL ELMER. B.S. '47, M.S. '49, The Stout Institute.
Major: Educational Administration. Minor: Educational Psychology.
Thesis: The Present Status of the Program of Studies in Publicly-Supported Junior Colleges in the United States.
Major Adviser: Prof. O. E. Domian.
1958. JENSEN, ARTHUR MYRON. B.S. '28, M.A. '34, University of Minnesota.
Major: Educational Administration. Minor: Educational Psychology.
Thesis: An Experimental Evaluation of Two Different Programs of Teaching Health in the Sixth Grade and the Administrative Implications Involved.
Major Advisers: Profs. O. E. Domian and P. O. Johnson.
1959. STOKES, MARSDEN BURLEIGH. B.A. '41, College of Idaho; M.S. '50, University of Idaho.
Major: Educational Administration. Minor: Educational Psychology.
Thesis: An Evaluation of the Reorganization of Public School Districts in the State of Idaho, 1946 to 1953.
Major Adviser: Prof. O. E. Domian.
1960. ERICKSON, GLENN WILLIAM. B.S. '45, Bemidji State Teachers College; M.A. '56, Certificate of Specialist in Education '57, University of Minnesota.
Major: Educational Administration. Minor: Education.
Thesis: Grade Placement of the Non-Vernacular Language and Readiness for Advanced Study in Schools of Central Africa.
Major Advisers: Profs. C. P. Archer and W. R. Lane.
1961. HOOVER, LOUIS HENRY. B.E. '36, Winona State College; M.S. '39, Kansas State Teachers College (Pittsburgh).
Major: Educational Administration. Minor: Educational Psychology.
Thesis: Characteristics of Public Junior College Preparatory Graduates, A Longitudinal Analysis of Graduates and Subsequent Transfers.
Major Adviser: Prof. R. J. Keller.
1961. SMITH, FRANK HENRY. B.Ed. '33, Bemidji State College; M.A. '46, University of Minnesota.
Major: Educational Administration. Minor: Educational Psychology.
Thesis: An Evaluation of the Intermediate Unit of Public School Administration in Minnesota with a Plan of Reorganization.
Major Adviser: Prof. O. E. Domian.
1962. TOOMBS, MORLEY PRESTON. B.A. with honors '29, M.A. '32, B.Ed. with distinction '38, M.Ed. '41, University of Saskatchewan.
Major: Educational Administration. Minor: Educational Psychology.
Thesis: The Control and Support of Public Education in Rupert's Land and the North-West Territories to 1905 and in Saskatchewan to 1960.
Major Adviser: Prof. O. E. Domian.

1963. HILL, RUSSELL NORMAN. B.S. '50, St. Cloud State College; M.A. '59, University of Minnesota.
Major: Educational Administration. Minor: Education.
Thesis: An Analytic Survey of Curricular Changes in Minnesota Senior High Schools, 1951-62.
Major Adviser: Prof. R. J. Keller.
1963. STOLEE, MICHAEL JOSEPH. B.A. '52, St. Olaf College; M.A. '59, University of Minnesota.
Major: Educational Administration. Minor: Education.
Thesis: Legal Control by the States over the Areas of Instruction in Private Elementary and Secondary Schools.
Major Adviser: Prof. O. E. Domian.
1964. ANDERSON, ROBERT ARNOLD. B.S. '52, University of Minnesota.
Major: Educational Administration. Minor: Educational Psychology.
Thesis: Mathematical Student Achievement of Third Form (Ninth Grade) Students in London and St. Paul-Minneapolis Metropolitan Areas.
Major Advisers: Profs. R. H. Beck and R. J. Keller.
1965. WILKEN, EMIL FREDERICK. B.Ed. '39, St. Cloud State College; M.A. '51, Sp.Ed. '59, University of Minnesota.
Major: Educational Administration. Minor: Education.
Thesis: An Analysis of the Total Local Property Tax Effort in Regard to the Support of Schools and Nonschool Governmental Units.
Major Adviser: Prof. O. E. Domian.

EDUCATIONAL PSYCHOLOGY

1956. ALMOS, KERMIT ODELL. B.A. '39 Augustana College; M.A. '47, University of Minnesota.
Major: Educational Psychology. Minor: Business Administration.
Thesis: A Study of Interrelationships between Measured Satisfaction with College and Certain Academic and Personality Variables.
Major Adviser: Prof. C. G. Wrenn.
1956. CHRISTENSEN, GEORGE MILFORD. B.S. '50, M.A. '52, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Relationship between Visual Discrimination and Certain Personality Variables.
Major Adviser: Prof. W. W. Cook.
1956. HEIST, PAULUS A. B.A. '39, Luther College; M.Ed. '47, University of Minnesota; M.A. '48, University of Illinois.
Major: Educational Psychology. Minor: Psychology.
Thesis: An Experiment Utilizing Group Psychotherapy in a Self-Analytic Procedure for Counselors in Training.
Major Adviser: Prof. C. G. Wrenn.
1956. JOHNSTON, JANE. B.S. with high distinction '39, M.A. '46, University of Minnesota.
Major: Educational Psychology. Minor: Philosophy (and History of Science).
Thesis: The Relative Achievement of the Objectives of Elementary School Science in a Representative Sampling of Minnesota Schools.
Major Adviser: Prof. P. O. Johnson.

1956. LARSON, ROLF WILLIAM. B.S. '38, Central State Teachers College; M.A. '46, Northwestern University.
Major: Educational Psychology. Minor: Education.
Thesis: The Differential Effect of Two Methods of College Teaching on the Attitudes of Students in a Pre-Service Education Program.
Major Adviser: Prof. C. J. Hoyt.
1956. LEINO, WALTER BERTRAM. B.A. '38, B.S. '40, M.A. '46, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: Evaluation of Outcomes of a Personal Adjustment Course.
Major Adviser: Prof. C. G. Wrenn.
1956. THISSEN, MOLLIE JACKIE. B.S. with honor '52, Mankato State Teachers College; M.A. '53, University of Minnesota.
Major: Educational Psychology. Minor: Child Welfare.
Thesis: An Investigation of the Predictive Relationship of Certain Measurements Obtained on First Grade Boys to Reading Disability in Grade Two.
Major Adviser: Prof. M. C. Reynolds.
1956. TOLLEFSON, ARTHUR LEROY. B.A. '48, Concordia College; M.A. '53, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: A Study of a Three-Variable Coding System as a Method for Predicting Academic Achievement.
Major Adviser: Prof. C. G. Wrenn.
1957. ADRIAN, ROBERT JOHN. B.A. '46, University of Illinois; M.A. '51, University of Minnesota.
Major: Educational Psychology. Minor: Child Welfare.
Thesis: The Relationship of Parental Personality Structures to Child Adjustment and Adoption Selection.
Major Adviser: Prof. C. J. Hoyt.
1957. APOSTOLAKOS, PETER C. B.B.A. '40, B.S. '47, M.A. '49, University of Minnesota.
Major: Educational Psychology. Minor: Statistics.
Thesis: Multivariate Statistical Analysis of Cognitive and Non-cognitive Factors and Use of the Analysis in an Actuarial-Clinical Prediction Study.
Major Advisers: Profs. W. E. Dugan and P. O. Johnson.
1957. CORCORAN, MARY ELIZABETH. B.S. cum laude '47, Hunter College; M.A. '48, Stanford University.
Major: Educational Psychology. Minor: Education.
Thesis: The Role of Personal Attitudes in Student Evaluation of an Introductory Education Course.
Major Adviser: Prof. R. J. Keller.
1957. EIKAAS, ALF INGVALD. Graduate '47, University of Oslo; M.A. '50, University of Minnesota.
Major: Educational Psychology. Minor: Curriculum and Instruction.
Thesis: A Study of Personality Dimensions Related to Teacher-Pupil Rapport.
Major Adviser: Prof. C. J. Hoyt.

1957. FILSON, THOMAS NEWEL. B.A. cum laude '54, Chico State College.
Major: Educational Psychology. Minor: Psychology.
Thesis: Factors Influencing the Level of Dependency in the Classroom.
Major Advisers: Profs. C. G. Wrenn and N. A. Flanders.
1957. FLANAGAN, GEORGE FRANCIS. B.A. '48, M.A. '52, St. Bonaventure University; M.A. '55, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: An Investigation of Religious Attitudes among Catholic Seniors in College Who Have Had Varying Amounts of Catholic Schooling.
Major Adviser: Prof. G. M. A. Mork.
1957. GLOTZBACH, CHARLES JEROME. B.S. '42, M.S. '50, Kansas State College.
Major: Educational Psychology. Minor: Psychology.
Thesis: Intellectual and Nonintellectual Characteristics Associated with Persistence of Women in an Elementary and Nursery School Teacher-Education Program.
Major Adviser: Prof. C. G. Wrenn.
1957. NEVISON, MYRNE BURDETT. B.A. '39, University of British Columbia.
Major: Educational Psychology. Minor: Education.
Thesis: Differing Perceptions of Residence Counseling.
Major Adviser: Prof. C. G. Wrenn.
1957. PARKER, CLYDE ALVIN. B.S. with honors '52, M.S. '52, Brigham Young University.
Major: Educational Psychology. Minor: Psychology.
Thesis: A Study of Clinical Diagnosis and Prediction by Means of Verbal Report.
Major Adviser: Prof. C. G. Wrenn.
1957. TAMMINEN, ARMAS WAYNE. B.S. '40, M.A. '49, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: An Evaluation of Changes in Parents' Attitudes Toward Parent-Child Relationships Occurring during a Televised Program of Parent Panel Discussions.
Major Advisers: Profs. C. J. Hoyt and W. W. Cook.
1957. WILK, ROGER EDWARD. B.S. '50, Kansas State College of Agriculture and Applied Science; M.A. '52, University of Minnesota.
Major: Educational Psychology. Minor: Child Welfare.
Thesis: The Self Perceptions and the Perceptions of Others of Adolescent Leaders Elected by Their Peers.
Major Adviser: Prof. C. G. Wrenn.
1958. BALOW, BRUCE EDWARD. B.S. '52, M.A. '54, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: An Investigation of the Relationships Between Reading Ability and Learning of Non-Reading Tasks of Varying Complexity.
Major Adviser: Prof. G. L. Bond.

1958. BRADLEY, ARTHUR DICKINSON. B.E. '42, St. Cloud State Teachers College; B.S. '45, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: Estimating Success in Technical and Skilled Trade Courses Using a Multivariate Statistical Analysis.
Major Advisers: Profs. C. G. Wrenn and W. E. Dugan.
1958. BUER, CARL FREDERICK. B.S. '49, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: An MMPI Configural Index for Determination of Somatization.
Major Advisers: Profs. W. E. Dugan and C. G. Wrenn.
1958. DICKERSON, JOSEPH HOLMES. B.A. '38, Hamline University.
Major: Educational Psychology. Minor: Psychology.
Thesis: The Biographical Inventory Compared with Clinical Prediction of Post-Counseling Behavior of V.A. Hospital Counselees.
Major Advisers: Profs. C. G. Wrenn and E. P. Torrance.
1958. HEDAHL, BEULAH MINERVA. B.A. magna cum laude '46, Concordia College; M.A. '48, State College of Washington; M.A. '53, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: A Study of the Role Expectations of Counselors in Three University Student Counseling Centers.
Major Adviser: Prof. C. G. Wrenn.
1958. HOGAN, JOE. B.A. '43, B.S. '53, M.A. '55, University of Minnesota.
Major: Educational Psychology. Minor: Curriculum and Instruction.
Thesis: Configural Analysis of MMPI Scores with Special Reference to Student Teachers in Nursing Education.
Major Adviser: Prof. W. E. Dugan.
1958. JAMES, NEWTON ELDER. B.S. '39, United States Military Academy; M.A. '51, Montana State University.
Major: Educational Psychology. Minor: Education.
Thesis: Influence of Learner's Choice on the Effectiveness of Alternate Modes of Presentation of Learning Material.
Major Adviser: Prof. G. M. A. Mork.
1958. JONES, ELVET GLYN. B.A. '46, M.A. '49, University of British Columbia.
Major: Educational Psychology. Minor: Psychology.
Thesis: An Analytical Study of the Relationship between the Expression of Familial Conflict and the Presence of Potential Counseling Problems in Male Adolescents.
Major Adviser: Prof. C. G. Wrenn.
1958. WALZ, GARRY RICHARD. B.A. cum laude '49, M.A. '50, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: An Investigation of the Relationship of Counseling to Student Outcomes in a How to Study Course.
Major Advisers: Profs. W. E. Dugan and C. G. Wrenn.

1958. WHITE, ROBERT MARSHALL. B.A. '47, Dakota Wesleyan University;
M.A. '54, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Predictive Relationship of Selected Variables to the
Vocational Interest Stability of High School Students.
Major Adviser: Prof. W. E. Dugan.
1959. AALTO, ENSIO EMIL. B.S. '43, M.A. '45, New York University.
Major: Educational Psychology. Minor: Psychology.
Thesis: Psychological Factors Associated with Appropriateness and
Inappropriateness of Vocational Choices.
Major Adviser: Prof. C. G. Wrenn.
1959. BAKER, FRANK. B.S. '50, M.A. '54, University of Minnesota.
Major: Educational Psychology. Minor: Statistics.
Thesis: The Relation of Item Analysis Methods to the Item Character-
istic Curve.
Major Adviser: Prof. C. J. Hoyt.
1959. BALOW, IRVING HENRY. B.S. '51, M.A. '57, University of
Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Relationship of Lateral Dominance Characteristics to
Reading Achievement in the First Grade.
Major Adviser: Prof. G. L. Bond.
1959. BLOCHER, DONALD HUGH. B.A. '49, M.A. '54, Ball State Teachers
College.
Major: Educational Psychology. Minor: Psychology.
Thesis: A Study of the Relationships between Self Descriptions and
Stereotypes of Occupations with High and Low Claimed Interests.
Major Advisers: Profs. C. G. Wrenn and W. E. Dugan.
1959. BLOLAND, PAUL ANSON. B.S. '49, M.S. '50, University of
Wisconsin.
Major: Educational Psychology. Minor: Psychology.
Thesis: The Development and Validation of an Instrument for Measuring
Attitudes Toward Selected Concepts in Higher Education.
Major Advisers: Profs. C. G. Wrenn and Ben Willerman.
1959. CARLSON, RAYMOND PETER. B.A. magna cum laude '48, M.A. '50,
University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: The Effects of Auditory Word Stimuli Presented During the
Hours of Sleep on the Formation and Modification of Word
Associates.
Major Adviser: Prof. C. G. Wrenn.
1959. CHRISTIANSEN, HARLEY DUANE. B.S. '52, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: The Relationship of Several Self-Other Indices to Claimed
and Measured Interests of Vocational High School Seniors.
Major Adviser: Prof. C. G. Wrenn.

1959. IBELING, FREDERICK WILLIAM. B.S. '41, Concordia Teachers College; M.A. '54, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Effect of Supplementary Phonics Instruction on the Reading and Spelling Ability of Second, Fourth, and Sixth Graders.
Major Adviser: Prof. M. C. Reynolds.
1959. KENDALL, JOHN SEEDOFF. B.A. cum laude '49, Gustavus Adolphus College; M.A. '51, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Concept of the Minister--A Study of Certain Relationships between Occupational Stereotype, Self Concept, and Selected Variables.
Major Adviser: Prof. C. G. Wrenn.
1959. LUCKEY, ELEANOR BRAUN. B.A. '37, M.A. '42, Colorado State College of Education.
Major: Educational Psychology. Minor: Sociology.
Thesis: An Investigation of the Concepts of the Self, Mate, Parents, and Ideal in Relation to Degree of Marital Satisfaction.
Major Adviser: Prof. C. G. Wrenn.
1959. LYON, JAMES BURKE. B.A. '37, Hamline University; M.A. '47, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: A Study of Experiential, Motivational, and Personality Factors Related to Vocational Decision Versus Indecision.
Major Adviser: Prof. C. G. Wrenn.
1959. ROGGE, HAROLD JOHN. B.E. '33, Winona State Teachers College; M.Ed. '52, Ohio University.
Major: Educational Psychology. Minor: Education.
Thesis: A Study of the Relationships of Reading Achievement to Certain Other Factors in a Population of Delinquent Boys.
Major Adviser: Prof. M. C. Reynolds.
1959. SCHUTZ, RICHARD ARLEN. B.S. '51, M.A. '56, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: The Relationship of Self-Satisfaction to Stated Vocational Preferences.
Major Advisers: Profs. W. E. Dugan and E. P. Torrance.
1959. STUNKARD, CLAYTON LEROY. B.A. '48, M.A. '51, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Construction and Validation of an Instrument for the Measurement of Reading Expectancy of Advanced Primary and Intermediate Grade Pupils.
Major Advisers: Profs. W. W. Cook and G. L. Bond.
1959. WESTLUND, RUTH ELFRIEDA. B.S. '38, M.A. '40, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: Students of High Academic Potentiality and Their Satisfaction with College Experiences.
Major Adviser: Prof. C. G. Wrenn.

1959. ZANDER, DONALD RICHARD. B.A. '49, Concordia College; M.A. '50, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Influence of an Orientation Program on Attitudes toward Higher Education.
Major Advisers: Profs. C. G. Wrenn and Ben Willerman.
1960. CUMMISKEY, CLETUS JOSEPH. B.S. '47, Mankato State Teachers College; M.A. '50, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: The Use of Tape Recordings as a Supplementary Study Aid in General Psychology.
Major Adviser: Prof. R. O. Collier, Jr.
1960. DEMANN, MICHAEL MARCUS. B.A. '55, M.A. '58, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: Selected Counselor Characteristics Predictive of Successful Case Closure in Vocational Rehabilitation.
Major Advisers: Profs. W. E. Dugan and C. G. Wrenn.
1960. MARKWARDT, FREDERICK CHARLES, JR. B.A. '52, Carleton College; M.A. '57, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: Pattern Analysis Techniques in the Prediction of College Success.
Major Advisers: Profs. W. E. Dugan and C. G. Wrenn.
1960. MATTHEWS, ROMINE E. B.S. '40, M.A. '51, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: Certain Personality Variables Related to Success in Veterans' Rehabilitation Training in Clerical Occupations.
Major Advisers: Profs. C. G. Wrenn and C. J. Hoyt.
1960. ROZEHNAL, BOHUSLAV J. B.Mus. '31, M.Mus. '36, Northwestern University.
Major: Educational Psychology. Minor: Education.
Thesis: A Study of the Relationship of Certain Temperament Scale Scores to Persistence in College.
Major Adviser: Prof. W. H. Edson.
1960. SELDEN, EDWARD HARVEY. B.S. '40, Wisconsin State College (Superior); M.A. '47, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: A Study of Self-Structure and Level of Aspiration in Delinquent and Non-Delinquent Boys.
Major Adviser: Prof. C. G. Wrenn.
1960. STROMMEN, MERTON PETER. B.A. '42, Augsburg College; M.A. '55, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: A Comparison of Youth and Adult Reactions to Lutheran Youth Problems and Sources of Assistance.
Major Adviser: Prof. C. G. Wrenn.

1961. ANDERSON, LOIS DOROTHY. B.S. with high distinction '49, M.A. '54, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: Student-Faculty Perceptions of Educational Environments in Minnesota Schools of Nursing.
Major Advisers: Profs. C. G. Wrenn and R. E. Eckert.
1961. FORT, GERALD MARSHALL. B.A. '41, Grinnell College; M.A. '58, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: An actuarial Identification of Characteristics Which Discriminate among Certain Specified Student Subgroups Enrolled in a Midwestern Land-Grant College during a Recent Five Year Period.
Major Adviser: Prof. C. J. Hoyt.
1961. FUJITA, GEORGE YOSHIKAZU. B.Ed. '54, M.Ed. '58, University of Hawaii.
Major: Educational Psychology. Minor: Psychology.
Thesis: An Exploratory Study of Some of the Factors Related to Boredom.
Major Adviser: Prof. E. P. Torrance.
1961. KREBS, MARGUERITE CUDDY. B.S. with distinction '44, M.A. '49, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: A Study of the Relationships between Attitudes and Information about Mental Illness.
Major Adviser: Prof. C. G. Wrenn.
1961. NEALE, DANIEL CHRISTOPHER. B.A. '53, Harvard University; M.Ed. '55, Macalester College.
Major: Educational Psychology. Minor: Education.
Thesis: Observation by Close Circuit Television, Kinescope, and Classroom Visitation in an Introductory Education Course.
Major Advisers: Profs. C. G. Wrenn and R. J. Keller.
1961. ROBSON, CLIFFORD JOSEPH. B.A. '39, B.Ed. '54, University of Manitoba; M.A. '49, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: An Experimental Study of the Efficacy of Two Instructional Methods in Introductory College Psychology.
Major Advisers: Profs. C. J. Hoyt and W. W. Cook.
1961. RUBIN, ROSALYN AARON. B.A. magna cum laude '54, B.S. '55, M.A. '57, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: Social Comparison Processes of Superior 9th Grade Pupils.
Major Adviser: Prof. M. C. Reynolds.
1962. BARRETT, THOMAS CLIFFORD. B.S. with distinction '54, M.A. '59, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Relationship between Selected Reading Readiness Measures of Visual Discrimination and First Grade Reading Achievement.
Major Adviser: Prof. T. W. Clymer.

1962. DYKSTRA, ROBERT. B.S. with high distinction '57, Wisconsin State College (River Falls); M.A. '59, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Relationship between Selected Reading Readiness Measures of Auditory Discrimination and Reading Achievement at the End of First Grade.
Major Adviser: Prof. T. W. Clymer.
1962. ERICKSEN, GERALD LAWRENCE. Ph.B. '53, University of North Dakota; M.A. '55, University of Minnesota.
Major: Educational Psychology. Minor: Industrial Engineering.
Thesis: Junior High School Pupil's Attitude toward Mathematics as a Predictor of Senior High School Scholastic Achievement.
Major Adviser: Prof. C. J. Hoyt.
1962. LAHEY, MARGARET NOBLE. B.S. '41, M.A. '53, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: Characteristics of Graduates and Non-graduates at a Teacher Education Institution.
Major Adviser: Prof. W. H. Edson.
1962. MIKKELSON, JAMES E. B.S. '50, M.A. '56, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: An Experimental Study of Selective Grouping and Acceleration in Junior High School Mathematics.
Major Adviser: Prof. W. E. Dugan.
1962. RAY, PHILIP BOND. B.A. '50, Entioch College; M.S. in Ed. '55, University of Pennsylvania.
Major: Educational Psychology. Minor: Psychology.
Thesis: A Descriptive Study of Certain Characteristics of 'High Creative' Freshman Arts College Students as Compared with 'High Potential' Students.
Major Adviser: Prof. C. G. Wrenn.
1962. SAGEN, H. BRADLEY. B.A. with honors '57, Grinnell College.
Major: Educational Psychology. Minor: Education.
Thesis: A Study of the Relationship of Certain Personality and Environmental Variables to the Job Satisfaction of Faculty in Liberal Arts Colleges.
Major Advisers: Profs. C. G. Wrenn and R. E. Eckert.
1962. YAMAMOTO, KAORU. B.S. in Eng. '53, University of Tokyo; M.A. '60, University of Minnesota.
Major: Educational Psychology. Minor: Child Development.
Thesis: A Study of the Relationships between Creative Thinking Abilities of Fifth Grade Teachers and Academic Achievement and Personal-Social Adjustment of Their Pupils.
Major Advisers: Profs. C. G. Wrenn and Henry Borow.
1963. BENTLEY, JOSEPH CHARLES. B.A. with honors '59, Brigham Young University; M.A. '60, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: Relationships between Traditional-Emerging Values and Vocational Choice Variables.
Major Adviser: Prof. C. G. Wrenn.

1963. DILLEY, JOSIAH STEINER. B.F.A. with high honors '47, Ohio University; M.Mus. '49, University of Michigan.
Major: Educational Psychology. Minor: Psychology.
Thesis: Correlates of "Rational" Decision Making among High School Seniors.
Major Adviser: Prof. W. E. Dugan.
1963. JOHNSON, RICHARD THEODORE. B.S. '59, M.S. '60, Utah State University.
Major: Educational Psychology. Minor: Psychology.
Thesis: The Growth of Creative Thinking Abilities in Western Samoa.
Major Adviser: Prof. E. P. Torrance.
1963. LYTLE, MILFORD BURTON. B.A. cum laude '49, M.S.W. '51, M.A. '57, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: A Recidivism Scale for Adult Male Probationers from the Minnesota Multiphasic Personality Inventory.
Major Adviser: Prof. E. P. Torrance.
1963. ROSSMANN, JACK EUGENE. B.S. '58, M.S. '60, Iowa State College.
Major: Educational Psychology. Minor: Sociology.
Thesis: An Investigation of Maternal Employment among College Women-- A Twenty-five Year Follow-Up.
Major Adviser: Prof. C. G. Wrenn.
1963. SEFEIN, NAIM ARSANIOUS. B.S. '48, University of Cairo; B.A. '54, American University at Cairo; M.A. '57, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Comparative Importance Certain Teacher Education Faculty Members and High School Principals Attach to Desirable Characteristics of Teachers.
Major Advisers: Profs. C. J. Hoyt and G. M. A. Mork.
1963. WINFREY, JAMES KING. B.S. '53, Iowa State University; M.A. '58, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: The Appraisal of Institutional Press as Perceived by Selected Groups of Minneapolis Area High School Students.
Major Advisers: Profs. W. E. Dugan and C. G. Wrenn.
1964. ARMSTRONG, JACK LYNN. B.S. '58, William Jewell College; M.Ed. '59, University of Illinois.
Major: Educational Psychology. Minor: Psychology.
Thesis: The Interrelationships among Self and Occupational Concepts of Male College Students in Three Stages of Vocational Preparation.
Major Advisers: Profs. C. G. Wrenn and R. E. Wilk.
1964. DICKINSON, JAMES CHARLES. B.A. '55, Miami University; M.A. '57, Ohio University.
Major: Educational Psychology. Minor: Psychology.
Thesis: The Effects of Drive Level and Instructions upon the Performance of Concept Attainment and Figure Coding Tasks.
Major Adviser: Prof. R. E. Wilk.

1964. ENGEL, WAYNE E. B.A. '54, Capital University; M.Ed. '59, Kent State University.
Major: Educational Psychology. Minor: Education.
Thesis: Some Personality Functions Associated with Ability-Achievement Discrepancy Levels of Elementary School Children.
Major Advisers: Profs. W. E. Dugan and C. J. Hoyt.
1964. FREE, JOHN ELLSWORTH. B.S. in Educ. '39, M.S. in Educ. '42, University of Pennsylvania.
Major: Educational Psychology. Minor: Education.
Thesis: An Experiment to Show the Possible Contribution of Social Group Work to Counseling in Improving the Adjustment of Deviant High School Students.
Major Adviser: Prof. C. G. Wrenn.
1964. HAAK, LOUIS ANDREW. B.S. in Phy.Ed. '54, College of St. Thomas; M.A. '58, University of Minnesota.
Major: Educational Psychology. Minor: Educational Administration.
Thesis: An Investigation of the Validation Characteristics of Four Statistical Techniques in the Prediction of Certain Educational Achievement Variables.
Major Adviser: Prof. R. O. Collier, Jr.
1964. KERFOOT, JAMES FLETCHER. B.S. '59, M.A. '60, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Relationship of Selected Auditory and Visual Reading Readiness Measures to First Grade Reading Achievement and Second Grade Reading and Spelling Achievement.
Major Adviser: Prof. T. W. Clymer.
1964. LEE, ROBERT EDWARD. B.A. '51, M.A. '58, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: An Investigation of Relationships between Patient Self Perception and Hospital Ward Behavior.
Major Adviser: Prof. C. G. Wrenn.
1964. RANK, RICHARD CLAYTON. B.S. '57, M.A. '58, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Assessment of Counselor-Trainee Perceptions of Interview Protocols before and after an Intensive Practicum Experience.
Major Adviser: Prof. W. E. Dugan.
1964. SMITH, ANITA PEARL. B.A. '44, DePauw University; M.A. '47, Syracuse University.
Major: Educational Psychology. Minor: Psychology.
Thesis: Differential Personality Characteristics Associated with Participation in High School Student Activities.
Major Adviser: Prof. C. G. Wrenn.
1964. SPACE, MARGARET NIVEN. B.S. '36, M.Ed. '49, M.A. '52, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: A Study of Individual Predictability Based on Intra-Individual Variability on Certain Achievement Measures.
Major Advisers: Profs. W. E. Dugan and R. E. Eckert.

1965. ANDERSON, DOUGLAS HARRY. B.E.E. with distinction '48, B.S. '57, M.S.I.E. '60, University of Minnesota.
Major: Educational Psychology. Minor: Industrial Engineering.
Thesis: Use of Entrance Examination Data on Technology Students for Empirically Assessing the Utility of Certain Item Parameters.
Major Adviser: Prof. C. J. Hoyt.
1965. CARDON, BARTELL WILSON, JR. B.A. '60, Brigham Young University; M.A. '63, University of Minnesota.
Major: Educational Psychology. Minor: Child Psychology.
Thesis: The Relationship of Incentive Preference to Incentive Effectiveness as a Function of Age and Sex in Children.
Major Adviser: Prof. J. D. Duker.
1965. CHECKETTS, KEITH THOMAS. B.S. '59, Utah State University.
Major: Educational Psychology. Minor: Psychology.
Thesis: A Proposed Paper and Pencil Method to Measure Risk-Taking and the Relationship of This Method to the Need to Achieve.
Major Advisers: Profs. D. H. Blocher and W. E. Dugan.
1965. CORDES, AMY ELEANORE EMBERTSON. B.S. with distinction '50, M.A. '57, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: The Relationship of Oral Language Ability to the Reading Achievement of First-Grade Boys.
Major Adviser: Prof. T. W. Clymer.
1965. DAUW, DEAN CHARLES. B.S. '61, Spring Hill College; M.A. '61, College of St. Thomas.
Major: Educational Psychology. Minor: Psychology.
Thesis: Life Experiences, Vocational Needs and Choices of Original Thinkers and Good Elaborators.
Major Adviser: E. P. Torrance.
1965. DENO, STANLEY LYNN. B.A. '58, St. Olaf College.
Major: Educational Psychology. Minor: Psychology.
Thesis: Multiple Discrimination Learning as a Function of Conceptual Similarity among Picture and Word Stimuli.
Major Adviser: Prof. D. C. Neale.
1965. EDSON, KENNETH CHARLES. B.A. cum laude '57, Chico State College; M.A. '61, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: Factors Related to Changes in Environmental Expectations of College Freshman.
Major Adviser: Prof. Theda Hagenah.
1965. GIESE, DAVID LYLE. B.S. '55, M.A. '58, University of Minnesota.
Major: Educational Psychology. Minor: Statistics.
Thesis: Comparisons among Item Weighting Techniques Applied to the General College Comprehensive Examination.
Major Advisers: Profs. R. O. Carter, Jr. and C. J. Hoyt.
1965. HIGBEE, WALTER ROSCOE. B.A. '59, M.A. '53, State University of Iowa.
Major: Educational Psychology. Minor: Curriculum and Instruction.
Thesis: Social Comparison Processes among Mentally Retarded Adults in a Sheltered Workshop.
Major Adviser: Prof. D. G. Force.

1965. LOEFFLER, DOROTHY ROSE. B.S. '50, M.S. '59, University of Wisconsin.
Major: Educational Psychology. Minor: Psychology.
Thesis: Attitude Changes of Education Students toward Four Concepts of Teachers and Teaching.
Major Adviser: Prof. R. E. Wilk.
1965. MEHRENS, WILLIAM ARTHUR. B.Sc. in Educ. '58, M.Ed. '59, University of Nebraska.
Major: Educational Psychology. Minor: Psychology.
Thesis: The Use of Probability Information in Educators' Decision Making.
Major Adviser: Prof. J. C. Merwin.
1965. MILLER, DWIGHT ROBERT. B.A. '52, M.A. '55, University of Omaha.
Major: Educational Psychology. Minor: Child Psychology.
Thesis: Incentive Strength on a Spatial Distance Dimension in the Mentally Retarded.
Major Adviser: Prof. Robert Orlando.
1965. PACKARD, RALPH EDWARD, JR. B.S. with honors '60, Brigham Young University; M.A. '62, University of Minnesota
Major: Educational Psychology. Minor: Psychology.
Thesis: The Development and Evaluation of a Programmed Instructional Approach to the Informational Aspect of College New Student Orientation.
Major Adviser: Prof. Theda Hagenah
1965. SAFARIK, JOHN GERALD. B.S. '51, M.A. '56, California State Polytechnic College.
Major: Educational Psychology. Minor: Psychology.
Thesis: Measurement Error as a Function of Selected Observation Schedule Structures and Procedures in Assessing Teachers' Classroom Performance.
Major Adviser: Prof. R. E. Wilk.
1965. SCHOELKOPF, ANN MARIE. B.S. with distinction '56, M.A. '63, University of Minnesota.
Major: Educational Psychology. Minor: Child Psychology.
Thesis: Delay of Reinforcement Effects in the Discrimination Learning of Retardates.
Major Advisers: Profs. Robert Orlando and M. C. Reynolds.
1965. SCOTT, GARY KUPER. B.Ed. '60, M.Ed. '62, Western Washington State College.
Major: Educational Psychology. Minor: Psychology.
Thesis: A Study of the Relationship between Ratings of Counselor Success and Selected Personality Variables.
Major Adviser: Prof. W. E. Dugan.
1965. SIEGEL, WILLIAM. B.A. '58, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: Differential Effects of Six Functional Disabilities across Occupational Groupings.
Major Advisers: Profs. R. O. Collier, Jr. and E. P. Torrance.

1965. THOMPSON, GLEN ROBBINS. B.A. '51, Carleton College; M.S.W. '53, University of Minnesota.
Major: Educational Psychology. Minor: Child Psychology.
Thesis: Effects of Number of Relevant Stimulus Dimensions and Kind of Verbal Pre-training in Transposition in Retardates.
Major Adviser: Prof. Robert Orlando.
1965. WALL, HARRY V. B.S. '56, Mankato State College; M.A. '60, University of Minnesota.
Major: Educational Psychology. Minor: Curriculum and Instruction.
Thesis: Two-Choice Discrimination Learning of Mentally Retarded Children as a Function of Tactile and/or Visual Stimulus Properties.
Major Adviser: Prof. D. G. Force.
1965. WOOD, FRANK HENDERSON. B.A. magna cum laude '51, Harvard University; M.A. '53, Haverford College; B.S. '54, M.A. '62, University of Minnesota.
Major: Educational Psychology. Minor: Education.
Thesis: Differences in the Attainment Value Placed on Achievement in School Activities by First- and Third-Grade Boys and Girls of High and Low Socioeconomic Background.
Major Adviser: Prof. B. E. Balow.
1966. FENDERSON, DOUGLAS ALLEN. B.S. '56, M.A. '62, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: A Study of the Vocational Rehabilitation Potential of Applicants for Social Security Disability Benefits, Whose Claims Have Been Denied.
Major Adviser: Prof. W. H. Edson.
1966. MCCLARD, QUINCE DONAVON. B.A. '49, M.A. '61, San Diego State College.
Major: Educational Psychology. Minor: Education.
Thesis: The Effects of Social Reinforcement on Deaf Children's Performance in Auto-instructional Learning.
Major Adviser: Prof Bjorn Karlsen.
1966. SILBERBERG, MARGARET CATHERINE. B.S. '51, College of St. Scholastica; M.A. '59, University of Minnesota.
Major: Educational Psychology. Minor: Child Psychology.
Thesis: The Effect of Formal Reading Readiness Training in Kindergarten on Development of Readiness Skills and Growth in Reading.
Major Adviser: Prof. G. L. Bond.
1966. SPRAGUE, DOUGLAS GOLDSBURY. B.A. '55, Carleton College; M.A. '59, University of Minnesota.
Major: Educational Psychology. Minor: Psychology.
Thesis: An Investigation of Reminiscence as a Measure of the Educational Motivation of High School Students.
Major Adviser: Prof. W. E. Dugan.

MUSIC

1957. MAYER, FRANCIS NORBERT. B.S. with distinction '42, University of Minnesota; M.Mus. '47, Northwestern University.
Major: Music. Minor: History.
Thesis: A History of Scoring for Band--The Evolution of Band Scoring in the United States.
Major Adviser: Prof. P. M. Oberg.
1960. PETERSON, WAYNE TURNER. B.A. '51, M.A. '53, University of Minnesota.
Major: Music. Minor: Philosophy.
Thesis: Free Variations for Orchestra (Lively, Moderato Affetuoso, Adagio, Allegro).
Major Adviser: Prof. Paul Fetler.
1961. CARTFORD, GERHARD MALLING. B.M. magna cum laude '48, St. Olaf College; M.S.M. '50, Union Theological Seminary.
Major: Music. Minor: Scandinavian.
Thesis: Music in the Norwegian Lutheran Church: A Study of Its Development in Norway and Its Transfer to America, 1825-1917.
Major Adviser: Prof. Johannes Riedel.
1961. KLEIN, LOTHAR KARL. B.A. '54, M.A. '57, University of Minnesota.
Major: Music. Minor: Speech.
Thesis: Preface to Symmetries for Orchestra.
Major Adviser: Prof. P. M. Oberg.
1962. KEATS, DONALD HOWARD. B.Mus. '49, Yale University; M.A. '51, Columbia University.
Major: Music. Minor: Philosophy.
Thesis: An Elegiac Symphony.
Major Adviser: Prof. P. M. Oberg.
1962. PONE, GUNDARIS. B.A. '54, M.A. '56, University of Minnesota.
Major: Music. Minor: German.
Thesis: Daniel Propheta, Oratorio Eroico Per Tre Parti Principali, Coro, E. Grande Orchestra.
Major Adviser: Prof. P. M. Oberg.
1963. CANON, CORNELIUS B. B.S. '55, Mankato State College; M.A. '57, University of Minnesota.
Major: Music. Minor: History.
Thesis: The Federal Music Project of the Works Progress Administration: Music in a Democracy.
Major Adviser: Prof. Johannes Riedel.
1963. MATTILA, EDWARD CHARLES. B.A. '50, University of Minnesota; M.Mus. '56, New England Conservatory of Music.
Major: Music. Minor: Art.
Thesis: Symphony No. 1--Allegretto, Adagio, Allegro e Vivace.
Major Adviser: Prof. Paul Fetler.

1963. SCHULER, RICHARD JOSEPH. B.A. '43, College of St. Thomas; M.A. '50, University of Rochester.
Major: Music. Minor: History.
Thesis: The Life and Liturgical Works of Giovanni Maria Nanino (1545-1607.)
Major Adviser: Prof. Johannes Riedel.
1964. CASWELL, AUSTIN BALDWIN, JR. B.A. '53, Amherst College; M.A. '57, University of Minnesota.
Major: Music. Minor: History.
Thesis: The Development of 17th-Century French Vocal Ornamentation and Its Influence upon Late Baroque Ornamentation-Practice.
Major Adviser: Prof. Johannes Riedel.
1964. EAKIN, CHARLES GILLILAN. B.M. '50, Manhattan School of Music; M.F.A. in Music '55, Carnegie Institute of Technology.
Major: Music. Minor: Art.
Thesis: Symphony in C.
Major Adviser: Prof. Paul Fetler.
1965. NAMENWIRTH, SIMON MICHAEL. '57, Music Lyceum of Amsterdam.
Major: Music. Minor: French.
Thesis: Twenty Years of Schoenberg Criticism: Changes in the Evaluation of Once Unfamiliar Music.
Major Adviser: Prof. Johannes Riedel.
1965. STOKES, ERIC NORMAN. B.Mus. '52, Lawrence College; M.Mus. '56, New England Conservatory of Music.
Major: Music. Minor: English.
Thesis: Three Sides of a Town.
Major Adviser: Prof. Paul Fetler.
1966. BRUMBAUGH, GEORGE WILLIAM. B.A. '50, Morningside College; M.M. '51, Michigan State University.
Major: Music. Minor: Art.
Thesis: Presto, Adagio and Fugue.
Major Adviser: Prof. Paul Fetler.

PHILOSOPHY

1957. LARSEN, ROBERT EDWIN. B.A. '44, Luther College; M.A. '52, University of Minnesota.
Major: Philosophy. Minor: English.
Thesis: The Relation between Logic and Ontology: with Special Reference to Morris R. Cohen.
Major Adviser: Prof. P. L. Holmer.
1958. BINKLEY, ROBERT WILLIAMS. B.A. summa cum laude '52, University of Colorado.
Major: Philosophy. Minor: Psychology.
Thesis: Moral Reasoning.
Major Adviser: Prof. W. S. Sellars.
1958. JUAREZ-PAZ, RIGOBERTO. B.S. '50, Indiana University; M.A. '55, University of Minnesota.
Major: Philosophy. Minor: Spanish.
Thesis: Studies in Twentieth Century Spanish Philosophy.
Major Adviser: Prof. W. S. Sellars.

1959. CRAWFORD, PATRICIA ANN. B.A. '52, M.A. '54, University of Rochester.
Major: Philosophy. Minor: Psychology.
Thesis: The Concept of a Physical Object--Its Role in Thought and Language.
Major Adviser: Prof. W. S. Sellars.
1959. KITELEY, MURRAY JAMES. B.A. '50, M.A. '58, University of Minnesota.
Major: Philosophy. Minor: English.
Thesis: Indirect Discourse and Modal Composition.
Major Adviser: Prof. W. S. Sellars.
1959. SANDIN, ROBERT THEODORE. B.A. '49, Bethel College; M.A. '56, University of Minnesota.
Major: Philosophy. Minor: Political Science.
Thesis: Axel Hägerström's Philosophy of Religion, with Special Reference to His Theory of Knowledge and His Concept of Reality.
Major Adviser: Prof. P. L. Holmer.
1960. AUNE, BRUCE ARTHUR. B.A. magna cum laude '55, M.A. '57, University of Minnesota.
Major: Philosophy. Minor: English.
Thesis: Sensations and Human Behavior: A Conceptual Study.
Major Adviser: Prof. Herbert Feigl.
1960. BAILEY, KENNETH CLINTON. B.A. magna cum laude '50, St. Olaf College; M.A. '52, University of Minnesota.
Major: Philosophy. Minor: Psychology.
Thesis: The Use of Scientific Language in the Validation of Religious Discourse.
Major Adviser: Prof. P. L. Holmer.
1960. CAPITAN, WILLIAM HARRY. B.A. '54, University of Michigan; M.A. '58, University of Minnesota.
Major: Philosophy. Minor: English.
Thesis: Doctrine and Belief in Poetry.
Major Adviser: Prof. Alan Donagan.
1960. DRETSKE, FREDERICK IRWIN. B.S.E.E. '54, Purdue University; M.A. '58, University of Minnesota.
Major: Philosophy. Minor: Mathematics.
Thesis: Space, Time and Substance: A Philosophical Inquiry.
Major Adviser: Prof. May Brodbeck.
1960. DUKELOW, OWEN WARNER. B.A. '47, M.A. '53, University of Minnesota.
Major: Philosophy. Minor: History.
Thesis: Herbert Butterfield: The Epistemology of a Working Historian.
Major Adviser: Prof. P. L. Holmer.
1960. MAGEL, CHARLES R. B.S.C. with distinction '42, Northwestern University.
Major: Philosophy. Minor: Psychology.
Thesis: An Analysis of Kierkegaard's Philosophic Categories.
Major Adviser: Prof. P. L. Holmer.

1961. ANDERSON, WALLACE EARL. B.A. cum laude '53, Macalester College;
M.A. '58, University of Minnesota.
Major: Philosophy. Minor: English.
Thesis: Mind and Nature in the Early Philosophical Writings of
Jonathan Edwards.
Major Adviser: Prof. Alan Donagan.
1962. GIESCHEN, DONALD WERNER. B.S. '50, Northwestern University; M.A.
'53, University of Minnesota.
Major: Philosophy. Minor: Psychology.
Thesis: C. D. Broad's Philosophy of Logic.
Major Adviser: Prof. Herbert Feigl.
1962. KIELKOPF, CHARLES FRANCIS. B.A. summa cum laude '58, M.A. '60,
University of Minnesota.
Major: Philosophy. Minor: Mathematics.
Thesis: An Examination of Ludwig Wittgenstein's Remarks on the
Foundations of Mathematics.
Major Adviser: Prof. May Brodbeck.
1962. MERRILL, DANIEL DAVY. B.A. cum laude '54, Princeton University;
M.A. '58, University of Minnesota.
Major: Philosophy. Minor: Mathematics.
Thesis: The Theory of Logical Constants.
Major Adviser: Prof. Herbert Feigl.
1962. SHARMA, VED PRAKASH. B.A. '47, Lahore Government College
(Pakistan); M.A. '49, Punjab University.
Major: Philosophy. Minor: Art History.
Thesis: An Enquiry into the Nature of Aesthetic Form with Special
Reference to Literature and Painting.
Major Adviser: Prof. R. G. Ross.
1964. TRENTMAN, JOHN ALLEN. B.A. magna cum laude '56, M.A. '58,
University of Minnesota.
Major: Philosophy. Minor: Scandinavian.
Thesis: Simple Supposition and Ontology: A Study in Fourteenth-
Century Logical Theory.
Major Adviser: Prof. G. B. Matthews.

PSYCHOLOGY

1956. BASTIAN, JARVIS RULON. B.A. '52, University of Nevada.
Major: Psychology. Minor: Philosophy.
Thesis: Response Chaining in Verbal Transfer.
Major Adviser: Prof. W. A. Russell.
1956. DAWIS, RENE V. B.A. cum laude '51, University of Philippines;
M.A. '55, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Measurement of Supervisory Attitudes: An Exploratory
Study.
Major Adviser: Prof. D. G. Paterson.

1956. ENGLAND, GEORGE WILLIAM. B.A. '51, M.A. '52, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Interest Factor in Undergraduate Engineering Achievement.
Major Adviser: Prof. D. G. Paterson.
1956. GAFFNEY, LOUIS B. B.A. maxima cum laude '42, M.A. maxima cum laude '43, Gonzaga University; S.T.L. '50, Alma College.
Major: Psychology. Minor: Educational Psychology.
Thesis: Likes and Dislikes of College Students in Relation to Adjustment and Achievement.
Major Adviser: Prof. W. L. Layton.
1956. SCHÖNBACH, PETER MICHAEL. Graduate '53, University of Frankfurt; M.A. '55, University of Minnesota.
Major: Psychology. Minor: Statistics.
Thesis: Need, Relevance of Ideation, Force, and Time Estimation.
Major Adviser: Prof. Stanley Schachter.
1956. SHIMOTA, HELEN EMMA. B.A. '52, College of St. Catherine.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: The Relation of Psychomotor Performance to Clinical Status and Improvement in Schizophrenic Patients.
Major Adviser: Prof. Ephraim Rosen.
1956. STORMS, LOWELL HANSON. B.A. magna cum laude '50, M.S. '51, University of Minnesota.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: Backward Association in Verbally Mediated Learning.
Major Adviser: Prof. W. A. Russell.
1957. CLARK, JAY LYDAY. B.A. '53, University of Delaware; M.A. '55, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Generalized Secondary Reinforcement: An Experimental Confirmation.
Major Adviser: Prof. W. A. Russell.
1957. DICKEN, CHARLES FRANCIS. B.A. magna cum laude '50, M.A. '51, University of Minnesota.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: Connotative Meaning as a Determinant of Stimulus Generalization.
Major Advisers: Profs. W. A. Russell and J. J. Jenkins.
1957. GOOD, PATRICIA EILEEN KING-ELLISON. B.A. magna cum laude '53, University of Minnesota.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: A Psychological Study of the Effects of Regressive Electroshock Therapy.
Major Adviser: Prof. W. A. Russell.
1957. KORMAN, MAURICE. B.A. cum laude '52, Brooklyn College.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: An Investigation of Semantic Differences among, and the Inferential Processes of, Psychiatrists, Psychologists and Psychiatric Social Workers.
Major Adviser: Prof. William Schofield.

1957. LEWIT, DAVID WILLIAM. B.A. '49, Princeton University; M.A. '51, Stanford University.
Major: Psychology. Minor: Sociology.
Thesis: The Influence of Attitude in Various Phases of Discrimination Learning.
Major Adviser: Prof. Benjamin Willerman.
1957. MILLER, ROBERT ERNEST. B.A. with high honor '47, Northeastern University; M.A. '48, Boston University.
Major: Psychology. Minor: Philosophy.
Thesis: An Analysis of Certain Psychogrammatical Categories in Expository Verbal Situations.
Major Adviser: Prof. J. J. Jenkins.
1957. MINK, WALTER DAVID. B.A. '50, Hiram College.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: Semantic Generalization as Related to Word Association.
Major Adviser: Prof. W. A. Russell.
1957. NORMAN, WARREN THEODORE. B.S. with distinction '52, M.A. '55, University of Minnesota.
Major: Psychology. Minor: Statistics.
Thesis: A Dispersion Analysis of the Interests of 115 Occupational and Reference Groups.
Major Adviser: Prof. K. E. Clark.
1957. RYAN, JAMES JAY, III. B.A. '51, M.A. '54, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: An Experimental Comparison of Response Transfer Facilitated by Meaningfully Similar and Associated Verbal Stimuli.
Major Adviser: Prof. J. J. Jenkins.
1957. SINES, LLOYD K. B.A. magna cum laude '52, University of Minnesota.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: An Experimental Investigation of the Relative Contribution to Clinical Diagnosis and Personality Description of Various Kinds of Pertinent Data.
Major Adviser: Prof. William Schofield.
1957. WARNKEN, ROBERT GERARD. B.A. '53, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Educational Background of Male Schizophrenic Patients.
Major Adviser: Prof. R. F. Berdie.
1958. ALBITZ, DIANE RAMSEY. B.A. cum laude '50, M.A. '54, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: A Discriminant Analysis of the Aptitudes and Interests of Enlisted Men in Eleven Naval Aviation Groups.
Major Adviser: Prof. K. E. Clark.

1958. BRANTNER, JOHN PATERSON. B.A. magna cum laude '49, University of Minnesota.
Major: Psychology. Minor: Psychiatry.
Thesis: Homeless Men, a Psychological Survey.
Major Adviser: Prof. William Schofield.
1958. BROWN, FREDERICK GRAMM. B.A. '54, M.A. '55, University of Wisconsin.
Major: Psychology. Minor: Educational Psychology.
Thesis: Measured Personality Characteristics of Liberal Arts College Freshmen.
Major Adviser: Prof. W. L. Layton.
1958. CALDWELL, ALEXANDER BRYAN, JR. B.A. magna cum laude '51, M.A. '55, University of Minnesota.
Major: Psychology. Minor: Psychiatry.
Thesis: Personality Impressions and Response Prediction.
Major Adviser: Prof. S. R. Hathaway.
1958. DONAT, GERTRUDE MCADAM. B.S. '53, Concordia College; M.A. '54, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Factors Related to Measured Masculinity among Students Majoring in Secondary Education.
Major Adviser: Prof. D. G. Paterson.
1958. DUKER, JAN. B.S. with high distinction '51, M.S. '53, Oklahoma A. and M. College.
Major: Psychology. Minor: Psychiatry.
Thesis: The Utility of the MMPI Atlas in the Derivation of Personality Descriptions.
Major Adviser: Prof. William Schofield.
1958. EHRLICH, DANUTA. B.A. '53, Queens College; M.A. '57, University of Minnesota.
Major: Psychology. Minor: Statistics.
Thesis: Determinants of Verbal Commonality and Influencibility.
Major Adviser: Prof. Stanley Schachter.
1958. GALLESE, ARTHUR JAMES, JR. B.A. with high honors '52, American International College.
Major: Psychology. Minor: Psychiatry.
Thesis: Personality Characteristics and Academic Achievement in School of Engineering Students.
Major Adviser: Prof. William Schofield.
1958. GRANGER, STEPHEN GRAVES. B.A. cum laude '53, M.A. '55, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Prestige Hierarchy among Occupations in Psychology.
Major Advisers: Profs. H. P. Longstaff and D. G. Paterson.
1958. JEWELL, WALTER ORWELL. B.A. '39, William Jewell College; M.A. '40, University of Denver.
Major: Psychology. Minor: Educational Psychology.
Thesis: Differential Judgments of Manifest Anxiety, Defensiveness, and Effective Problem Solving in Counseling.
Major Adviser: Prof. R. F. Berdie.

1958. KANGAS, JOHN OMAR. B.A. magna cum laude '53, University of Minnesota.
Major: Psychology. Minor: Psychiatry.
Thesis: Some Aspects of Verbal Stimulus Generalization in Hospitalized Schizophrenics.
Major Adviser: Prof. W. A. Russell.
1958. KLEINMUNTZ, BENJAMIN. B.A. '52, Brooklyn College.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: An Investigation of the Verbal Behavior of Paranoid Psychotic Patients and Normals.
Major Adviser: Prof. Ephraim Rosen.
1958. KORN, HAROLD ALLEN. B.S. '51, M.A. '53, City College of New York.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: Guessing Behavior Modified by Schedules of Reinforcement of Individuals with Selected MMPI Profiles.
Major Adviser: Prof. S. R. Hathaway.
1958. MCKNIGHT A. JAMES. B.A. '52, Brown University; M.A. '55 University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Relations of Certain Home Factors to College Achievement.
Major Adviser: Prof. D. G. Paterson.
1958. MILLER, ELMO EVERETT. B.A. magna cum laude '52, M.A. '55, University of Minnesota.
Major: Psychology. Minors: Biostatistics and Educational Psychology.
Thesis: Transfer Effects of Special Training upon Pre-Solo Flight Training.
Major Adviser: Prof. Kenneth MacCorquodale.
1958. NELSON, JOHN WALTER. B.A. cum laude '52, Gustavus Adolphus College; M.A. '54, University of Minnesota.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: Dependency as a Construct: An Evaluation and Some Data.
Major Adviser: Prof. S. R. Hathaway.
1958. ROBERTS, RUTH. B.A. '46, M.A. '48, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: English Skills of Foreign Graduate Students.
Major Adviser: Prof. D. G. Paterson.
1958. ROSENBERG, SHELDON. B.A. with honors '54, Brooklyn College; M.A. '56, University of Minnesota.
Major: Psychology. Minor: Child Welfare.
Thesis: Motivation, Set, and Number of Trials in Intentional and Incidental Learning.
Major Adviser: Prof. M. A. Tinker.
1958. SCHEIN, JEROME DANIEL. B.A. cum laude '46, M.A. '47, University of Minnesota.
Major: Psychology. Minor: Neurology.
Thesis: An Experimental Investigation of Some Psychological Functions in Detection of Brain Damage.
Major Adviser: Prof. William Schofield.

1958. SEGAL, EVALYN FINN. B.A. '50, University of Chicago; B.S. magna cum laude '53, University of Minnesota.
Major: Psychology. Minors: Zoology and Physiology.
Thesis: The Relations among Operant Rate, Final Extinction Rate and Drive.
Major Adviser: Prof. Kenneth MacCorquodale.
1958. SWENSON, WENDELL MONSON. B.A. '42, Gustavus Adolphus College; M.A. '50, University of Minnesota.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: A Study of Death Attitudes in the Gerontic Population and Their Relationship to Certain Measurable Physical and Social Characteristics.
Major Adviser: Prof. S. R. Hathaway.
1958. THOMSON, ROBERT MAPES. B.A. '42, Grinnell College; M.A. '48, University of Minnesota.
Major: Psychology. Minor: Business Administration.
Thesis: Effects of Time-Set on Work Output.
Major Advisers: Profs. D. G. Paterson and M. A. Tinker.
1958. VANCE, FORREST LESLIE. B.A. cum laude '52, University of Minnesota.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: Production of Learnable Drive in the White Rat by Exposure to Inaccessible Food.
Major Adviser: Prof. W. A. Russell.
1958. VOLSKY, THEODORE C. JR. B.S. '51, M.S. '52, Kansas State College.
Major: Psychology. Minor: Educational Psychology.
Thesis: Modality of Word Association Test Responses as a Factor in Improving Counselor Predictions.
Major Adviser: Prof. W. L. Layton.
1959. BANKS, JAMES HUBER, JR. B.A. magna cum laude '54, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Differential Response as a Function of Reduced and Non-Reduced (Irrelevant) Drives.
Major Adviser: Prof. Kenneth MacCorquodale.
1959. CARLIN, JEAN EFFAL. B.A. cum laude '50, B.S. '52, M.A. '53, M.D. '54, University of Minnesota.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: Word-Association Strength as a Variable in Verbal Paired-Associate Learning.
Major Adviser: Prof. Kenneth MacCorquodale.
1959. GHEI, SOMNATH. B.A. '45, Edwardes Mission College; B.T. '46, Islamia College; M.A. '51, East Punjab University College; M.A. '57, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Relationship between Classification Keys and Predictor Keys in Interest Measurement.
Major Adviser: Prof. K. E. Clark.

1959. GRAY, CLIFTON WELLINGTON. B.S. '46, U.S. Military Academy; M.A. '51, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Detection of Faking in Vocational Interest Measurement.
Major Adviser: Prof. D. G. Paterson.
1959. HORTON, DAVID LEE. B.A. '55, M.A. '57, University of Minnesota.
Major: Psychology. Minor: Biostatistics.
Thesis: Response Chaining Paradigms for Transfer in Paired Associate Learning.
Major Adviser: Prof. J. J. Jenkins.
1959. HOTCHKISS, SALLY MCMURDO. B.A. '49, Randolph-Macon Women's College; M.A. '50, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Word Knowledge of Industrial Supervisors.
Major Adviser: Prof. D. G. Paterson.
1959. HOTCHKISS, SANFORD NORMAN. B.A. magna cum laude '49, M.A. '50, University of Minnesota.
Major: Psychology. Minor: Economics.
Thesis: Word Knowledge of an Industrial Population.
Major Adviser: Prof. D. G. Paterson.
1959. KILAND, JAMES RAY. B.A. cum laude '50, M.A. '54, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Occupational Prestige in Two Veteran's Administration Hospitals.
Major Adviser: Prof. D. G. Paterson.
1959. LUMRY, GAYLE KELLY. B.A. '41, College of St. Catherine; M.A. '42, State University of Iowa.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: An Investigation into Some of the Variables Contributing to Performance on the Block Design Test.
Major Adviser: Prof. William Schofield.
1959. MARKS, PHILIP ANDRE. B.A. '53, Fresno State College; M.A. '54, Long Beach State College.
Major: Psychology. Minor: Child Development.
Thesis: The Validity of the Diagnostic Process in a Child Guidance Setting: A Multidisciplinary Approach.
Major Adviser: Prof. R. D. Wirt.
1959. MCCALL, JOHN NEWTON. B.A. '50, University of North Carolina; M.A. '51, Columbia University.
Major: Psychology. Minor: Educational Psychology.
Thesis: An Experimental Study of the Relationships between Interest and Ability.
Major Adviser: Prof. W. L. Layton.
1959. RADLOFF, ROLAND WALTER. B.A. with high honors '50, Elmhurst College.
Major: Psychology. Minor: Educational Psychology.
Thesis: Opinion and Affiliation.
Major Adviser: Prof. H. H. Kelley.

1959. ROEHL, CLEMENS ALLEN. B.A. magna cum laude '55, University of Minnesota.
Major: Psychology. Minor: Psychiatry.
Thesis: The Effects of Frustration on the Amplitude of a Simple Motor Response.
Major Adviser: Prof. William Schofield.
1959. SCHUMACHER, CHARLES FREDRICK. B.S. with highest honors '51, University of Illinois; M.S. '53, Iowa State College.
Major: Psychology. Minor: Educational Psychology.
Thesis: A Comparison of Three Methods for Keying Interest and Personality Inventories.
Major Adviser: Prof. K. E. Clark.
1959. STEPHENSON, RICHARD RYLE. B.A. magna cum laude '51, M.A. '57, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: A Comparison of the Strong VIB Profiles of High Ability Male S.L.A. Freshmen Who Change Expressed Vocational Choice with Those Who Do Not Change Such Expressions.
Major Adviser: Prof. D. G. Paterson.
1959. VESTRE, NORRIS DONALD. B.A. cum laude '55, University of Minnesota.
Major: Psychology. Minor: Psychiatry.
Thesis: An Experimental Study of the Effects of Chlorpromazine on Association Learning in Schizophrenic Patients.
Major Adviser: Prof. William Schofield.
1959. WRIGHTSMAN, LAWRENCE SAMUEL, JR. B.A. with honors '53, M.A. '54, Southern Methodist University.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Effects of Small-Group Membership on Level of Concern.
Major Adviser: Prof. Stanley Schachter.
1960. CAMPBELL, DAVID PHILLIP. B.S. '55, M.S. '58, Iowa State College.
Major: Psychology. Minor: Statistics.
Thesis: Psychometric Analysis of Response Patterns to Interest Inventory Items.
Major Adviser: Prof. K. E. Clark.
1960. CHURCHILL, RUTH DIETZ. B.A. '37, Barnard College.
Major: Psychology. Minor: Educational Psychology.
Thesis: Evaluation of Independent Study in College Courses.
Major Advisers: Profs. D. G. Paterson and R. E. Eckert.
1960. DAVENPORT, DONALD GENE. B.A. '53, Baker University; M.A. '57, University of Minnesota.
Major: Psychology. Minor: Biostatistics.
Thesis: The Galvanic Skin Response as a Function of Classical Conditioning, "Instructional" Conditioning, and Clinical Anxiety.
Major Adviser: Prof. W. A. Russell.
1960. GOTTESMAN, IRVING I. B.S. '53, Illinois Institute of Technology.
Major Psychology. Minor: Child Development and Welfare.
Thesis: The Psychogenetics of Personality.
Major Adviser: Prof. R. D. Wirt.

1960. HEINZELMANN, FRED. B.S. cum laude '53, Marquette University; M.A. '56, University of Minnesota.
Major: Psychology. Minor: Sociology.
Thesis: An Experimental Study of Relative Deprivation and Relative Reward.
Major Advisers: Profs. K. E. Clark and H. H. Kelley.
1960. HILL, ARTHUR HENRY. B.A. '57, University of Western Australia.
Major: Psychology. Minor: Statistics.
Thesis: Social Influence in Interdependent Escape.
Major Adviser: Prof. H. H. Kelley.
1960. JORVE, WARREN RUSSELL. B.A. '49, M.A. '51, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Occupational Prestige of Clinical and Counseling Psychology Specialities.
Major Advisers: Prfs. D. G. Paterson and H. P. Longstaff.
1960. KJELDERGAARD, PAUL MYRON. B.A. cum laude '54, M.A. '57, University of Minnesota.
Major: Psychology. Minor: Biostatistics.
Thesis: Verbal Transfer Processes in Acquired Stimulus Equivalence and Acquired Response Equivalence Paradigms.
Major Adviser: Prof. J. J. Jenkins.
1960. MARTIN, JAMES GORDON. B.S. in Ed. '51, University of North Dakota; M.A. '58, University of Minnesota.
Major: Psychology. Minor: Biostatistics.
Thesis: Mediated Transfer in Two Verbal Learning Paradigms.
Major Adviser: Prof. W. A. Russell.
1960. QUEVILON, NAOMI M. B.A. magna cum laude '47, University of Minnesota.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: Semantic Behavior of Three Different Personality Groups.
Major Adviser: Prof. Ephraim Rosen.
1960. SIVANICH, GEORGE. B.A. magna cum laude '50, University of Minnesota; M.A. '51, Harvard University.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: Test-Retest Changes during the Course of Hospitalization among Some Frequently Occurring MMPI Profiles.
Major Adviser: Prof. S. R. Hathaway.
1960. STUDDIFORD, WALTER BEEKMAN. B.A. cum laude '50, Hope College; M.A. '51, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Stimulus Contiguity: An Investigation of Operant Discriminative Effects of Simultaneous Presentation of Stimuli in Two Modalities.
Major Adviser: Prof. Kenneth MacCorquodale.
1960. WERTS, CHARELS EARL, JR. B.S. '51, University of California.
Major: Psychology. Minor: Child Development.
Thesis: Multidimensional Analysis of Psychological Constructs.
Major Adviser: Prof. R. D. Wirt.

1960. WRIGHT, HENRY WILKES. B.A. '35, M.A. '37, University of Manitoba.
Major: Psychology. Minor: Educational Psychology.
Thesis: Factors Associated with Vocational Rehabilitation of World War II Veterans Disabled by Schizophrenia.
Major Adviser: Prof. William Schofield.
1961. ARROWOOD, ARTHUR JOHN. B.A. summa cum laude '57, University of Minnesota.
Major: Psychology. Minors: Sociology and Anthropology.
Thesis: Some Effects on Productivity of Justified and Unjustified Levels of Reward under Public and Private Conditions.
Major Adviser: Prof. Ben Willerman.
1961. BORAH, LEE A., JR. B.A. magna cum laude '54, University of Minnesota; M.S. '56, University of Washington.
Major: Psychology. Minor: Speech Pathology.
Thesis: An Investigation of the Effect of Threat upon Interpersonal Bargaining.
Major Adviser: Prof. H. H. Kelley.
1961. DE YOUNG, KENNETH NORMAN. B.A. '56, M.A. '57, Michigan State University.
Major: Psychology. Minors: Philosophy and Sociology.
Thesis: Word Recognition in the Upper and Lower Visual Fields.
Major Adviser: Prof. D. L. LaBerge.
1961. GOUGH, PHILIP BRUCE. B.A. '55, M.A. '57, University of Minnesota.
Major: Psychology. Minor: Philosophy.
Thesis: The Study of Mediation in Animals.
Major Adviser: Prof. J. J. Jenkins
1961. GREENO, JAMES GORDON. B.A. '57, M.A. '58, University of Minnesota.
Major: Psychology. Minor: Philosophy.
Thesis: Effects of Nonreinforced Trials in Some Two-Choice Learning Experiments.
Major Adviser: Prof. D. L. LaBerge.
1961. HAKES, DAVID TRUMBULL. B.A. '56, Wesleyan University; M.A. '59, University of Minnesota.
Major: Psychology. Minor: Journalism.
Thesis: The Role of Stimulus and Response Familiarization in Paired-Associate Learning.
Major Adviser: Prof. J. J. Jenkins.
1961. HATCH, RICHARD STEARNS. B.A. '51, M.A. '53, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: An Evaluation of a Forced-Choice Differential Accuracy Approach to the Measurement of Supervisory Empathy.
Major Adviser: Prof. M. D. Dunnette.
1961. HAWKINSON, JOHN RUSSELL. B.S. '40, University of Minnesota.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: A Study of the Construct Validity of Barron's Ego Strength Scale with a State Mental Hospital Population.
Major Adviser: Prof. S. R. Hathaway.

1961. HOFFMAN, LYLE SHELDON. B.A. magna cum laude '48, M.A. '52, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Some Determinants of Difficulty in the Trouble Shooting of Symbolic Data Flow Systems.
Major Adviser: Prof. J. J. Jenkins.
1961. JERDEE, THOMAS HARLAN. B.A. '50, Gustavus Adolphus College; M.A. '56, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Supervisor Perception of Subordinate Attitudes.
Major Adviser: Prof. M. D. Dunnette.
1961. JOHNSON, RICHARD WILBUR. B.A. cum laude '56, Princeton University; M.A. '59, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Relationship between Measured Interests and Differential Academic Achievement.
Major Adviser: Prof. L. H. Lofquist.
1961. KIRESEK, THOMAS JACK. B.A. '52, University of Minnesota.
Major: Psychology. Minor: Psychiatry.
Thesis: The Effect of Test Sophistication on the Diagnostic Validity of the Minnesota Multiphasic Personality Inventory and the Rorschach with Paranoid Schizophrenics.
Major Adviser: Prof. William Schofield.
1961. MAHLMAN, RICHARD WILLIAM. B.A. '44, North Central College; M.A. '58, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Assessing Vocational Interests of Mental Patients.
Major Adviser: Prof. L. H. Lofquist.
1961. NEWSTROM, CHARLES NEIL. B.A. '50, M.A. '51, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: An Outcome Study of Emotionally Disturbed and Physically Disabled Veterans Rehabilitated at the Professional Level of Education.
Major Adviser: Prof. L. H. Lofquist.
1961. PETERSEN, ROBERT CARL. B.S. '53, City College of New York.
Major: Psychology. Minor: Psychiatry.
Thesis: The Effect of Item Content and Distribution Instructions upon Reliability in the Rating of Psychiatric Patients.
Major Adviser: Prof. P. E. Meehl.
1961. SCOTT, THOMAS BLYTHE. B.A. '49, M.A. '50, University of Tennessee.
Major: Psychology. Minor: Educational Psychology.
Thesis: Counseling Interpretations for the Minnesota Vocational Interest Inventory Based on Comparisons with the Strong Vocational Interest Blank.
Major Adviser: Prof. H. P. Longstaff.

1961. SINGER, JEROME EVERETT. B.A. '56, University of Michigan.
Major: Psychology. Minor: Sociology.
Thesis: The Effects of Epinephrine, Chlorpromazine and Dibenzylamine upon the Fright Responses of Rats under Stress and Non-Stress Conditions.
Major Adviser: Prof. Stanley Schachter.
1961. STROEBEL, CHARLES FREDERICK, III. B.A. '61, University of Minnesota.
Major: Psychology. Minor: Biostatistics.
Thesis: Differential Effects of Adrenal Demedullation on Acquisition and Extinction of a Passive Avoidance (Punishment) and a Conditioned Emotional Response in the Albino Rat.
Major Adviser: Prof. G. T. Heistad.
1961. THOMPSON, TRAVIS IRVING. B.A. cum laude '58, University of Minnesota.
Major: Psychology. Minor: Child Development.
Thesis: The Effect of Two Phenothiazines and a Barbiturate on Extinction-Induced Rate Increase of a Free Operant.
Major Adviser: Prof. G. T. Heistad.
1961. TORRES-GONZALEZ, AURELIO A. B.A. '50, Colegio de Belen; Ph.D. '56, University of Havana.
Major: Psychology. Minor: Child Development and Welfare.
Thesis: Anxiety Versus Escape Conditioning and Tranquilizing Action.
Major Adviser: Prof. S. R. Hathaway.
1961. WARK, DAVID MAYER. B.A. '56, Pomona College.
Major: Psychology. Minors: Sociology and Political Science.
Thesis: Longitudinal Study of Verbal Learning in the Stimulus Equivalence and Response Equivalence Paradigms.
Major Adviser: Prof. J. J. Jenkins.
1962. FARNHAM, MARY LOUISE J. B.A. cum laude '58, University of Minnesota.
Major: Psychology. Minor: Child Psychology.
Thesis: Genetic and Experiential Determinants of Adaptation in the Mouse.
Major Advisers: Profs. Gardner Lindzey and R. D. Wirt.
1962. HAKMILLER, KARL LEONARD. B.A. with honors '58, University of California.
Major: Psychology. Minor: Anthropology.
Thesis: Social Comparison Processes under Differential Conditions of Ego-Threat.
Major Adviser: Prof. Benjamin Willerman.
1962. HAWKINS, CHARLES EDWARD. B.A. '53, University of Hawaii; M.A. '56, University of Nevada.
Major: Psychology. Minor: Educational Psychology.
Thesis: A Study of Factors Mediating a Relationship between Leader Rating Behavior and Group Productivity.
Major Adviser: Prof. Benjamin Willerman.

1962. JOHNSON, NEAL FREDERICK. B.A. '56, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Cue Value of Sentence Frames for the Acquisition of
Speech Categories.
Major Adviser: Prof. J. J. Jenkins.
1962. KEHRBERG, WILLARD EVERETT. B.A. '40, Northwestern University;
M.A. '58, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Religious Value, Set and Verbal Reinforcement in Directed
Word Association.
Major Adviser: Prof. H. P. Longstaff.
1962. KOPLIN, JAMES HENRY. B.A. cum laude '55, M.A. '59, University of
Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Mediated Generalization in a Mixed Verbal Learning Paradigm.
Major Adviser: Prof. J. J. Jenkins.
1962. KOPLIN, SALLY THANE. B.A. cum laude '58, University of Minnesota.
Major: Psychology. Minor: Philosophy.
Thesis: Amount and Distribution of Training as Factors in Performance
Following Incentive Shift.
Major Adviser: Prof. W. A. Russell.
1962. KORMAN, ABRAHAM KENNETH. B.A. '56, Brooklyn College; M.A. '58,
University of Illinois.
Major: Psychology. Minor: Educational Psychology.
Thesis: Some Comparative Analyses of the Dimensions of Job
Satisfaction.
Major Adviser: Prof. H. P. Longstaff.
1962. POWERS, JOHN HAMELIN. B.A. '47, College of St. Thomas; M.A. '50,
University of Minnesota.
Major: Psychology. Minor: Psychiatry.
Thesis: Personality Correlates of Three Fine Motor Tasks.
Major Adviser: Prof. William Schofield.
1962. SCHENITZKI, DIETMAR PAUL. M.A. '54, University of Arizona;
Diploma '55, Free University of Berlin.
Major: Psychology. Minor: Anthropology.
Thesis: Bargaining, Group Decision Making, and the Attainment of
Maximum Joint Outcome.
Major Adviser: Prof. Benjamin Willerman
1962. SEGAL, ERWIN MAXWELL. B.S. '57, University of Maryland.
Major: Psychology. Minor: Philosophy.
Thesis: Stimulus Perception as a Function of Response Set.
Major Adviser: Prof. J. J. Jenkins.
1962. STELMACHERS, ZIGFRIDS TEODORS. B.A. cum laude '58, University of
Minnesota.
Major: Psychology. Minor: Psychiatry.
Thesis: Stereotyped and Individualized Information and Their Relative
Contribution to Predictive Accuracy.
Major Adviser: Prof. S. R. Hathaway.

1962. TELLEGEN, AUKE. Graduate '57, University of Amsterdam.
Major: Psychology. Minor: Zoology.
Thesis: The Effect of Genetic and Experimental Factors upon Emotional Reactions in Mice.
Major Adviser: Prof. Gardner Lindzey.
1962. WENRICH, WESLEY W. B.A. '54, University of Michigan; M.A. '56, Michigan State University.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Tact Relation: An Experiment in Verbal Behavior.
Major Adviser: Prof. Kenneth McCorquodale.
1962. WHEELER, LADD STEWART. B.A. with honors '59, Stanford University.
Major: Psychology. Minor: Journalism.
Thesis: Desire: A Determinant of Self-Evaluation Through Social Comparison.
Major Adviser: Prof. Benjamin Willerman.
1962. WILSON, DENNIS THERRES. B.A. cum laude '56, M.A. '58, University of Minnesota.
Major: Psychology. Minor: Philosophy.
Thesis: Ability Evaluation, Postdecision Dissonance, and Coworker Attractiveness.
Major Adviser: Prof. Benjamin Willerman.
1962. WINSTON, HARVEY DAVID. B.A. magna cum laude '58, University of Minnesota.
Major: Psychology. Minor: Zoology.
Thesis: Influences of Genotype and Infantile Experience on Adult Learning in Mice.
Major Adviser: Prof. Gardner Lindzey.
1963. ARMACOST, PETER HAYDEN. B.A. '57, Denison University.
Major: Psychology. Minor: Educational Psychology.
Thesis: Conditions Affecting the Demonstration of Associatively Mediated Generalization.
Major Advisers: Profs. J. J. Jenkins and Kenneth MacCorquodale.
1963. CARLSON, RICHARD HOWARD. B.S. '52, University of Minnesota; M.Ed. '54, University of Hawaii.
Major: Psychology. Minor: Educational Psychology.
Thesis: An Expectancy Theory of Cue Selection and an Experimental Test of Some Derived Hypotheses.
Major Adviser: Prof. W. A. Russell.
1963. DARLINGTON, RICHARD BENJAMIN. B.A. with high honors '59, Swarthmore College.
Major: Psychology. Minor: Statistics.
Thesis: Increasing Test Validity through the Use of Interitem Correlations.
Major Adviser: Prof. P. E. Meehl.
1963. ELLS, EDWARD MILES. B.A. magna cum laude '58, University of Minnesota.
Major: Psychology. Minors: Neurology and Psychiatry.
Thesis: Verbal Conditioning of Chronic Schizophrenics as a Function of Operant Level and Experience with the Experimenter.
Major Adviser: Prof. Ephraim Rosen.

- ERICKSON, JAMES RICHARD. B.A. '58, University of Minnesota.
Major: Psychology. Minor: Biostatistics.
Thesis: The Effects of Various Cost and Reinforcement Functions on
Discrimination Learning.
Major Adviser: Prof. D. L. LaBerge.
1963. HINRICHS, GRACE BEATRICE. B.A. cum laude '57, University of
Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Associative Learning: All-or-None or Incremental?
Major Advisers: Profs. D. L. LaBerge and H. P. Longstaff.
1963. IRETON, HAROLD ROBERT. B.A. with high honors '57, University of
Connecticut.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: Perception of Parents, Self-Concept, and Identification in
Normal and Psychiatric Groups.
Major Adviser: Prof. Ephraim Rosen.
1963. JOHNSON, ROCHELLE JOAN. B.A. magna cum laude '54, University of
Minnesota.
Major: Psychology. Minor: Philosophy.
Thesis: Operant Reinforcement of an Autonomic Response.
Major Adviser: Prof. Kenneth MacCorquodale.
1963. KNIGHTS, ROBERT MELVILLE. B.A. '58, University of Western
Ontario.
Major: Psychology. Minor: Child Psychology.
Thesis: Visual Discrimination and Social Reinforcement in Normal and
Emotionally Disturbed Boys.
Major Adviser: Prof. R. D. Wirt.
1963. LATANÉ, BIBB. B.A. cum laude '58, Yale University.
Major: Psychology. Minor: Journalism.
Thesis: Autonomic Arousal and the Extinction of Fear.
Major Advisers: Profs. Gordon Heistad and Ben Willerman.
1963. LESTER, ROBERT ANDREW. B.A. cum laude '56, Seattle University;
M.A. '59, Marquette University.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Relationship of SVIB and ACT Scores to Differential
Academic Achievement.
Major Adviser: Prof. R. F. Berdie.
1963. RING, KENNETH. B.A. '58, University of California.
Major: Psychology. Minor: Anthropology.
Thesis: Some Effects of Status-Linked Behavior on Interpersonal
Perception.
Major Adviser: Prof. Ben Willerman.
1963. RORER, GAIL EVANS. B.A. with high honors '58, Swarthmore College.
Major: Psychology. Minor: Philosophy.
Thesis: A Statistical Study of the Effects of Number of Reinforce-
ments and Distribution of Intervals in a Variable Interval Schedule
of Reinforcement.
Major Adviser: Prof. Kenneth MacCorquodale.

1963. RORER, LEONARD G. B.A. '54, Swarthmore College.
Major: Psychology. Minor: Biostatistics.
Thesis: The Function of Item Content in MMPI Responses.
Major Adviser: Prof. P. E. Meehl.
1963. SCHLETZER, VERA MYERS. B.A. with highest honors '41, Ohio University; M.A. '59, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: A Study of the Predictive Effectiveness of the Strong Vocational Interest Blank for Job Satisfaction.
Major Adviser: Prof. L. H. Lofquist.
1963. SMITH, KIRK HOWARD. B.A. cum laude '58, University of Washington.
Major: Psychology. Minor: Philosophy.
Thesis: Recall of Paired Verbal Units under Various Conditions of Organization.
Major Adviser: Prof. J. J. Jenkins.
1963. STEINMAN, WALTER FRANKLIN. B.S. with honors '50, M.S. '51, Pennsylvania State University.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: The Performance of Normals and Neuropsychiatric Patients on a Tactile Adaptation of the Block Design Test.
Major Adviser: Prof. Ephraim Rosen.
1963. THOMPSON, ANDREW. B.A. '56, M.A. '59, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Conditioning of Work Oriented and Work Aversive Statements of Neuropsychiatric Patients.
Major Adviser: Prof. L. H. Lofquist.
1963. WEISS, DAVID JOSEPH. B.A. with honors '59, University of Pennsylvania.
Major: Psychology. Minor: Educational Psychology.
Thesis: A Technique for Curvilinear Multivariate Prediction.
Major Adviser: Prof. L. H. Lofquist.
1963. YOUNG, RHODES CHARLES. B.A. '48, Whittier College.
Major: Psychology. Minor: Neuropsychiatry.
Thesis: Some Parameters of Personality Description with the MMPI in a State Hospital Population.
Major Adviser: Prof. P. E. Meehl.
1964. BANAS, PAUL ANTHONY. B.A. '51, University of Connecticut; M.A. '59, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: An Investigation of Transsituational Moderators.
Major Adviser: Prof. H. P. Longstaff.
1964. CAHOON, DELWIN DUANE. B.A. '56, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: A Comparison of the Efficacy of Verbal Reinforcement Applied in Group or Individual Interviews in the Shaping and Transfer of Verbal Behavior.
Major Adviser: Prof. L. H. Lofquist.

1964. CAMPBELL, JOHN PAUL. B.S. '59, M.S. '60, Iowa State University.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Use and Evaluation of an Iterative Multiple Regression
Technique for Enhancing the Prediction of Academic Success by
Criterion Grouping.
Major Adviser: Prof. M. D. Dunnette.
1964. CLIFTON, CHARLES EGOLF, JR. B.A. '60, Stanford University.
Major: Psychology. Minor: Child Psychology.
Thesis: Syntactic Generalization: Affirmation-Negation.
Major Adviser: Prof. J. J. Jenkins.
1964. DAHLKE, ARNOLD EVERT. B.A. '59, M.A. '60, University of Nevada.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Effects of Reinforcement and Punishment on Attitude
Change.
Major Adviser: Prof. Ben Willerman.
1964. D'ANDREA, THOMAS JAMES. B.A. cum laude '57, University of
Minnesota.
Major: Psychology. Minor: Mathematics.
Thesis: Extinction after Several Reinforcement Schedules in a
Multi-Operant Behavior Sequence.
Major Adviser: Prof. Kenneth MacCorquodale.
1964. ELVEKROG, MAURICE O. B.A. magna cum laude '56, College of St.
Thomas.
Major: Psychology. Minor: Psychiatry.
Thesis: The Development of Measures of Three Response Styles and Their
Relationships to Test and Non-Test Variables.
Major Adviser: Prof. W. A. Russell.
1964. FAIR, DONALD CLARENCE. B. of Educ. '55, M.A. '59, University of
Alberta.
Major: Psychology. Minor: Educational Psychology.
Thesis: Life History Correlates of Selected Vocational Interests.
Major Adviser: Prof. R. F. Berdie.
1964. FLOYD, JOANNE MARCIA KOWALSKI. B.A. with distinction '60,
University of Michigan.
Major: Psychology. Minor: Child Psychology.
Thesis: Effects of Amount of Reward and Friendship Status of the
Other on the Frequency of Sharing in Children.
Major Adviser: Prof. W. A. Russell.
1964. FLOYD, RICHARD LEE. B.S. with honors '60, University of Michigan.
Major: Psychology. Minor: Child Psychology.
Thesis: Paired-Associate Learning: Relative Contributions of
Differentiation and Association.
Major Adviser: Prof. J. J. Jenkins.
1964. HAVEN, GEORGE A., JR. B.A. '55, St. Mary's University; M.A. '61,
Texas Christian University.
Major: Psychology. Minor: Educational Psychology.
Thesis: Creative Thought, Productivity, and the Self-Concept.
Major Adviser: Prof. Kenneth MacCorquodale.

1964. HOLROYD, JEAN COREY. B.A. '58, M.A. '60, University of Maryland.
Major: Psychology. Minor: Psychiatry.
Thesis: Neurological Implications of WISC Verbal-Performance
Discrepancies in a Psychiatric Setting.
Major Adviser: Prof. S. R. Hathaway.
1964. HOLROYD, RICHARD GARRETT. B.A. '58, M.A. '59, University of
Maryland.
Major: Psychology. Minor: Biostatistics.
Thesis: Prediction of Defensive Paranoid Schizophrenics Using the
MMPI.
Major Adviser: Prof. P. E. Meehl.
1964. JOHNSON, CHARLES ENGER. B.A. '57, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: An Exploratory Study of Individual Patterns of Leisure-Time
Activities.
Major Adviser: Prof. L. H. Lofquist.
1964. LOPER, RODNEY GRANT. B.A. cum laude '57, University of Minnesota.
Major: Psychology. Minor: Psychiatry.
Thesis: The Influence of Prior Verbal Reinforcement on Inkblot Test
Content.
Major Adviser: Prof. R. D. Wirt.
1964. MANOSEVITZ, MARTIN. B.A. cum laude '60, University of Minnesota.
Major: Psychology. Minor: Child Psychology.
Thesis: Genetic Variation, Fearfulness and Hoarding in the Mouse.
Major Adviser: Prof. Gardner Lindzey.
1964. NAITOH, YOSHIMASA. B.A. '53, Yamaguchi University; M.A. '56,
University of Minnesota.
Major: Psychology. Minor: Neurology.
Thesis: Effect of Whole Brain Co-60 Gamma Irradiation on Cortical
Arousal in the Burro.
Major Adviser: Prof. G. T. Heistad.
1964. ODOM, PENELOPE BROOKS. B.A. '61, University of Texas.
Major: Psychology. Minor: Educational Psychology.
Thesis: Syntactic Generalization: Queries.
Major Adviser: Prof. J. J. Jenkins.
1964. PREUS, JAMES BURCHARD. B.S. '53, M.A. '59, University of
Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Effect of Four Student Personnel Services on the Academic
Performance of Underachieving Arts College Freshmen.
Major Adviser: Prof. R. F. Berdie.
1964. ROSE, RICHARD JOSEPH. B.A. cum laude '57, University of Minnesota.
Major: Psychology. Minor: Biostatistics.
Thesis: Preliminary Study of Three Indicators of Arousal: Measurement,
Interrelationships, and Clinical Correlates.
Major Adviser: Prof. D. T. Lykken.

1964. SHAPIRO, SOLOMAN. B.S. in S.S. '38, City College of New York; M.A. '42, New York University.
Major: Psychology. Minor: Educational Psychology.
Thesis: A Study of the Needs and Satisfactions of Social Workers as Perceived by College Students and Social Workers.
Major Adviser: Prof. L. H. Lofquist.
1964. SIESS, THOMAS FREDERICK. B.A. '57, Valparaiso University.
Major: Psychology. Minor: Educational Psychology.
Thesis: Personal History Factors and Their Relation to Vocational Preferences.
Major Adviser: Prof. L. H. Lofquist.
1964. SORENSON, WAYNE WILLIAM. B.B.A. '59, M.A. '61, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: Configural Scoring of Biographical Items for Predicting Sales Success.
Major Adviser: Prof. M. D. Dunnette.
1964. WERNIMONT, PAUL FRANCIS. B.S. '59, M.S. '61, Iowa State University.
Major: Psychology. Minor: Educational Psychology.
Thesis: Intrinsic and Extrinsic Factors in Job Satisfaction.
Major Adviser: Prof. M. D. Dunnette.
1965. ABRAHAMS, NORMAN MYRON. B.A. '60, M.A. '62, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Effect of Key Length and Item Validity on Overall Validity, Cross Validation Shrinkage and Test-Retest Reliability of Interest Keys.
Major Advisers: Profs. D. P. Campbell and M. D. Dunnette.
1965. BERSCHIED, ELLEN. B.A. '59, M.A. '60, University of Nevada.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Effect of Communicator-Communicatee Value Similarity and Dissimilarity upon Opinion Change.
Major Adviser: Prof. D. H. Bramel.
1965. BRADFORD, NORMAN HOWARD. B.A. '56, University of Minnesota.
Major: Psychology. Minor: Child Psychology.
Thesis: Comparative Perceptions of Mothers and Maternal Roles by Schizophrenic Patients and Their Normal Siblings.
Major Adviser: Prof. Norman Garnezy.
1965. BRUSTMAN, WENDELL CHARLES. B.A. '58, Concordia Theological Seminary.
Major: Psychology. Minor: Psychiatry.
Thesis: Adjectival Self-Description in Schizotypes.
Major Adviser: Prof. P. E. Meehl.
1965. BYRUM, MILDRED L. B.A. '55, University of Minnesota.
Major: Psychology. Minor: Child Psychology.
Thesis: Mother-Child Interaction in Test Anxious Boys.
Major Adviser: Prof. R. D. Wirt.

1965. FRIBERG, RICHARD ROY. B.A. magna cum laude '59, University of Minnesota.
Major: Psychology. Minors: Neurology and Psychiatry.
Thesis: A Study of Homosexuality and Related Characteristics in Paranoid Schizophrenia.
Major Adviser: Prof. P. E. Meehl
1965. GREENBERG, ELSA SHAPIRO. B.A. cum laude '59, University of Minnesota.
Major: Psychology. Minor: Psychiatry.
Thesis: The Prediction of Social Behavior in Children from Psychiatric Data.
Major Adviser: Prof. R. D. Wirt.
1965. GROSS, SEYMOUR ZALMAN. B.A. '57, Brooklyn College; M.A. '60, University of Minnesota.
Major: Psychology. Minor: Child Psychology.
Thesis: Predictive Utility of the Juvenile Court Prehearing Report: A Five Year Follow-Up Study.
Major Adviser: Prof. R. D. Wirt.
1965. HARMON, LENORE ANNETTE WHITE. B.A. magna cum laude '57, M.A. '62, University of Minnesota.
Major: Psychology. Minor: Educational Psychology.
Thesis: The Measurement of Women's Interests: The Effect of Using Married Women as Occupational Criterion Groups on the Women's Strong Vocational Interest Blank.
Major Adviser: Prof. L. H. Lofquist.
1965. HOBERT, ROBERT DONALD. B.A. magna cum laude '57, University of Minnesota.
Major: Psychology. Minor: Industrial Relations.
Thesis: Moderating Effects in the Prediction of Managerial Success from Psychological Test Scores and Biographical Factors.
Major Adviser: Prof. M. D. Dunnette.
1965. LAIR, JESSE KAY. B.A. '48, M.A. '64, University of Minnesota.
Major: Psychology. Minor: Journalism.
Thesis: Splitsville: A Split-Half Study of Television Commercial Pretesting.
Major Adviser: Prof. H. P. Longstaff.
1965. LINDER, DARWYN ELLSWORTH. B.A. summa cum laude '61, Macalester College.
Major: Psychology. Minor: Educational Psychology.
Thesis: Some Psychological Processes Which Mediate Task Liking.
Major Adviser: Prof. Elliot Aronson.
1965. LUTHER, BALDEV RAJ. B.A. (honors) '42, M.A. '44, M.A. '46, University of the Panjab (Pakistan).
Major: Psychology. Minor: Psychiatry.
Thesis: A Comparative Study of Some Arousal-Related Measures in Psychiatric Patients and Surgical Patients.
Major Advisers: Profs. D. T. Lykken and William Schofield.

1965. MECHERIKOFF, MICHAEL. B.A. '54, Westmont College; M.A. '56, University of Minnesota.
Major: Psychology. Minor: Biostatistics.
Thesis: Differentiated Nonverbal Responses in Two Verbal Mediation Paradigms.
Major Advisers: Profs. J. J. Jenkins and Kenneth MacCorquodale.
1965. ROBERTS, LARRY EVAN. B.A. magna cum laude '60, University of Minnesota.
Major: Psychology. Minor: Genetics.
Thesis: A Methodological Study of the Effects of Electric Shock Stimulation in the Mouse.
Major Adviser: Prof. D. T. Lykken.
1965. ROESSEL, FRED PAUL, JR. B.B.A. with high distinction '58, University of Minnesota.
Major: Psychology. Minor: Psychiatry.
Thesis: Disappearances of Semi-Stabilized Retinal Images as a Function of Cell Assemblies, Field Effects, and Angle of Orientation.
Major Adviser: Prof. D. L. LaBerge.
1965. ROSS, ABRAHAM SCHWARTZ. B.A. '60, Dartmouth College; M.A. '62, Syracuse University.
Major: Psychology. Minor: Educational Psychology.
Thesis: Modes of Guilt Reduction.
Major Adviser: Prof. Elliot Aronson.
1965. STEIN, ALETHA HUSTON. B.A. with great distinction '60, Stanford University; M.A. '62, University of Minnesota.
Major: Psychology. Minor: Child Psychology.
Thesis: Imitation of Resistance to Temptation.
Major Advisers: Profs. A. J. Hafner and J. C. Wright.
1966. ACHENBACH, THOMAS MAX. B.A. summa cum laude '62, Yale University.
Major: Psychology. Minor: Child Psychology.
Thesis: Cue-Learning and Problem-Learning Strategies in Children.
Major Adviser: Prof. H. W. Stevenson.
1966. AROND, NAOMI. B.A. '53, Hunter College; M.A. '55, City College of New York.
Major: Psychology. Minor: Child Psychology.
Thesis: Acceleration in the Development of Perspective.
Major Adviser: Prof. R. D. Wirt.
1966. TRIESCHMANN, ROBERTA BARBARA. B.S. '61, University of Wisconsin.
Major: Psychology. Minor: Psychiatry.
Thesis: The Relationship of Undifferentiated Handedness and Perceptual Development in Children with Reading Problems.
Major Adviser: Prof. P. F. Briggs.
1966. WEST, KATHRYN LOUISE. B.A. summa cum laude '46, University of Minnesota.
Major: Psychology. Minor: Psychiatry.
Thesis: MMPI and Demographic Correlates of Ulcerative Colitis.
Major Adviser: Prof. S. R. Hathaway.

SPEECH PATHOLOGY

1957. BORRIELLO, JOHN FRANCIS. B.A. '52, M.Ed. '53, Boston University.
Major: Speech Pathology. Minor: Psychology.
Thesis: A Study of the Relationship between Personal Value and the Selection of Words Presented Dichotically at a Supra Threshold Level.
Major Adviser: Prof. E. H. Henrikson.
1962. ZEMLIN, WILLARD RAYMOND. B.A. '57, M.S. '60, University of Minnesota.
Major: Speech Pathology. Minor: Psychology.
Thesis: A Comparison of the Periodic Function of Vocal Fold Vibration in a Multiple Sclerosis and a Normal Population.
Major Adviser: Prof. E. H. Henrikson.
1963. MARTIN, RICHARD ROLLAND. B.A. '56, College of Idaho; M.A. '58, State University of Iowa.
Major: Speech Pathology. Minor: Educational Psychology.
Thesis: Direct Magnitude-Estimation Scaling of Stuttering Severity Utilizing Auditory and Auditory-Visual Stimuli.
Major Adviser: Prof. E. H. Henrikson.
- 196 . STARK, EARL WILLIAM. B.A. with honors '57, University of Utah; M.A. '58, Ohio State University.
Major: Speech Pathology. Minor: Child Psychology.
Thesis: A Comparative Study of the Response Behavior of Children in the Age Range Five through Ten Years to Bekesy-Type and Standard Pure Tone Audiometry.
Major Adviser: Prof. F. M. Lassman.
1965. BROOKSHIRE, ROBERT HAROLD. B.A. '61, Huron College; M.A. '64, University of Minnesota.
Major: Speech Pathology. Minor: Psychology.
Thesis: The Differential Effects of Three Verbal Punishers on the Disfluencies of Normal Speakers.
Major Advisers: Profs. E. H. Henrikson and R. R. Martin.
1965. COLEMAN, ROBERT FINLEY. B.A. '59, Georgetown College; M.S. '60, Vanderbilt University.
Major: Speech Pathology. Minors: Linguistics and Comparative Philology.
Thesis: Duration Gradients of Jitter and Judged Auditory Roughness.
Major Adviser: Prof. R. M. Wendahl.
1965. ENGEL, DEAN C. B.S. '50, Minor State College; M.A. '56, University Of North Dakota.
Major: Speech Pathology. Minor: Educational Psychology.
Thesis: Modification of the Distribution of Stuttering as a Result of a Conditioning Procedure.
Major Adviser: Prof. E. H. Henrikson.

LANGUAGE, LITERATURE, AND ART

ART

1957. GEBHARD, DAVID STANLEY. B.A. cum laude '49, M.A. '51, University of Minnesota.
Major: Art. Minor: History.
Thesis: William Gray Purcell and George Grant Elmalie and the Early Progressive Movement in American Architecture from 1900 to 1920.
Major Adviser: Prof. D. T. Tselos.
1957. THOMPSON, JAMES ROBERT. B.A. '47, M.A. '51, University of Minnesota.
Major: Art. Minor: Speech and Theater Arts.
Thesis: Twentieth Century Scene Design: Its History and Stylistic Origins.
Major Adviser: Prof. D. T. Tselos.
1960. NELSON, MARION JOHN. B.A. '47, M.A. '50, University of Minnesota.
Major: Art. Minor: Area Studies: Scandinavian.
Thesis: The Fresco Brothers of Norway and Norwegian Mural Painting from 1918 to 1950: A Study in the Development of a Stylistic Tradition.
Major Adviser: Prof. D. T. Tselos.
1961. PETERSON, FREDERICK WILLIAM. B.A. magna cum laude '54, St. Olaf College; B.Th. '57, Luther Theological Seminary.
Major: Art History. Minor: Philosophy.
Thesis: Primitivism in Modern American Art.
Major Adviser: Prof. D. T. Tselos.
1964. SMITH, JOAN VAN RENSSELAER. B.A. '50, Montana State University.
Major: Art. Minor: History.
Thesis: Nicolas Largilliere: A Painter of the Règence.
Major Adviser: Prof. H. A. Thomas.
1965. FORSYTH, ROBERT JOSEPH. B.A. '43, M.A. '47, University of Oregon.
Major: Art. Minor: History.
Thesis: John B. Flannagan: His Life and Works.
Major Adviser: Prof. D. T. Tselos.

COMPARATIVE LITERATURE

1958. MADSEN, BORGE GEDSO. Graduate '48, University of Copenhagen.
Major: Comparative Literature. Minor: Scandinavian.
Thesis: The Impact of French Naturalists and Psychologists on August Strindberg's Plays of the 1880's and Early 1890's.
Major Adviser: Prof. Alrik Gustafson.
1959. SAVAGE, EDWARD BERNHARD. B.A. '48, Hamline University; M.A. '53, University of Minnesota.
Major: Comparative Literature. Minor: English.
Thesis: Dramatic Treatments of the Tristan and Isolt Tale--A Comparative Study.
Major Adviser: Prof. E. H. Falk.

1964. ELLINGSTON, DENNA STEINGERDUR. B.A. '49, Barnard College.
Major: Comparative Literature. Minor: French.
Thesis: The Atreidae: A Study of the Reinterpretation of the Myths
by Racine, Goethe, Hofmannsthal, and Giraudoux.
Major Adviser: Prof. J. D. Hurrell.
1964. FORT, KEITH. B.S. optime merens '55, University of the South;
M.A. '61, University of Minnesota.
Major: Comparative Literature. Minor: English.
Thesis: Beyond Despair: A Comparative Study of Four Novels.
Major Adviser: Prof. J. D. Hurrell.
1965. DASGUPTA, PRANABENDU. B.A. (honors) '56, University of Calcutta;
M.A. '58, Jadavpur University (India); M.A. '62, University of
North Carolina.
Major: Comparative Literature. Minor: English.
Thesis: The "Subjective" Tradition: A Comparative Analysis of the
Dramatic Motives in the Plays of W. B. Yeats and Rabindranath
Tagore.
Major Adviser: Prof. J. D. Hurrell.

ENGLISH

1956. BRITZ, JOHN PETER. B.A. '39, M.A. '40, University of Chicago;
M.Ed. '42, Chicago Teachers College; M.A. '50, University of
Minnesota.
Major: English. Minor: French.
Thesis: French Criticism of George Eliot's Novels.
Major Adviser: Prof. J. T. Hillhouse.
1956. HURT, LESTER EWING. B.A. '48, University of Louisville; M.A.
'49, Brown University.
Major: English. Minor: Political Science.
Thesis: A House Divided: A Study of Theme in Thomas Wolfe's Novels.
Major Adviser: Prof. Bernard Bowron.
1956. LIVINGSTON, RAY FREDERIC. B.S. '38, M.A. '46, University of
Minnesota.
Major: English. Minor: Philosophy.
Thesis: Ananda K. Coomaraswamy's Theory of Literature.
Major Adviser: Prof. W. V. O'Connor.
1956. MCDAVID, VIRGINIA GLENN. B.A. summa cum laude '46, M.A. '48,
University of Minnesota.
Major: English. Minor: Linguistics.
Thesis: Verb Forms of the North Central States and Upper Midwest.
Major Adviser: Prof. H. B. Allen.
1956. RAMSEY, PAUL, JR. B.A. '47, M.A. '49, University of North
Carolina.
Major: English. Minor: French.
Thesis: The Image of Nature in John Dryden.
Major Adviser: Prof. S. H. Monk.

1956. SWARDSON, HAROLD ROLAND, JR. B.A. '47, M.A. '48, Tulane University.
Major: English. Minor: Philosophy.
Thesis: A Study of the Tension between Christian and Classical Traditions in Seventeenth-Century Poetry.
Major Adviser: Prof. L. H. Unger.
1956. THOMPSON, MARVIN ORVILLE. B.A. cum laude '49, Macalester College; M.A. '52, University of Minnesota.
Major: English. Minor: Music.
Thesis: Uses of Music and Reflections of Current Theories of the Psychology of Music in the Plays of Shakespeare, Jonson, and Beaumont and Fletcher.
Major Adviser: Prof. Huntington Brown.
1956. VANDERBILT, ROLFE KERMIT. B.A. '47, Luther College; M.A. '49, University of Minnesota.
Major: English. Minor: History.
Thesis: Democracy and Culture: The Ideas and Work of Charles Eliot Norton.
Major Adviser: Prof. Leo Marx.
1957. BROEKER, HARRIET DURKEE. B.A. '50, University of Wyoming; M.A. with honors '52, University of Oregon.
Major: English. Minor: History.
Thesis: The Influence of Othello in Jacobean and Caroline Drama.
Major Adviser: Prof. Huntington Brown.
1957. LOSO, MARY JANE. B.A. '40, College of St. Benedict; M.A. '47, University of Minnesota.
Major: English. Minor: History.
Thesis: John Addington Symonds: Nineteenth-Century Historian of the Italian Renaissance.
Major Adviser: Prof. G. R. Stange.
1957. MARKELS, JULIAN. Graduate '49, University of Chicago; M.A. '52, University of Minnesota.
Major: English. Minor: History.
Thesis: The Public and Private Worlds of Shakespeare's Roman Plays.
Major Adviser: Prof. L. H. Unger.
1957. MORRIS, HARRY CAESAR. B.A. '49, M.A. '50, University of Miami.
Major: English. Minor: Art.
Thesis: Nineteenth and Twentieth Century Criticism of Shakespeare's Problem Comedies.
Major Adviser: Prof. W. V. O'Connor.
1957. RANDALL, JOHN HERMAN, III. B.A. with honors '43, Columbia University; M.A. '50, University of California.
Major: English. Minor: Political Science.
Thesis: Willa Cather's Search for Value: A Critical and Historical Study of Her Fiction.
Major Adviser: Prof. Bernard Bowron.
1957. RATHBURN, ROBERT CHARLES. B.A. with distinction '41, M.A. '42, Northwestern University.
Major: English. Minor: French.
Thesis: Dickens' Periodical Essays and Their Relationships to the Novels.
Major Adviser: Prof. W. V. O'Conner.

1957. RYAN, MARJORIE. B.A. with distinction '50, M.A. '50, University of Michigan.
Major: English. Minor: Philosophy.
Thesis: The Tom Jones Hero in Plays and Novels, 1750-1800: A Study of Fielding's Influence.
Major Adviser: Prof. L. H. Unger.
1957. STICKNEY, RUTH FRANCES. B.S. '45, M.A. '47, University of Houston.
Major: English. Minor: Philosophy.
Thesis: Formal Verse Satire from Lodge to Jonson, with Particular Reference to the Imitation of Classical Models.
Major Adviser: Prof. Huntington Brown.
1958. CHAMETZKY, JULIUS. B.S. cum laude '50, Brooklyn College; M.A. '52, University of Minnesota.
Major: English. Minor: Political Science.
Thesis: Reason and Desire in the Plays of John Marston.
Major Adviser: Prof. W. V. O'Conner.
1958. GOLDBERG, GERALD JAY. B.S. '52, Purdue University; M.A. '55, New York University.
Major: English. Minor: Art.
Thesis: The Artist as Hero in British Fiction, 1890 to 1930.
Major Adviser: Prof. W. V. O'Conner.
1958. HOGAN, DONALD JOSEPH. B.A. '49, Queens College at New York; M.A. '51, University of Minnesota.
Major: English. Minor: History.
Thesis: Structural Design in Thomas Hardy's Poetry.
Major Adviser: Prof. Allen Tate.
1958. HONG, THEODORE NORMAN. B.A. cum laude '40, St. Olaf College.
Major: English. Minor: History.
Thesis: Cardinal Newman as a Literary Critic.
Major Adviser: Prof. W. V. O'Conner.
1958. MCALISTER, FLOYD LAVERN. B.S. '48, M.A. '54, University of Arkansas.
Major: English. Minor: History.
Thesis: A Survey of Twentieth-Century Milton Scholarship with Particular Attention to Controversies.
Major Adviser: Prof. Huntington Brown.
1958. MCDONNELL, ROBERT FRANCIS. B.A. cum laude '51, St. John's University at Collegeville; M.A. '54, University of Minnesota.
Major: English. Minor: Linguistics.
Thesis: The "Aspiring Minds": A Study of Shakespearean Characters Who Aspire to Political Sovereignty, against the Background of Literary and Dramatic Tradition.
Major Adviser: Prof. Huntington Brown.
1958. PREUS, OVE JACOB HJORT. B.A. '48, Luther College; M.A. '54, University of Minnesota.
Major: English. Minor: History.
Thesis: Anne Thackeray Ritchie and the Victorian Literary Aristocracy.
Major Adviser: Prof. W. V. O'Conner.

1958. ROBERTS, THOMAS JOHN. B.A. '48, M.A. '52, University of Minnesota.
Major: English. Minor: Art.
Thesis: The Reputation of Arnold Bennett over a Half Century.
Major Adviser: Prof. W. V. O'Conner.
1958. VANE, GEORGE THOMAS. M.A. '48, University of Chicago.
Major: English. Minor: History.
Thesis: The Father-Figure in Eighteenth Century English Comedy.
Major Adviser: Prof. R. E. Moore.
1958. WHITE, HOWARD HAMILTON. B.A. '37, Boston University; M.A. '45, Oklahoma Agricultural and Mechanical College.
Major: English. Minor: History.
Thesis: The Image of Society in the Novels of William Dean Howells.
Major Adviser: Prof. Theodore Hornberger.
1959. GOLDMAN, MORRIS IRVING. B.A. '49, Syracuse University; M.A. '52, University of Minnesota.
Major: English. Minor: Art.
Thesis: Virginia Woolf and the Art of Criticism.
Major Adviser: Prof. W. V. O'Conner.
1959. GOLLIN, RICHARD M. B.A. '49, Queens College (New York); M.A. '51, University of Minnesota.
Major: English. Minor: History.
Thesis: Arthur Hugh Clough's Formative Years: 1819-1841.
Major Adviser: Prof. G. R. Stange.
1959. HALEWOOD, WILLIAM HARRISON. B.A. '53, University of Wichita; M.A. '55, University of Minnesota.
Major: English. Minor: Art.
Thesis: The Uses of the Term "Baroque" in Modern English Literary Criticism.
Major Adviser: Prof. S. H. Monk.
1959. LEVINE, GEORGE LEWIS. B.A. '52, New York University; M.A. '53, University of Minnesota.
Major: English. Minor: Philosophy.
Thesis: Determinism in the Novels of George Eliot.
Major Adviser: Prof. G. R. Stange.
1959. MALBONE, RAYMOND GATES. B.A. '50, University of Louisville; M.A. '51, University of Minnesota.
Major: English. Minor: Philosophy.
Thesis: George Gissing: Novelist.
Major Adviser: Prof. G. R. Stange.
1959. NELSON, HARLAND STANLEY. B.A. summa cum laude '49, Concordia College; M.A. '51, State College of Washington.
Major: English. Minor: History.
Thesis: Evangelicalism in the Novels of Charles Dickens.
Major Adviser: Prof. G. R. Stange.

1959. THORSLEV, PETER LARSEN, JR. B.A. summa cum laude '50, Dana College; M.A. '57, University of Minnesota.
Major: English. Minor: Philosophy.
Thesis: The Byronic Hero: Types and Prototypes.
Major Adviser: Prof. G. R. Stange.
1960. AARSLEFF, HANS C. B.A. '45, University of Copenhagen; M.A. '54, University of Minnesota.
Major: English. Minor: Linguistics.
Thesis: The Study of Language in England, 1780-1860.
Major Adviser: Prof. J. W. Clark.
1960. ESCHLIMAN, HERBERT RAY. B.A. cum laude '51, Dakota Wesleyan University; M.A. '55, University of South Dakota.
Major: English. Minor: History.
Thesis: Chekhov in the English Short Story.
Major Adviser: Prof. W. V. O'Conner.
1960. ROBERTS, EDGAR VERNE, JR. B.A. summa cum laude '51, M.A. '52, University of Minnesota.
Major: English. Minor: History.
Thesis: The Ballad Operas of Henry Fielding, 1730-1732: A Critical Edition (The Author's Farce, The Grub-Street Opera, The Lottery, The Mock Doctor).
Major Adviser: Prof. J. D. Hurrell.
1960. SCHWEGEL, DOUGLAS MARTIN. B.A. cum laude '50, Lake Forest College; M.A. '56, George Washington University.
Major: English. Minor: History.
Thesis: The Use of American Motifs by British Poets of the Romantic Period.
Major Advisers: Profs. F. J. Montgomery and G. R. Stange.
1960. VOIGT, MILTON ARTHUR. Ph.B. '48, University of Wisconsin; M.A. '50, University of California.
Major: English. Minor: Philosophy.
Thesis: Swift and the Twentieth Century: The Man and the Major Satires.
Major Adviser: Prof. S. H. Monk.
1961. BROWNE, THOMAS ARTHUR. B.A. '52, M.A. '57, University of Minnesota.
Major: English. Minor: Latin.
Thesis: Thomas Nashe and the Traditions of Plain-Speaking.
Major Adviser: Prof. Huntington Brown.
1961. CODY, RICHARD JOHN. B.A. '52, University of London; M.A. '58, University of Minnesota.
Major: English. Minor: French.
Thesis: The Pastoral Element in Shakespeare's Early Comedies.
Major Adviser: Prof. Huntington Brown.
1961. ERICKSON, JAMES PAUL. B.A. magna cum laude '55, M.A. '57, University of Minnesota.
Major: English. Minor: Art History.
Thesis: The Novels of Eliza Haywood.
Major Adviser: Prof. Martin Steinmann, Jr.

1961. FEHNER, RICHARD EDWIN. B.S. '49, University of Minnesota; M.A. '53, University of California (Berkeley).
Major: English. Minor: History.
Thesis: Izzak Walton's Life of Sir Henry Wotton, 1651, 1654, 1670, 1672, 1675: A Study of Sources, Revisions, and Chronology.
Major Adviser: Prof. L. H. Unger.
1961. FOULKE, ROBERT DANA. B.A. with high honors '52, Princeton University; M.A. '57, University of Minnesota.
Major: English. Minor: Philosophy.
Thesis: Conrad's Sea World: The Voyage Fiction and the British Merchant Service, 1875-1895.
Major Adviser: Prof. W. V. O'Conner.
1961. FRASER, JOHN. B.A. '53, M.A. '55, University of Oxford.
Major: English. Minor: Philosophy.
Thesis: George Sturt ("George Bourne") and Rural Laboring Life.
Major Adviser: Prof. W. V. O'Conner.
1961. GOLLIN, RITA KAPLAN. B.A. magna cum laude '49, Queens College (N.Y.); M.A. '50, University of Minnesota.
Major: English. Minor: Art.
Thesis: Dream and Reverie in the Writings of Nathaniel Hawthorne.
Major Adviser: Prof. C. H. Foster.
1961. KENNEDY, JAMES GETTIER. B.A. summa cum laude '54, Kenyon College; M.A. '55, University of Minnesota.
Major: English. Minor: History.
Thesis: Literary Convention and the Realistic Novels of Arnold Bennett.
Major Adviser: Prof. W. V. O'Conner.
1961. SHEA, FRANCIS XAVIER. B.A. '49, M.A. '50, Boston College.
Major: English. Minor: Philosophy.
Thesis: The Text of Our Mutual Friend: A Study of the Variations between the Copy Text and the First Printed Edition.
Major Adviser: Prof. G. R. Stange.
1962. DILLE, ROLAND PAUL. B.A. summa cum laude '49, University of Minnesota.
Major: English. Minor: Art.
Thesis: David Garnett and the Bloomsbury Group.
Major Adviser: Prof. L. H. Unger.
1962. LEE, ROBERT FRANCIS. B.A. '43, M.A. '53, Vanderbilt University.
Major: English. Minor: History.
Thesis: Conrad's Colonialism.
Major Adviser: Prof. Allen Tate.
1962. PETERSON, CLELL THOMPSON. B.A. cum laude '49, M.A. '51, University of Minnesota.
Major: English. Minor: History.
Thesis: Romance and Realism in the Waverley Novels.
Major Adviser: Prof. Martin Steinmann, Jr.

1962. PETERSON, LELAND DOUGLAS. B.A. cum laude '54, M.A. '56,
University of Minnesota.
Major: English. Minor: History.
Thesis: The Satiric Norm of Jonathan Swift.
Major Adviser: Prof. S. H. Monk.
1963. ALEXANDER, EDWARD. B.A. with honors '57, Columbia University;
M.A. '59, University of Minnesota.
Major: English. Minor: French.
Thesis: Matthew Arnold and John Stuart Mill.
Major Adviser: Prof. J. C. Levenson.
1963. BOERSCH, ALFRED H. B.A. '48, University of Kansas City; M.A.
'50, University of Minnesota.
Major: English. Minor: Philosophy.
Thesis: The Sense of Beauty, The Idea of Beauty, and The Beauty of Nature, Theories of Beauty in England, 1700-1760.
Major Adviser: Prof. S. H. Monk.
1963. BREDESON, ROBERT C. B.A. with honors '51, Grinnell College;
M.A. '52, University of Minnesota.
Major: English. Minor: History.
Thesis: Mark Twain's Landscapes: A Study in Changing Literary Conventions.
Major Advisers: Profs. Bernard Bowron and J. C. Levenson.
1963. HARTLEY, JESS DYSON, JR. B.S. in Educ. '42, Indiana State Teachers College; M.A. '48, University of Houston.
Major: English. Minor: History.
Thesis: A Study of the Imagery in Edmund Spenser's The Faerie Queene.
Major Adviser: Prof. Huntington Brown.
1963. JONES, DAVID EDWARDS. B.A. '49, M.A. '53, University College of South Wales.
Major: English. Minor: Classics.
Thesis: Shakespeare's Apprenticeship in Comedy.
Major Adviser: Prof. Huntington Brown.
1963. KURAK, ALEX. B.S. '50, M.A. '53, University of Minnesota.
Major: English. Minor: Philosophy.
Thesis: Imitation, Burlesque Poetry, and Parody: A Study of Some Augustan Critical Distinctions.
Major Adviser: Prof. S. H. Monk.
1963. OMANS, GLEN ALLAN. B.A. with honors '51, Michigan State University; M.A. '52, University of Michigan.
Major: English. Minor: French.
Thesis: Medieval French Poetic Forms in Victorian Poetry.
Major Advisers: Profs. Franz Montgomery and G. R. Stange.
1963. PATI, PRAFULLA KUMAR. B.A. '42, M.A. '44, Patna University (India); M.A. '62, University of Minnesota.
Major: English. Minor: Scandinavian.
Thesis: Jane Austen: Her Relationship to the Romantic and the Realistic Traditions of English Fiction.
Major Adviser: Prof. Martin Steinmann, Jr.

1963. PETERSON, RICHARD GUSTAF. B.A. summa cum laude '56, University of Minnesota; M.A. '58, Northwestern University.
Major: English. Minor: Latin.
Thesis: The Roman Image in English Literature from 1660 to 1700.
Major Adviser: Prof. S. H. Monk.
1963. SIMSON, GEORGE KUPPLER. B.A. '52, Whitman College; M.A. '57, Washington State University.
Major: English. Minor: Philosophy.
Thesis: Lytton Strachey's Use of His Sources in Eminent Victorians.
Major Adviser: Prof. J. D. Hurrell.
1963. VELZ, JOHN WILLIAM. B.A. with high distinction '53, M.A. '54, University of Michigan.
Major: English. Minor: Greek.
Thesis: Shakespeare and the Classical Tradition; A Reference Guide to Published Commentary in English, 1660-1960.
Major Adviser: Prof. Huntington Brown.
1964. ANDERSON, HOWARD PETER. B.B.A. with distinction '55, M.A. '60, University of Minnesota.
Major: English. Minor: French.
Thesis: Tristram Shandy: A History of the Human Mind.
Major Advisers: Profs. S. H. Monk and Franz Montgomery.
1964. BRESLIN, JAMES EDWARD. B.A. Brooklyn College; M.A. '59, University of North Carolina.
Major: English. Minor: Philosophy.
Thesis: The Poetry of Celebrating: William Carlos Williams and Walt Whitman.
Major Adviser: Prof. J. C. Levenson.
1964. COLLINS, ARTHUR NETHAWAY. B.A. magna cum laude '48, New York State College for Teachers; M.A. '51, University of Minnesota.
Major: English. Minor: Philosophy.
Thesis: Images of the Hero: Meredith and His Biographers, 1909-1959.
Major Adviser: Prof. G. R. Stange.
1964. CONNERS, JOSEPH BENEDICT. B.A. summa cum laude '37, College of St. Thomas; M.A. '47, University of Minnesota.
Major: English. Minor: History.
Thesis: The Victorian Reappraisal of the Eighteenth Century.
Major Adviser: Prof. S. H. Monk.
1964. FISKIN, ABRAM M. I. B.A. '36, University of Manitoba; M.A. '41, University of Minnesota.
Major: English. Minor: Linguistics and Comparative Philology.
Thesis: Eugene O'Neill: The Study of a Developing Creed through the Medium of Drama.
Major Adviser: Prof. J. D. Hurrell.
1964. GIBSON, WILLIAM ARTHUR. B.A. '55, M.A. '59, University of Minnesota.
Major: English. Minor: Art.
Thesis: A Preface to the Study of the Relations of Literature and Architecture, 1650-1750.
Major Adviser: Prof. S. H. Monk.

1964. HUEBNER, WAYNE VINCENT. B.A. cum laude '50, M.A. '52, University of Minnesota.
Major: English. Minor: French.
Thesis: Convention and Innovation in the Satirical Treatment of Women by the Major Satirists of the Early Eighteenth Century.
Major Adviser: Prof. S. H. Monk.
1964. KELLER, KARL. B.A. with honors '58, M.A. '59, University of Utah.
Major: English. Minor: German
Thesis: The Metaphysical Strain in Nineteenth-Century American Poetry.
Major Adviser: Prof. C. H. Foster.
1964. MACINNES, MARGARET JOYCE. B.A. summa cum laude '51, M.A. '53, University of Minnesota.
Major: English. Minor: Art.
Thesis: Color Imagery in the Landscapes of the Faerie Queene: An Aspect of the Renaissance Visual Imagination.
Major Adviser: Prof. Huntington Brown.
1964. SCHNEIDER, MARY BELL WILLIS. B.A. with high distinction '49, M.A. '52, State University of Iowa.
Major: English. Minor: Classics.
Thesis: The Classical Poetry of Matthew Arnold.
Major Adviser: Prof. G. R. Stange.
1964. WEBER, ROBERT HICKMAN. B.A. '37, M.A. '40, University of Nebraska.
Major: English. Minor: Linguistics and Comparative Philology.
Thesis: A Comparative Study of Regional Terms Common to the Twin Cities and the Eastern United States.
Major Adviser: Prof. H. B. Allen.
1965. BROWN, CAROLE OKUN. B.A. summa cum laude '56, M.A. '61, University of Minnesota.
Major: English. Minor: Philosophy.
Thesis: The Literary Career of Parson Yorick: A Study of Laurence Sterne's The Sermons of Mr. Yorick and A Sentimental Journey.
Major Adviser: Prof. R. E. Moore.
1965. DAVES, CHARLES WARNER. B.A. '52, Cornell University; M.A. '53, University of Pennsylvania.
Major: English. Minor: History.
Thesis: An Annotated Edition of the Characters of Samuel Butler (1612-1680) with Textual, Critical and Historical Introduction.
Major Adviser: Prof. J. D. Hurrell.
1965. DUNN, JOHN JOSEPH. B.A. summa cum laude '53, St. John's University; M.A. '56, University of Minnesota.
Major: English. Minor: Philosophy.
Thesis: Nature and Love Imagery in the Poetry of Coventry Patmore.
Major Adviser: Prof. G. R. Stange.
1965. GURTOFF, STANLEY ARTHUR. B.A. '57, Queens College; M.A. with honors '58, Columbia University.
Major: English. Minor: Art.
Thesis: The Impact of D. H. Lawrence on His Contemporaries.
Major Adviser: Prof. L. H. Unger.

1965. HUSAIN, YUSUF JAMAL. B.A. (honors) '44, M.A. '47, Calcutta University (India); M.A. '53, University of Minnesota.
Major: English. Minor: Art.
Thesis: Edith Sitwell in the Symbolist Tradition.
Major Adviser: Prof. Allen Tate.
1965. MAYS, MILTON ANDREW. B.A. '50, Tulane University; M.A. '57, University of London.
Major: English. Minor: Art.
Thesis: Uptown and Downtown in Henry James's America: Secularity in the Business-Society.
Major Adviser: Prof. Bernard Bowron.
1965. MEINKE, JAMES PETER. B.A. '55, Hamilton College; M.A. '61, University of Michigan.
Major: English. Minor: Art.
Thesis: The Writings of Howard Nemerov.
Major Advisers: Profs. C. H. Foster and S. H. Youngblood.
1965. SMITH, DENZELL STEWART. B.A. '50, M.A. '54, M.A. '58, University of Minnesota.
Major: English. Minor: Scandinavian.
Thesis: The Tragoedy of Cleopatra Queene of Aegypt by Thomas May (Written ca. 1626; First Edition 1639): A Critical Edition.
Major Adviser: Prof. Huntington Brown.
1965. WEBER, BURTON JASPER. B.A. '55, Washington University; M.A. '58, University of Minnesota.
Major: English. Minor: Latin.
Thesis: The Construction of Paradise Lost.
Major Adviser: Prof. L. H. Unger.
1966. BARKER, NICHOLAS PRESLEY. B.A. '59, Princeton University; M.A. '61, University of Minnesota.
Major: English. Minor: Latin.
Thesis: John Aubrey's Brief Lives: A Strange Rare Way of Conserving a Corps.
Major Adviser: Prof. G. W. O'Brien.
1966. JOSEPH, GERHARD JOSEPH. B.A. with high honors '53, M.A. '55, University of Connecticut.
Major: English. Minor: History.
Thesis: Tennysonian Love: A Strange Diagonal.
Major Adviser: Prof. G. R. Stange.
1966. MCGINNIS, PATRICK JOHN. B.A. '51, St. John's University (Minn.); M.A. '56, University of Minnesota.
Major: English. Minor: Art History.
Thesis: A Critical Edition of Sir Thomas Urquhart's Account of the Admirable Crichton with Introduction and Notes.
Major Adviser: Prof. J. D. Hurrell.
1966. RYLEY, ROBERT MICHAEL. B.A. '52, Colby College; M.A. '58, University of Massachusetts.
Major: English. Minor: Art.
Thesis: William Warburton as Critic and Editor of Pope.
Major Adviser: Prof. S. H. Monk.

FRENCH

1958. CARON, ALEXIS ADELBERT. B.A. '50, University of Massachusetts; M.A. '52, University of Minnesota.
Major: French. Minor: Spanish.
Thesis: The Treatment and Evolution of the Jeune Fille as a Dramatic Character in the Contemporary French Drama (1918-1953) as Portrayed by Representative French Playwrights.
Major Adviser: Prof. Marthe Blinoff.
1959. CARDUNER, JEAN RENÉ. Graduate '49, University of Sorbonne; Graduate '50, University of Paris.
Major: French. Minor: Comparative Literature.
Thesis: La Creation Romanesque chez Malraux.
Major Adviser: Prof. E. H. Falk.
1960. EVANS, ARTHUR ROBERT, JR. B.A. '49, College of St. Thomas; M.A. '52, University of Chicago.
Major: French. Minor: Italian.
Thesis: The Literary Art of Eugene Fromentin: A Study in Style and Motif.
Major Adviser: Prof. Marthe Blinoff.
1960. JAEGER, PATRICIA JOANNE. B.A. magna cum laude '53, M.A. '56, University of Minnesota.
Major: French. Minor: Spanish.
Thesis: The Uneasy Mask in Contemporary French Theater.
Major Adviser: Prof. Marthe Blinoff.
1961. PULLEYN, JOHN WILLIAM, JR. B.A. '46, M.A. '50, University of Minnesota.
Major: French. Minor: Linguistics.
Thesis: The Political Ideas of Flaubert.
Major Adviser: Prof. E. H. Falk.
1964. ERICKSON, JOHN DAVID. B.A. magna cum laude '58, M.A. '61, University of Minnesota; M.A. '59, Harvard University.
Major: French. Minor: English.
Thesis: The Illusion of Reality in the Novels of Francois Mauriac.
Major Adviser: Prof. Aram Vartanian.
1964. PALLISTER, JANIS LOUISE. B.A. cum laude '46, M.A. '48, University of Minnesota.
Major: French. Minor: English.
Thesis: The World View of Beroalde De Verville Expressed through Satirical Baroque Style in Le Moyen de Parvenir.
Major Adviser: Prof. A. A. Renaud.
1965. COFFLAND, MARY ANN BIETER. B.A. '52, College of St. Catherine; M.A. '57, University of Minnesota.
Major: French. Minor: Italian.
Thesis: The Interpenetration of Man and Nature in the Peasant Novels of Jean Giono.
Major Adviser: Prof. A. A. Renaud.

1956. TRENDOTA, KRISTINA EUGENIA. B.A. '49, University of Heidelberg; M.A. '52, University of Buffalo.
Major: German. Minor: Linguistics.
Thesis: Das Löwenleitmotiv in Ricarda Huchs Lebeswerk.
Major Adviser: Prof. F. H. Wood.
1959. KRÜGEL, FRED AUGUST. B.A. with highest honors '51, Albion College; M.A. '54, University of Minnesota.
Major: German. Minor: Spanish.
Thesis: Suffering and the Sacrificial Ethos in the Dramatic Works of Franz Werfel.
Major Adviser: Prof. F. H. Wood.
1963. SOMMER, HERBERT WILHELM. B.D. '54, Colgate-Rochester Divinity School; M.A. '57, University of Minnesota.
Major: German. Minors: Linguistics and Comparative Philology and Philosophy.
Thesis: Das Verhältnis Zwischen Gott Und Mensch Im Romanwerk Ernst Wiecherts.
Major Adviser: Prof. F. H. Wood.
1964. FRIEDRICHSMEYER, ERHARD MARTIN. B.A. cum laude '58, Lakeland College; M.A. '59, University of Wisconsin.
Major: German. Minor: Linguistics and Comparative Philology.
Thesis: Erwartung Und Erinnerung in Den Werken Arthur Schnitzlers.
Major Adviser: Prof. Herman Ramras.
1965. RUPLIN, FERDINAND ALEXANDER. B.A. '56, M.A. '61, University of Minnesota.
Major: German. Minor: Linguistics and Comparative Philology.
Thesis: A Consideration of Humor in the Middle High German Courtly Epic with Special Emphasis on Gottfried's Tristan Und Isolde.
Major Adviser: Prof. Cecil Wood.
1966. ENDERSTEIN, CARL OTTO. B.A. '60, Marquette University; M.A. '62, University of Minnesota.
Major: German. Minor: Linguistics and Comparative Philology.
Thesis: Sozialkritik in Werken deutscher Nachkriegsautoren.
Major Adviser: Prof. F. D. Hirschbach.
1966. NELSON, DONALD FREDERICK. B.A. magna cum laude '53, M.A. '63, University of Minnesota.
Major: German. Minors: Linguistics and Comparative Philology and Philosophy.
Thesis: Stylistic Unity and Change in Thomas Mann's "Felix Krull"; A Study of Style as the Reflection of Perception and Attitude.
Major Adviser: Prof. Herman Ramras.

GREEK

1957. CLAY, DOROTHY MADSEN. B.A. cum laude '50, Macalester College; M.A. '52, University of Minnesota.
Major: Greek. Minor: Linguistics.
Thesis: A Formal Analysis of the Vocabularies of Aeschylus, Sophocles and Euripides.
Major Adviser: Prof. D. C. Swanson.

SPANISH

1958. FITE, SHIRLEY RUSSELL. B.A. '44, Vassar College; M.A. '46, Vanderbilt University.
Major: Spanish. Minor: History.
Thesis: The Literary Origins of "Realidad" by Benito Perez Galdos.
Major Adviser: Prof. R. L. Grismer.
1959. MACDONALD, MARY BESSE. B.A. magna cum laude '30, M.A. '31, University of Minnesota.
Major: Spanish. Minor: French.
Thesis: The Influence of Emile Zola in the Novels of Benito Perez Galdos Produced during the Years 1881-1885.
Major Adviser: Prof. W. T. Pattison.
1959. NARVÁEZ, RICHARD AUGUST. B.S.Ed. '43, Concordia Teachers College (Nebraska); M.A. '48, University of Minnesota.
Major: Spanish. Minor: Linguistics.
Thesis: A Descriptive Analysis of Word Formation in Old Spanish.
Major Advisers: Profs. D. C. Swanson and W. T. Pattison.
1961. LEWALD, HERALD ERNEST. B.A. magna cum laude '51, M.A. '55, University of Minnesota.
Major: Spanish. Minor: German.
Thesis: The Aristocrat in the Spanish Novel of the Naturalistic Period.
Major Adviser: Prof. W. T. Pattison.
1961. O'CONNOR, SISTER MARY LUCILDA. B.A. magna cum laude '40, Clarke College; M.A. '48, Loyola University.
Major: Spanish. Minor: German.
Thesis: The Romanticism of Ricardo León.
Major Adviser: Prof. W. T. Pattison.
1961. WINSLOW, RICHARD WALTER. B.A. '51, M.A. '54, University of Minnesota.
Major: Spanish. Minor: English.
Thesis: The Contribution of Pedro Antonia de Alarcón to the Development of the Short Story.
Major Adviser: Prof. W. T. Pattison.
1961. ZIOMEK, HENRYK. B.A. '55, Indiana State Teachers College; M.A. '56, Indiana University.
Major: Spanish. Minors: French and Latin.
Thesis: A Paleographic Edition of Lope de Vega's Autograph Play La Nueva Victoria de D. Gonzalo de Cordoua.
Major Adviser: Prof. R. L. Grismer.
1962. RUNDORFF, DORTHY EILEEN. B.S. '24, University of Wisconsin; M.A. '50, University of Minnesota.
Major: Spanish. Minor: French.
Thesis: D. Juan Valera and Currents of Nineteenth Century Thought Reflected in Las ilusiones del doctor Faustino.
Major Adviser: Prof. W. T. Pattison.
1962. VAZQUEZ, ANGEL MANUEL. Graduate '42, University of Cordoba; M.A. '55, University of Minnesota.
Major: Spanish. Minor: French.
Thesis: La Verdad Sicologica en Eduardo Barrios.
Major Adviser: Prof. W. T. Pattison.

1963. DUDLEY, EDWARD JOSEPH. B.A. cum laude '49, M.A. '51, University of Minnesota.
Major: Spanish. Minor: English.
Thesis: Structure and Meaning in the Novel of Juan Rodriguez: Siervo Libre De Amor.
Major Adviser: Prof. W. T. Pattison.
1963. ROONEY, SISTER ST. DOMINIC. B.A. '50, College of St. Catherine; M.A. '58, University of Minnesota.
Major: Spanish. Minor: Italian.
Thesis: Realism in the Original Comedies of Leandro Fernández de Moratín.
Major Adviser: Prof. W. T. Pattison.
1964. RICHARDS, HENRY JOSEPH. B.S. '59, M.A. '61, Marquette University.
Major: Spanish. Minor: Area Studies: Latin America.
Thesis: True and Perverted Idealism in the Works of Emilia Pardo Bazán.
Major Adviser: Prof. W. T. Pattison.
1965. BARTA, ROBERT JAMES. B.A. '60, M.A. '62, University of Minnesota.
Major: Spanish. Minor: Italian.
Thesis: The Traditional Peninsular Lyric as Reflected by Rosalia De Castro (Affinities of Subject and Form: Cantares Gallegos, Follas Novas).
Major Adviser: Prof. H. F. Williams.
1965. JONES, RUTH ELIZABETH. B.A. '45, M.A. '62, University of Minnesota.
Major: Spanish. Minor: Area Studies: Latin America.
Thesis: A Study of the Baroque Elements in the Persiles Y Sigismunda of Miguel DeCervantes Saavedra.
Major Adviser: Prof. Arturo Serrano-Plaja.
1965. MANTINI, LAWRENCE CHARLES. B.A. '49, M.A. '50, University of Minnesota.
Major: Spanish. Minor: Linguistics and Comparative Philology.
Thesis: Rumanian Word Formation.
Major Adviser: Prof. W. T. Pattison.
1965. PAOLINI, GILBERTO. B.A. '57, M.A. '59, University of Buffalo.
Major: Spanish. Minor: Italian.
Thesis: An Aspect of Spiritualistic Naturalism in the Novels of B. P. Galdos: Charity.
Major Adviser: Prof. W. T. Pattison.
1966. MORENO, ERNESTO ENRIQUE. Dr. in Ped. '45, University of Havana; M.A. '64, University of Minnesota.
Major: Spanish. Minors: History and Geography.
Thesis: Influencia de los Sainetes de don Ramon de la Cruz en las Primeras Obras de Benito Perez Galdos.
Major Adviser: Prof. W. T. Pattison.

SPEECH AND THEATRE ARTS

1956. BECKMAN, VERNON EARL. B.A. '36, Lawrence College; M.S. '49, University of Wisconsin.
Major: Speech. Minor: Education.
Thesis: An Investigation and Analysis of the Contributions to Critical Thinking Made by Courses in Argumentation and Discussion in Selected Colleges.
Major Adviser: Prof. W. S. Howell.
1956. OLSON, ESTHER JUDITH. B.S. with high distinction '45, M.A. '48, University of Minnesota.
Major: Speech. Minor: Scandinavian.
Thesis: An Analysis of the Nietzschean Elements in the Plays of Eugene O'Neill.
Major Adviser: Prof. D. W. Thompson.
1956. WELKER, DAVID HAROLD. B.A. '39, M.A. '43, University of Illinois.
Major: Speech. Minor: English.
Thesis: A Version and Production Plans for Plautus's Rudens.
Major Advisers: Profs. F. M. Whiting and N. J. DeWitt.
1957. CASHMAN, PAUL HARRISON. B.S.L. '48, M.A. '50, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Political Science.
Thesis: A Preliminary Study of the Evaluative Acts of Fundamentals of Speech Students.
Major Adviser: Prof. W. S. Howell.
1957. GREGORY, WILLIAM ALFRED, JR. B.S. '46, Central Michigan College of Education; M.A. '50, Michigan State College.
Major: Speech. Minor: English.
Thesis: A Rite-Role Analysis of Thirteen Ibsen Plays.
Major Adviser: Prof. D. W. Thompson.
1957. GROSSMAN, AUDLEY MITCHELL, JR. B.A. '47, M.A. '48, Wayne University.
Major: Speech and Theatre Arts. Minor: Art.
Thesis: The Professional Legitimate Theater in Minneapolis from 1890 to 1910.
Major Adviser: Prof. F. M. Whiting.
1957. ISSACSON, PAULINE HELEN. B.E. '32, River Falls State Teachers College; M.A. '42, University of Wisconsin
Major: Speech. Minor: History.
Thesis: Robert Alphonso Taft--An Assessment of a Persuader.
Major Adviser: Prof. W. S. Howell.
1957. MOULTON, ROBERT DARRELL. B.A. '47, M.A. '49, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Scandinavian.
Thesis: Choreography in Musical Comedy and Revue on the New York Stage from 1925 through 1950.
Major Advisers: Profs. F. M. Whiting and George Amberg.

1957. VEILLEUX, JERE SHANOR. B.S. '51, Northwestern University; M.A. '52, University of Minnesota.
Major: Speech. Minor: English.
Thesis: An Analysis of the Rhetorical Situation and Rhetorical Character Types in Selected Plays of George Bernard Shaw.
Major Adviser: Prof. D. W. Thompson.
1958. BENSON, PHILIP ANDREW. B.A. '51, Augustana College at Rock Island; Diplôme '53, University of Paris.
Major: Speech. Minor: French.
Thesis: The Dramaturgy of Jean Anouilh.
Major Advisers: Profs. F. M. Whiting and Marthe Blinoff.
1958. DAVIS, JED HORACE, JR. B.A. '47, M.A. '49, University of Minnesota.
Major: Speech and Theatre Arts. Minor: English.
Thesis: The Art of Scenic Design and Staging for Children's Theater.
Major Adviser: Prof. K. L. Graham.
1958. HERBOLD, PAUL EZRA. B.A. '51, Western Washington College of Education; M.A. '53, University of Washington.
Major: Speech. Minor: Journalism.
Thesis: The Effects of Present Audience Reactions on Remote Audiences in Political Persuasion.
Major Adviser: Prof. W. S. Howell.
1958. MCGRAW, WILLIAM RALPH, JR. B.A. '52, College of Wooster; M.A. '53, Ohio State University.
Major: Speech and Theatre Arts. Minor: English.
Thesis: The Theatricality of James M. Barrie: An Analysis of His Plays to Determine the Source of Their Effectiveness in the Theater.
Major Advisers: Profs. F. M. Whiting and R. E. Moore.
1958. QUAYLE, CALVIN KING. B.S. '50, M.S. '54, Utah State Agricultural College.
Major: Speech and Theatre Arts. Minor: English.
Thesis: Humor in Tragedy.
Major Advisers: Profs. F. M. Whiting and J. D. Hurrell.
1958. SIMONSON, WALTER ERNST. B.S. '54, M.A. '56, University of Minnesota.
Major: Speech. Minor: Economics.
Thesis: A Preliminary Experimental Study of the Effect of Speech Assignments on the Speech Fear Reported by Students in Beginning Speech Classes.
Major Adviser: Prof. W. S. Howell.
1959. ANDERSON, RAYMOND EUGENE. B.S. cum laude '46, M.A. '50, University of Minnesota.
Major: Speech. Minor: Psychology.
Thesis: Kierkegaard's Theory of Communication.
Major Adviser: Prof. D. K. Smith.

1959. CARSON, HERBERT L. B.A. '53, University of Pittsburgh; M.A. '55, Columbia University.
Major: Speech and Theatre Arts. Minor: English.
Thesis: Modern Tragedy and Its Origins in Domestic Tragedy: A Study of Selected English and American Domestic Tragedies from Elizabethan to Modern Times.
Major Adviser: Prof. F. M. Whiting.
1959. HAUGEN, RALPH H. B.A. cum laude '48, Pacific Lutheran College; M.A. '49, Northwestern University.
Major: Speech and Theatre Arts. Minor: Scandinavian.
Thesis: American Drama Critics' Reactions to Productions of August Strindberg.
Major Adviser: Prof. K. L. Graham.
1959. JENSEN, JOHN VERNON. B.A. '47, Augsburg College; M.A. '48, University of Minnesota.
Major: Speech. Minor: History.
Thesis: The Rhetoric of Thomas H. Huxley and Robert G. Ingersoll in Relation to the Conflict between Science and Theology.
Major Adviser: Prof. D. K. Smith.
1959. SHAPIRO, MAUDE SHIRLEY. B.A. '35, University of Western Ontario; Graduate '37, University of Toronto.
Major: Speech. Minor: Journalism.
Thesis: A Rhetorical Critical Analysis of Lecturing of Maria Louise Sanford.
Major Adviser: Prof. W. S. Howell.
1959. WOLFARTH, DONALD LLOYD. B.A. cum laude '50, Hamline University; M.A. '53, University of Minnesota.
Major: Speech. Minor: History.
Thesis: The Inaugural Addresses of the Presidents of the United States: A Content Analysis.
Major Adviser: Prof. W. S. Howell.
1960. BARER, BERTRAM. B.S. cum laude '51, Syracuse University; M.A. '57, University of Minnesota.
Major: Speech and Theatre Arts. Minor: English.
Thesis: A Rhetorical Analysis of the American Presentational Social Theater of the Thirties.
Major Advisers: Profs. D. W. Thompson and R. L. Scott.
1960. BERGMAN, LUCY MAE ERICKSON. B.S. '34, M.S. '35, Kansas State Teachers College (Pittsburg).
Major: Speech and Theatre Arts. Minor: Education.
Thesis: A Study of the Relationship between Selected Language Variables in Extemporaneous Speech and Critical Thinking Ability.
Major Adviser: Prof. D. K. Smith.
1960. PACKER, RODDY EARLE. B.A. '53, Yale University; M.A. '56, Southern Methodist University.
Major: Speech. Minors: Journalism and Education.
Thesis: An Analysis of the Degree of Integration of Existing Educational Television Stations with Their Particular Communities.
Major Adviser: Prof. A. H. Ballet.

1960. SCHINSKE, ERHART ALFRED. B.A. '40, Hamline University; M.A. '53, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Education.
Thesis: An Experimental Study of the Relationship between Political Frame of Reference, Critical Thinking Ability, and Confidence as a Speaker in Recall and Rationalization by Listeners.
Major Adviser: Prof. D. K. Smith.
1960. SHAPIRO, GEORGE L. B.S. '53, University of Wisconsin; M.A. '57, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Educational Psychology.
Thesis: An Inductive Investigation into the Correlates of Ability to Predict Opinion.
Major Adviser: Prof. W. S. Howell.
1960. STURCKEN, FRANCIS WILLIAM. B.S. '51, College of Charleston; M.A. '55, Catholic University.
Major: Speech and Theatre Arts. Minor: English.
Thesis: An Historical Analysis of Live Network Television Drama from 1938 to 1958.
Major Adviser: Prof. A. H. Ballet.
1960. THOMPSON, ERNEST CLIFFORD, JR. B.A. '53, State University of Iowa; M.A. '55, State College of Washington.
Major: Speech. Minor: Psychology.
Thesis: An Experimental Investigation of the Relative Effectiveness of Organizational Structure in Oral Communication.
Major Adviser: Prof. W. S. Howell.
1961. ANDRUS, THOMAS OWEN. B.A. '40, M.A. '45, Louisiana State University.
Major: Speech and Theatre Arts. Minor: Sociology.
Thesis: A History of the Legitimate Theater in St. Paul, Minnesota, from 1918 to 1939.
Major Adviser: Prof. F. M. Whiting.
1961. BYSTROM, JOHN WARREN. B.A. '43, M.A. '48, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Political Science.
Thesis: Senator George Norris and the Muscle Shoals Struggle: A Study of Rhetoric in Legislative Combat.
Major Adviser: Prof. D. K. Smith.
1961. FREDRICKS, MARY VIRGINIA. B.S. '41, North Dakota Agricultural College; M.A. '55, University of Minnesota.
Major: Speech and Theatre Arts. Minor: English.
Thesis: An Approach to the Teaching of Oral Interpretation in Terms of Dramatic Action.
Major Adviser: Prof. D. W. Thompson.
1961. GILMORE, ROBERT KARL. B.S. '49, B.S. in Ed. '50, Southwest Missouri State College; M.A. '54, St. Louis University.
Major: Speech and Theatre Arts. Minors: German and Scandinavian.
Thesis: Theatrical Elements in Folk Entertainment in the Missouri Ozarks 1885-1910.
Major Adviser: Prof. K. L. Graham.

1961. MANFULL, HELEN AUNGST. B.A. magna cum laude '55, Western College for Women; M.A. '56, University of Minnesota.
Major: Speech and Theatre Arts. Minor: English.
Thesis: The New Realism (A Study of American Dramatic Realism from 1918-1929).
Major Adviser: Profs. F. M. Whiting and J. D. Hurrell.
1961. MANFULL, LOWELL LYNDON. B.A. '53, M.A. '55, University of Utah.
Major: Speech and Theatre Arts. Minor: English.
Thesis: Drama as Role-Playing: A Technique for Analysis.
Major Adviser: Prof. D. W. Thompson.
1961. PATEREK, JOSEPHINE DURKEE. B.S. '37, University of Wisconsin; M.A. '54, University of Minnesota.
Major: Speech and Theatre Arts. Minors: English and Scandinavian.
Thesis: A Survey of Costuming on the New York Commercial Stage: 1914-1934.
Major Adviser: Prof. K. L. Graham.
1961. STINNETT, RONALD FLOYD. B.S. magna cum laude '52, State University of New York; M.A. '56, University of Minnesota.
Major: Speech. Minor: Political Science.
Thesis: A Pentadic Approach to Rhetorical Criticism.
Major Adviser: Prof. D. K. Smith.
1961. WILLCOXON, JOHN WEIR, III. B.A. cum laude '52, Washington and Lee University; M.A. '57, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Latin.
Thesis: A Translation and Adaptation of Plautus' Amphitruo: with Introductory Essays, Analyzing the Plautine Text and Its Production and Tracing the Adaptations Made of the Play in French and English.
Major Advisers: Profs. F. M. Whiting and N. J. DeWitt.
1962. BENSON, FRANK THOMAS, JR. B.S. with honors '49, M.S. '52, University of Utah.
Major: Speech and Theatre Arts. Minor: Philosophy.
Thesis: A Comparative Analysis of George Campbell's Philosophy of Rhetoric.
Major Adviser: Prof. D. K. Smith.
1962. CONNOLLY, JAMES EVARTS. B.A. '58, M.A. '59, University of Minnesota.
Major: Speech and Theatre Arts. Minor: History.
Thesis: A Rhetorical Analysis of the News on the North American Service of Radio Moscow.
Major Adviser: Prof. W. S. Howell.
1962. HAZZARD, ROBERT TOMBAUGH. B.F.A. '54, Illinois Wesleyan University; M.A. '55, Michigan State College.
Major: Speech and Theatre Arts. Minor: English.
Thesis: The Development of Selected American Stage Directors from 1926 to 1960.
Major Adviser: Prof. K. L. Graham.

1962. HELSTIEN, MELVYN B. B.A. '47, University of Washington; M.F.A. '48, Yale University.
Major: Speech and Theatre Arts. Minors: Art and Scandinavian.
Thesis: A Preliminary Investigation of Some Aspects of the Environment for Children's Theater.
Major Adviser: Prof. K. L. Graham.
1962. LAMMERS, RAYMOND JOHN. B.A. cum laude '51, College of St. Thomas; M.A. '56, University of Minnesota.
Major: Speech and Theatre Arts. Minor: English.
Thesis: An Analysis of a Representative Sample of Plays Written and Used by the Chinese Communists for Propagandistic Purposes.
Major Adviser: Prof. K. L. Graham.
1962. MILLER, HAROLD ALLEN. B.A. '55, Northwestern College; M.A. '57, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Education.
Thesis: A Comparison of the Forms of Support Used in Contemporary American Protestant Pulpit Address with the Forms of Support Used in Other Contemporary American Public Address: A Content Analysis.
Major Adviser: Prof. W. S. Howell.
1962. PETELLE, JOHN LAWRENCE. B.S. in Ed. '59, University of Vermont and State Agricultural College; M.A. '60, University of Nebraska.
Major: Speech and Theatre Arts. Minor: Sociology.
Thesis: Speech and the English Gentleman in the 17th Century.
Major Adviser: Prof. D. K. Smith.
1962. SMITH, ROBERT GORDON. B.A. '51, Augsburg College; M.A. '53, Washington University.
Major: Speech and Theatre Arts. Minor: History.
Thesis: The Arguments over Abolition Petitions in the House of Representatives in December, 1835: A Toulmin Analysis.
Major Adviser: Prof. R. L. Scott.
1962. VON SZELISKI, JOHN JEROME. B.S. '56, M.S. '58, Purdue University.
Major: Speech and Theatre Arts. Minors: English and Scandinavian.
Thesis: Pessimism and the Tragic Vision: A Study of Tragedy in the Modern American Theatre.
Major Adviser: Prof. A. H. Ballet.
1963. BERG, DAVID MERLEN. B.A. '54, St. Olaf College; M.A. '62, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Education.
Thesis: A Descriptive Analysis of the Distribution and Duration of Themes Discussed by the Task-Oriented, Small Group.
Major Adviser: Prof. E. G. Bormann.
1963. CLINGER, MORRIS MARTIN. B.A. '32, M.A. '46, Brigham Young University.
Major: Speech and Theatre Arts. Minor: English.
Thesis: A History of Theater in Mormon Colleges and Universities.
Major Adviser: Prof. F. M. Whiting.

1963. DE CHAINE, FABER BENNETT. B.S. '52, University of Oregon; M.A. '53, Michigan State University.
Major: Speech and Theatre Arts. Minor: English.
Thesis: Colorado Mountain Theatre: A History of Theatrical Festivals at Central City, Colorado, from 1932 to 1960.
Major Adviser: Prof. F. M. Whiting.
1963. GEIER, JOHN GEORGE. B.A. cum laude '58, Northwestern College; M.A. '60, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Political Science.
Thesis: A Descriptive Analysis of an Interaction Pattern Resulting in Leadership Emergence in Leaderless Group Discussion.
Major Adviser: Prof. E. G. Bormann.
1964. AHART, JOHN CAMERON. B.A. magna cum laude '54, Marietta College; M.A. '55, University of Illinois.
Major: Speech and Theatre Arts. Minors: German and Scandinavian.
Thesis: An Investigation of the Spatial Relationship between the Actor and the Audience in Selected Productions of Okhlopkov, Reinhardt and Tyrone Guthrie.
Major Adviser: Prof. K. L. Graham.
1964. BART, LEONARD DAVID. B.A. '54, M.A. '61, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Journalism.
Thesis: An Investigation of the Relative Comprehensibility of Print and Broadcast News as Measured by Cloze Procedure.
Major Adviser: Prof. E. W. Ziebarth.
1964. ENGLAND, THEORA COOPER. B.A. '25, Simpson College; M.A. '52, University of Minnesota.
Major: Speech and Theatre Arts. Minor: English.
Thesis: An Investigation of the Educational Theatre Programs in the Liberal Arts Colleges Sponsored by the Reformed Church in America.
Major Adviser: Prof. K. L. Graham.
1964. LEBLANC, JOHN CHARLES. B.A. with honors '58, M.A. '59, Emerson College.
Major: Speech and Theatre Arts. Minor: Education.
Thesis: An Investigation of the Use of Hypnosis as a Method for Improving Speech Confidence.
Major Adviser: Prof. R. W. Wendahl.
1964. MANLOVE, JOHN GAY. B.A. '55, Reed College; M.A. '60, De Pauw University.
Major: Speech and Theatre Arts. Minor: Music.
Thesis: The Dramaturgy of Shakespeare and Verdi: A Study of Form.
Major Adviser: Prof. K. L. Graham.
1964. OAKS, HAROLD RASMUS. B.A. '60, M.A. '62, Brigham Young University.
Major: Speech and Theatre Arts. Minor: Education.
Thesis: An Interpretative Study of the Effects of Some Upper Mid-West Productions of Uncle Tom's Cabin as Reflected in Local Newspapers between 1852 and 1860.
Major Adviser: Prof. A. H. Ballet.

1964. PARSON, DONALD WALTER. B.S. '60, University of Minnesota; M.A. '61, University of Wisconsin.
Major: Speech and Theatre Arts. Minor: History.
Thesis: The Rhetoric of Isolation: A Burkeian Analysis of the America First Committee.
Major Adviser: Prof. R. L. Scott.
1964. SALPER, DONALD ROY. B.A. '51, University of Minnesota; M.A. '52, Northwestern University.
Major: Speech and Theatre Arts. Minor: English.
Thesis: A Study of an Oral Approach to the Appreciation of Poetry.
Major Adviser: Prof. D. W. Thompson.
1965. BROWN, RONALD MICHAEL. B.A. cum laude '56, Gustavus Adolphus College; M.A. '58, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Journalism.
Thesis: An Experimental Investigation of the Relative Effectiveness of Three Methods of Utilizing the Personal Resources of the Beginning Speech Student.
Major Adviser: Prof. W. S. Howell.
1965. GREENAGEL, FRANK LOUIS. B.A. cum laude '61, M.A. '63, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Journalism.
Thesis: The Irony of Mark Twain: An Analysis of a Rhetorical Strategy.
Major Adviser: Prof. R. L. Scott.
1965. HESSELGRAVE, DAVID JOHN. B.A. cum laude '56, M.A. '56, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Supporting Program.
Thesis: A Propagation Profile of the Soka Gakkai.
Major Adviser: Prof. W. S. Howell.
1965. LEATHERS, DALE GORDON. B.A. cum laude '60, M.A. '63, University of Minnesota.
Major: Speech and Theatre Arts. Minor: History.
Thesis: A Descriptive Study of Revolutionary Reaction of the 1960's: The Rhetoric of Salvation.
Major Adviser: Prof. E. G. Bormann.
1965. PEPPERDINE, WARREN HOWARD. B.A. '55, M.A. '56, University of Minnesota.
Major: Speech and Theatre Arts. Minor: Music.
Thesis: On Lucha por la vida, The Struggle for Life in Three Plays of Miguel de Unamuno.
Major Adviser: Prof. K. L. Graham.
1965. ROSSI, ALFRED ANTHONY. B.S. '57, Loyola University; M.A. '60, University of Kansas.
Major: Speech and Theatre Arts. Minors: Art and English.
Thesis: A Critical Study of the Philosophy of Theatre and the Techniques of Stage Direction of Tyrone Guthrie.
Major Adviser: Prof. K. L. Graham.

1965. SEYMOUR, PAUL JOHN. B.A. '50, M.A. '56, University of Minnesota.
Major: Speech and Theatre Arts. Minors: Psychology and Journalism.
Thesis: A Study of the Relationships between the Communication Skills and a Selected Set of Predictors and of the Relationships among the Communication Skills.
Major Adviser: Prof. W. S. Howell.
1966. MARCHAND, WILLIAM MICHAEL. B.S. '54, Bemidji State College; M.A. '60, University of Minnesota.
Major: Speech and Theatre Arts. Minor: English.
Thesis: The Changing Role of the Medical Doctor in Selected Plays in American Drama.
Major Adviser: Prof. A. H. Ballet.
1966. SEIBEL, ROY WILLIAM. B.A. '43, Tabor College; M.A. with honors '47, Baylor University.
Major: Speech and Theatre Arts. Minor: Sociology.
Thesis: A Descriptive Study of the Physician's Use of Verbal Stimuli in Eliciting a Quantitative Response from the Patient in the Initial Medical Diagnostic Interview.
Major Adviser: Prof. E. G. Bormann.
1966. SNYDER, SHERWOOD, III. B.A. '57, Western Michigan University; M.S. '59, University of Oregon.
Major: Speech and Theatre Arts. Minor: Art.
Thesis: The Toby Shows.
Major Adviser: Prof. K. L. Graham.
1966. WILHELM, JEAN. B.A. '48, Smith College; M.A. '52, West Virginia University.
Major: Speech and Theatre Arts. Minors: English and Scandinavian.
Thesis: The Dual Plane of Content as Dramaturgic Technique.
Major Adviser: Prof. A. H. Ballet.

MEDICAL SCIENCES

ANATOMY

1958. HWANG, UNG-KEE. M.D. '50, Taegu Medical College.
Major: Anatomy. Minors: Physiological Chemistry and Physiology.
Thesis: Experimental Study of the Thyroid in the Fetal Rat.
Major Adviser: Prof. L. J. Wells
1959. BUCKMAN, MARY JANE. B.S. with distinction '40, M.S. '58,
University of Minnesota.
Major: Anatomy. Minor: Pathology.
Thesis: Studies on Embryonic and Fetal Hematopoiesis with Special
Reference to the Goat.
Major Adviser: Dr. R. D. Sundberg.
1959. FRIZ, CARL THEODORE. B.S. '51, M.S. '52, M.S. '53, University
of Illinois.
Major: Anatomy. Minor: Physiological Chemistry.
Thesis: Metabolic Studies on the Isolated Islet Tissue of the
Pancreas of Opsanus tau.
Major Adviser: Dr. Arnold Lazarow.
1959. KIM, JAE NAM. M.D. '53, Seoul National University.
Major: Anatomy. Minors: Physiology and Pathology.
Thesis: The Effects of Experimental Diabetes and Subdiabetes on the
Offspring of Rats.
Major Advisers: Profs. L. J. Wells and Arnold Lazarow.
1960. HEGGESTAD, CARL BLIXSETH. B.A. magna cum laude '52, M.D. '57,
University of Minnesota.
Major: Anatomy. Minor: Physiology.
Thesis: The Influence of Growth Hormone upon Fetal Development in
the Rat.
Major Adviser: Prof. L. J. Wells.
1961. GLOMSKI, CHESTER ANTHONY. B.S. '51, Detroit Institute of
Technology; M.S. '53, Wayne State University.
Major: Anatomy. Minor: Pathology.
Thesis: Macromolecular Splenomegaly in the Rat: A Histologic Study
with Special Reference to Tissue Iron Distribution in the Normal
and Iron Loaded Animal.
Major Adviser: Dr. R. D. Sundberg.
1962. ISAACSON, ROBERT JOHN. B.S. '54, D.D.S. '56, M.S. in Dent. '61,
University of Minnesota.
Major: Anatomy. Minor: Dentistry.
Thesis: An Investigation of Some of the Factors Involved in the
Closure of the Secondary Palate.
Major Adviser: Dr. Arnold Lazarow.
1962. LINDALL, ARNOLD WOLFRED, JR. B.A. magna cum laude '55, University
of Minnesota.
Major: Anatomy. Minor: Physiological Chemistry.
Thesis: The Pyridine Nucleotides: A Study of a Method of Measurement--
A Study of the Alterations in Rat Liver under the Conditions of
Diabetes and Starvation--A Preliminary Study of Various Marine
Fish Tissues with the Emphasis on the Islet of Langerhans.
Major Adviser: Dr. Arnold Lazarow.

1962. STALLARD, RICHARD ELGIN. B.S. '56, D.D.S. '58, M.S. in Dent. '59, University of Minnesota.
Major: Anatomy. Minor: Dentistry.
Thesis: The Periodontium: A Histomorphologic Study of the Supporting Structures of the Teeth.
Major Adviser: Dr. Arnold Lazarow.
1963. BAUER, GUSTAV ERIC. B.S. '57, Queens College; M.A. '59, Western Reserve University.
Major: Anatomy. Minor: Zoology.
Thesis: The in vitro Incorporation of C¹⁴- and H³-Labeled Amino Acids into the Proteins of Goosefish Islet Tissue.
Major Adviser: Dr. Arnold Lazarow.
1963. MORGAN, CARL ROBERT. B.A. with distinction '50, Wartburg College; M.A. '52, University of Nebraska.
Major: Anatomy. Minor: Physiological Chemistry.
Thesis: Studies with Insulin Antiserum: I. Immunoassay of Insulin Using a Two Antibody System; II. The in vitro Response to Insulin of Adipose Tissue from Rats Injected with Insulin Antiserum; III. The Changes in the Pancreatic Islet B-Cells of Rats Injected with Insulin Antiserum.
Major Adviser: Dr. Arnold Lazarow.
1963. SEALE, RAYMOND ULRIC. B.S. '56, Eastern New Mexico University; M.A. '58, Washington University.
Major: Anatomy. Minor: Zoology.
Thesis: An Evaluation of Chorio-Allantoic Grafting as a Technique in Skeletal Biology.
Major Adviser: Dr. W. J. L. Felts.
1963. TRAURIG, HAROLD H. B.S. '58, Mankato State College.
Major: Anatomy. Minor: Zoology.
Thesis: Autoradiographic Study of the Growth of the Mammary Gland in Castrated and Castrated-Hypophysectomized Mice.
Major Adviser: Dr. C. F. Morgan.
1964. MOREHEAD, JAMES ROBERT. B.A. '55, Grinnell College; M.A. '57, Williams College.
Major: Anatomy. Minor: Zoology.
Thesis: The Effects of Androgen on the Mammalian Testis Following the Cryptorchid State.
Major Advisers: Drs. C. F. Morgan and Anna-Mary Carpenter.
1964. MURRELL, LEONARD RICHARD. B.Sc. '57, M.Sc. '58, McMaster University.
Major: Anatomy. Minor: Zoology.
Thesis: Endocrine Pancreas of the Fetal Rat in Organ Culture: Culture Methods, Some Aspects of Histogenesis, Insulin Synthesis and Release, and the Incorporation of Tritiated Leucine into Tissue Protein Fractions.
Major Adviser: Dr. Arnold Lazarow.
1964. SACCOMAN, FRANK MICHAEL. B.S. '58, Bemidji State College.
Major: Anatomy. Minor: Zoology.
Thesis: Radioautographic Study of the Extraembryonic Membranes in Normal and Experimental Mice.
Major Advisers: Drs. C. F. Morgan and L. J. Wells.

1964. SCHWEISTHAL, MICHAEL ROBERT. B.A. cum laude '58, Luther College.
Major: Anatomy. Minor: Zoology.
Thesis: Differentiation and Growth of the Fetal Rat Pancreas in vitro.
Major Adviser: Dr. L. J. Wells.
1965. ABOUL-ENEIN, MOSTAFA I.M. M.B.B.Ch. '57, Diploma '60, Cairo University (Egypt).
Major: Anatomy. Minor: Pathology.
Thesis: Further Studies on Experimental Leukemia in Mice Subjected to Caloric Restriction.
Major Adviser: Dr. R. D. Sundberg.
1965. CARLSON, BRUCE MARTIN. B.A. summa cum laude '59, Gustavus Adolphus College; M.S. '61, Cornell University.
Major: Anatomy. Minor: Zoology.
Thesis: Experimental Observations on Implant-Induced Supernumerary Limbs in the Newt, *Triturus viridescens*.
Major Adviser: Dr. W. J. L. Felts.

BACTERIOLOGY, MICROBIOLOGY

1956. MELNYKOVYCH, GEORGE. Graduate '49, University of Munich; M.S. '53, University of Minnesota.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: A Study of the Effects of Antibiotics on the Formation of Amines by Intestinal Bacteria and Their Importance in the Nutrition of the Young Rat.
Major Adviser: Prof. K. R. Johansson.
1956. PETERSON, ARTHUR CARL. B.Ch.E. '47, M.S. in Ch.E. '50, University of Minnesota.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Some Aspects of Bacterial Metabolism of Unsaturated Fatty Acids.
Major Adviser: Prof. J. J. Jezeski.
1956. SKARNES, ROBERT CARL. B.A. '48, M.S. '52, University of Minnesota.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Studies on Antibacterial Substances Obtained from Normal Tissues.
Major Adviser: Prof. D. W. Watson.
1957. DEAL, SAMUEL JOSEPH. B.S. '49, M.S. '50, University of Tennessee.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: "Malic" Enzyme Synthesis as a Measure of Nutritional Interactions in Lactobacillus arabinosus.
Major Adviser: Prof. H. C. Lichstein.
1957. FIELD, MARVIN FREDERICK. B.A. '48, Central Michigan College of Education; M.S. '50, Michigan State College.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: A Study of the Nature of the Stimulatory Effect of Autoclaved Glucose on the Growth of Propionibacteria.
Major Adviser: Prof. H. C. Lichstein.

1957. ROSS, JOHN DOUGLAS. B.A. '47, University of British Columbia; M.S. '54, University of Minnesota.
Major: Bacteriology. Minor: Cancer Biology.
Thesis: Application of Manometry to Kinetic Analysis of Mammalian Cell Multiplication in Stationary Monolayer Culture.
Major Adviser: Dr. J. T. Syverton.
1957. WHITE, THOMAS GEORGE. B.S. '48, University of Oklahoma; M.S. '52, Harvard University.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Further Studies on a Nonspecific Bovine Serum Agglutinin.
Major Adviser: Prof. D. W. Watson.
1958. CROWELL, RICHARD LANE. B.A. cum laude '52, University of Buffalo; M.S. '54, University of Minnesota.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: The Influence of Coxsackie B-3 Virus Infection on Cathepsin and Transaminase Activities of Mammalian Cells in Continuous Culture.
Major Adviser: Dr. J. T. Syverton.
1958. DOANY, HANNA BOULOS. Ph.C. with distinction '44, American University of Beirut.
Major: Bacteriology. Minor: Physiological Chemistry.
Thesis: Comparative Studies of Cytopathogenic Coxsackie Viruses by Use of the Complement Fixation Method.
Major Adviser: Dr. J. T. Syverton.
1958. JAYKO, LAWRENCE GILES. B.S. '50, University of Washington; M.S. '52, Washington State College.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Nutritional Factors concerned with Growth and Lecithinase Production by Clostridium perfringens.
Major Adviser: Prof. H. C. Lichstein.
1959. EYLAR, OLLIE RODDY, JR. B.A. '52, M.S. '55, University of Minnesota.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Studies on the Berry-Dedrick Transformation Performed in Cultures of Rabbit Cells in vitro.
Major Adviser: Dr. J. T. Syverton.
1959. LEE, HO WANG. M.D. '54, Seoul National University; M.S. '57, University of Minnesota.
Major: Bacteriology. Minor: Public Health.
Thesis: Studies on Immunity to Japanese Encephalitis Virus.
Major Adviser: Dr. W. F. Scherer.
1960. CREMER, NATALIE ELIZABETH. B.S. '44, M.S. '56, University of Minnesota.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Studies on Intracellular Products of Group A Streptococci.
Major Adviser: Prof. D. W. Watson.
1960. DUERRE, JOHN ARDEN. B.S. '52, M.S. '56, South Dakota State College of Agriculture and Mechanic Arts.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Studies on Malic Enzyme Induction by Lactic Acid Bacteria.
Major Adviser: Prof. H. C. Lichstein.

1960. HINZ, RONALD WILLIAM. B.A. '49, St. Olaf College; M.S. '55, University of Minnesota.
Major: Bacteriology. Minor: Veterinary Pathology.
Thesis: Mammalian Cells in Culture for Host Cell-Virus Relationship Studies.
Major Adviser: Dr. J. T. Syverton.
1960. MIRA, OVIDIO JOHN. B.Sc. '50, Guilford College; M.S. '54, University of Minnesota.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: The Immunologic Response to Newcastle Disease Virus in Acquired Tolerance Studies.
Major Adviser: Prof. D. W. Watson.
1960. WILLOUGHBY, DONALD STEWART. B.A. '48, M.A. '49, Queen's University (Canada).
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Host-Parasite Relationships among Group A Streptococci: I. Hyaluronic Acid Production by Group A Streptococci; II. The Influence of Sex on the Susceptibility of Inbred Mice toward Streptococcal Infection.
Major Adviser: Prof. D. W. Watson.
1961. ANDERSON, DWIGHT LYMAN. B.A. '57, M.S. '59, University of Minnesota.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Studies on Actinophage.
Major Adviser: Prof. S. G. Bradley.
1961. DUBBS, DEL ROSE MARIE. B.A. '50, M.S. '57, University of Minnesota.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Host Cell-Virus Interactions in Cultures of Mammalian Cells Infected with Japanese Encephalitis Virus.
Major Adviser: Dr. W. F. Scherer.
1961. FREUNDLICH, MARTIN. B.A. '55, Brooklyn College; M.S. '57, Long Island University.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: Physiological Control of Tryptophan Degradation and Synthesis in Escherichia coli.
Major Adviser: Prof. H. C. Lichstein.
1961. KENNY, GEORGE EDWARD. B.S. '52, Fordham University; M.S. '57, University of North Dakota.
Major: Bacteriology. Minor: Agricultural Biochemistry.
Thesis: The Effect of Pleuropneumonia-like-organisms (Mycoplasma) on Growth of Mammalian Cells in vitro.
Major Adviser: Prof. L. C. McLaren.
1961. TENNANT, JUDITH ROSE. B.A. '40, Ohio Wesleyan University; M.S. '57, University of Minnesota.
Major: Bacteriology. Minor: Cancer Biology.
Thesis: Studies on Mouse Leukemia: The Demonstration and Propagation of a New Murine Lymphoid Leukemia Virus.
Major Adviser: Prof. L. C. McLaren.

1962. COONEY, MARION KATHLEEN. B.A. '39, College of St. Benedict;
M.S. '53, University of Minnesota
Major: Microbiology. Minor: Agricultural Biochemistry.
Thesis: A Newly Recognized Enterovirus.
Major Adviser: Prof. L. C. McLaren.
1962. GERLOFF, ROBERT KAY. B.Sc. '44, M.A. '48, University of Nebraska.
Major: Microbiology. Minor: Public Health.
Thesis: Precipitation of Radiolabeled Poliovirus with Specific Antibody
and Antiglobulin.
Major Adviser: Prof. L. C. McLaren.
1962. HARDY, JAMES LEROY. B.A. '54, M.A. '56, Montana State University.
Major: Microbiology. Minor: Entomology.
Thesis: Studies on Inhibitors of Arthropod-borne Animal Viruses in
Plasmas from Shot Birds.
Major Adviser: Dr. W. F. Scherer.
1962. HYDE, RICHARD M. B.A. '55, M.A. '56, University of South Dakota.
Major: Microbiology. Minor: Agricultural Biochemistry.
Thesis: Studies on Streptococcal Diphosphopyridine Nucleotidase.
Major Adviser: Prof. D. W. Watson.
1962. OLSEN, RONALD HENRY. B.A. '57, M.S. '59, University of Minnesota.
Major: Microbiology. Minor: Agricultural Biochemistry.
Thesis: Physiological Studies on Psychrophilic Bacteria with Regard to
Nutritional Requirements and Metabolic Mechanisms at Low
Temperatures.
Major Adviser: Prof. J. J. Jezeski.
1962. POLLOCK, MARY ELIZABETH. B.A. '41, Montana State University;
M.S. '57, University of Minnesota.
Major: Microbiology. Minor: Physiological Chemistry.
Thesis: Pleuropneumonia-Like Organisms in Mammalian Cell Cultures:
Their Significance.
Major Adviser: Prof. L. C. McLaren.
1963. BEGUE, WILLIAM JOHN. B.S. summa cum laude '53, College of St.
Thomas; M.S. '60, University of Minnesota.
Major: Microbiology. Minor: Agricultural Biochemistry.
Thesis: Studies on the Growth Requirements of Saccharomyces cerevisiae
at Increased Temperatures of Incubation.
Major Advisers: Drs. H. D. Lichstein and L. C. McLaren.
1963. COLES, ROSWELL STRONG, JR. B.S. '55, Wagner College; M.S. cum
laude '57, Long Island University.
Major: Microbiology. Minor: Agricultural Biochemistry.
Thesis: The Effect of Oleic Acid on the Malic Enzyme of Lactobacillus
arabinosus.
Major Advisers: Drs. H. C. Lichstein and Palmer Rogers.
1963. PAPERMASTER, BENJAMIN WILLARD. B.A. '56, Harvard University;
M.S. '63, University of Minnesota.
Major: Microbiology. Minor: Anatomy.
Thesis: Evolution of the Immune Response.
Major Adviser: Dr. D. W. Watson.

1964. GARDNER, ROBERTA KAY. B.A. summa cum laude '58, Gustavus Adolphus College; M.S. '61, University of Minnesota.
Major: Microbiology. Minor: Physiological Chemistry.
Thesis: Studies of the Instability of Pertussis Antigen in Diphtheria-Tetanus-Pertussis-Polio Vaccine.
Major Adviser: Dr. L. C. McLaren.
1964. JOHNSON, TERRY CHARLES. B.S. '58, Hamline University; M.S. '61, University of Minnesota.
Major: Microbiology. Minor: Agricultural Biochemistry.
Thesis: Production and Characterization of Interferon Produced by Human Amnion Cells.
Major Adviser: Dr. L. C. McLaren.
1964. JONES, LILY ANN. B.A. '60, M.S. '63, University of Minnesota.
Major: Microbiology. Minor: Genetics.
Thesis: Life Cycle and Structure of an Actinophage for Streptomyces venezuelae.
Major Adviser: Dr. S. G. Bradley.
1964. RAMALEY, ROBERT FOLK. B.Sc. '59, M.Sc. '62, Ohio State University.
Major: Microbiology. Minor: Physiological Chemistry.
Thesis: Arginine Metabolism during Presporulation in Bacillus licheniformis.
Major Adviser: Dr. R. W. Bernlohr.
1964. SHOPE, RICHARD EDWIN, JR. B.A. '47, Williams College; B.S. (Agric.) '49, University of Wisconsin; D.V.M. '59, Cornell University.
Major: Microbiology. Minor: Physiological Chemistry.
Thesis: Experimental Studies on Viral Diarrhea of Cattle.
Major Advisers: Profs. K. G. Brand and D. K. Sorensen.
1964. WALLER, JAMES ROBERT. B.A. '57, St. John's University; M.S. '60, University of Minnesota.
Major: Microbiology. Minor: Agricultural Biochemistry.
Thesis: Studies on the Transport and Accumulation of Biotin by Cells of Lactobacillus arabinosus.
Major Adviser: Dr. H. C. Lichstein.
1965. BURCHARD, ROBERT PAUL. B.A. cum laude '60, M.S. '62, Brown University.
Major: Microbiology. Minor: Zoology.
Thesis: Light-Induced Lysis and Carotenoid Synthesis in Myxococcus xanthus.
Major Adviser: Dr. Martin Dworkin.
1965. KIM, YOON BERM. M.D. '58, Seoul National University (Korea).
Major: Microbiology. Minor: Biochemistry.
Thesis: Ontogeny of Immunoglobulin Synthesis.
Major Adviser: Dr. D. W. Watson.
1965. KOLSTAD, ROBERT ALLIN. B.S. '60, M.S. '62, University of Minnesota.
Major: Microbiology. Minor: Genetics.
Thesis: Studies on Actinophage for Streptomyces venezuelae: Growth and Characterization.
Major Adviser: Dr. S. G. Bradley.

1965. LYON, RICHARD HALE. B.A. '47, M.S. '61, University of Minnesota.
Major: Microbiology. Minor: Biochemistry.
Thesis: Studies on the Physiology of Mycobacterium tuberculosis.
Major Adviser: Dr. H. C. Lichstein.
1966. HATCHER, HERBERT JOHN. B.A. '53, M.S. '64, University of Minnesota.
Major: Microbiology. Minor: Biochemistry.
Thesis: On the Utilization of Amino Acids by Aspergillus flavus for Nitrification.
Major Adviser: Dr. E. L. Schmidt.
1966. NG, CHEE PING. B.Sc. '59, University of Ottawa; M.Sc. '61, University of Toronto.
Major: Microbiology. Minor: Biochemistry.
Thesis: Comparative Studies on Streptolysin O and Streptococcal Pyrogenic Toxin.
Major Adviser: Dr. D. W. Watson.

BIOSTATISTICS

1956. JOHNSON, EUGENE ARTHUR. B.A. '49, M.A. '50, University of Minnesota.
Major: Biostatistics. Minor: Mathematics.
Thesis: On the Problems of Errors Associated with Linear Regression.
Major Adviser: Prof. A. E. Treloar.
1959. BROWN, BYRON WILLIAM, JR. B.A. magna cum laude '52, M.A. '55, University of Minnesota.
Major: Biostatistics. Minor: Mathematics.
Thesis: Some Properties of the Spearman Estimator in Bioassay.
Major Advisers: Profs. I. R. Savage and E. A. Johnson.
1961. FEIGL, POLLY CATHERINE BARTHOLOMEW. B.A. with general honors, B.S. '56, University of Chicago; M.A. '57, University of Minnesota.
Major: Biostatistics. Minor: Mathematics.
Thesis: Design Considerations for the Postoperative Evaluation of Analgesic Drugs.
Major Adviser: Prof. J. E. Bearman.
1961. WALL, FRANCIS JOSEPH. B.S. '47, Sul Ross State College; M.S. '56, University of Colorado.
Major: Biostatistics. Minor: Industrial Engineering.
Thesis: Biostatistical Linear Models in Longitudinal Medical Research.
Major Adviser: Prof. R. B. McHugh.
1962. KJELSBERG, MARCUS OLAF. B.A. '52, Concordia College; M.A. '55, University of Minnesota.
Major: Biostatistics. Minor: Mathematics.
Thesis: Estimation of the Parameters of the Logistic Distribution under Truncation and Censoring.
Major Advisers: Profs. E. A. Johnson and B. W. Brown, Jr.

1963. KNATTERUD, GENELL LAVONNE. B.A. magna cum laude '52, Macalester College; M.S. '59, University of Minnesota.
 Major: Biostatistics. Minor: Psychology.
 Thesis: An Evaluation of Certain Data from the Cancer Detection Center--University of Minnesota Hospitals.
 Major Adviser: Dr. J. E. Bearman.
1963. MIELKE, PAUL WILLIAM. B.A. '53, University of Minnesota; M.A. '58, University of Arizona.
 Major: Biostatistics. Minor: Public Health.
 Thesis: Variance Component Estimation and Precision for the General Two-Way Classification.
 Major Adviser: Dr. R. B. McHugh.
1963. WECKWERTH, VERNON ERVIN. B.S. with high distinction '54, M.S. '56, University of Minnesota.
 Major: Biostatistics. Minor: Public Health.
 Thesis: Imputation of Non-Response Values with Special Emphasis on Hospital and Health Surveys.
 Major Adviser: Dr. J. E. Bearman.
1964. FAULKNER, JAMES EARL. B.S. '50, Utah State University; M.S. '52, Kansas State University.
 Major: Biostatistics. Minor: Mathematics.
 Thesis: A Stochastic Model for Immunological Experimentation on Spontaneous Mammary Tumors in Inbred Mice.
 Major Adviser: Dr. R. B. McHugh.
1964. HSI, BARTHOLOMEW PO-CHEN. Certificate '56, Chinese Government; M.A. '62, University of Minnesota.
 Major: Biostatistics. Minor: Statistics.
 Thesis: Some Statistical Aspects of Quality Control in the Clinical Laboratories.
 Major Adviser: Dr. B. W. Brown, Jr.
1964. KEENAN, KATHLEEN MARGARET. B.A. '56, College of St. Catherine; M.S. '58, University of Minnesota.
 Major: Biostatistics. Minor: Public Health.
 Thesis: Some Aspects of a Statistical Approach to Environmental Microbiological Sampling.
 Major Adviser: Dr. J. E. Bearman.
1964. MEINERT, CURTIS LYNEA. B.A. cum laude '56, M.S. '59, University of Minnesota.
 Major: Biostatistics. Minor: Psychology.
 Thesis: Quantitation of the Isotope Displacement Insulin Immunoassay.
 Major Adviser: Dr. R. B. McHugh.
1965. BRIESE, FRANKLIN WAGNER. B.A. cum laude '59, M.S. '63, University of Minnesota.
 Major: Biostatistics. Minor: Mathematics.
 Thesis: Estimation of Tissue Volumes from Studies of Histologic Sections.
 Major Advisers: Drs. B. W. Brown, Jr. and R. B. McHugh.

1965. WOOD, ROSS JOSEPH. B.A. '54, M.B.A. '55, University of Michigan; M.A. '62, University of Minnesota.
Major: Biostatistics. Minor: Statistics.
Thesis: Uniformly Most Powerful Similar Tests for Detecting Radioactive Decay.
Major Adviser: Dr. B. W. Brown, Jr.
1966. CANNER, PAUL LOIZEAUX. B.A. summa cum laude '60, M.S. '62, University of Minnesota.
Major: Biostatistics. Minor: Genetics.
Thesis: Some Minimax and Bayes Procedures for Selecting One of Two Medical Treatments.
Major Adviser: Dr. B. W. Brown, Jr.
1966. CHAN, YICK-KWONG. B.S. in Agric. '55, Taiwan Provincial College of Agriculture (China); M.S. '60, University of Minnesota.
Major: Biostatistics. Minor: Statistics.
Thesis: A Competing Risks Model; Normal Death, Cancer Development and Cancer Death.
Major Adviser: Dr. E. A. Johnson.
1966. POGUE, RICHARD EWERT. B.A. '52, M.S. '64, University of Minnesota.
Major: Biostatistics. Minors: Physiology and Biochemistry.
Thesis: Some Investigation of Multivariate Discrimination Procedures, with Applications to Diagnosis in Clinical Electrocardiography.
Major Adviser: Prof. E. A. Johnson.

DERMATOLOGY

1957. WINKELMANN, RICHARD KNISELY. B.S. '43, University of Akron; M.D. '48, Marquette University.
Major: Dermatology and Syphilology. Minor: Pathology.
Thesis: The Neuroanatomy of Human Skin: A Morphologic Basis for Sensation.
Major Adviser: Dr. R. R. Kierland.
1965. FUSARO, RAMON MICHAEL. B.A. '49, B.S. '50, M.D. '53, M.S. in Derm. '58, University of Minnesota.
Major: Dermatology. Minor: Pathology.
Thesis: Some Aspects of Glucose Kinetics and Metabolism in the Skin.
Major Adviser: Dr. F. W. Lynch.

ENVIRONMENTAL HEALTH

1963. PUTNAM, HUGH. B.A. '53, M.S. '56, University of Minnesota.
Major: Environmental Health. Minor: Microbiology.
Thesis: A Study of the Nutrients, Productivity and Plankton in Western Lake Superior.
Major Adviser: Dr. T. A. Olson.
1965. RUSCHMEYER, ORLANDO RUTHERFORD. B.A. magna cum laude '51, M.S. '56, University of Minnesota.
Major: Environmental Health. Minor: Biochemistry.
Thesis: A Study of Water Circulation and Related Hydrographic Phenomena in Western Lake Superior.
Major Adviser: Dr. T. A. Olson.

1962. KIHLEBERG, JAAKKO KUSTAA. B.A. '50, M.A. '50, University of Helsinki.
Major: Epidemiology. Minor: Biostatistics.
Thesis: An Inquiry on the Distribution of Arterial Blood Pressure in Groups of Middle-Aged Male Caucasians.
Major Adviser: Dr. L. M. Schuman.
1964. MA, HUK YONG. M.D. '35, Seoul National University; M.S. '61, University of Minnesota.
Major: Epidemiology. Minor: Biostatistics.
Thesis: Some Epidemiologic Aspects of Essential Hypertension (A Study of Primary Hypertension as a Clinical Entity and Its Relation to Genetic and Environmental Variables).
Major Adviser: Dr. L. M. Schuman.
1965. SILBERG, STANLEY LOUIS. B.A. '51, M.S. '52, University of Kansas; M.P.H. '59, University of Minnesota.
Major: Epidemiology. Minor: Microbiology.
Thesis: A Study of the Relative Risk of Staphylococcus Infection among Human Beings and Animals in a Veterinary Hospital and Clinic Environment.
Major Adviser: Dr. L. M. Schuman.
1966. CHOI, NUNG WON. M.D. '58, Seoul National University (Korea); M.P.H. '61, University of Minnesota.
Major: Epidemiology. Minor: Microbiology.
Thesis: Some Aspects of the Epidemiology of Central Nervous System Neoplasms and Their Relationships to Toxoplasma Infection.
Major Adviser: Dr. L. M. Schuman.

MEDICINE

1956. CAREY, JAMES BAIN, JR. B.S. '49, M.D. '52, University of Minnesota.
Major: Medicine. Minors: Physiological Chemistry and Anatomy.
Thesis: Methods for the Determination of Trihydroxy and Dihydroxy Cholanic Acids in Blood Serum and Feces with Observations on the Alterations in Serum Bile Acid Concentrations in Certain Types of Hepatobiliary Disorders.
Major Adviser: Dr. C. J. Watson.
1956. CONNOLLY, DANIEL CHARLES. M.D. '48, National University of Ireland.
Major: Medicine. Minor: Physiology.
Thesis: Studies concerning the Nature of the Pulmonary Artery Wedge Pressure in Man.
Major Adviser: Dr. E. H. Wood.
1956. MOLNAR, GEORGE DEMPSTER. B.Sc. '49, M.D. '51, University of Alberta.
Major: Medicine. Minor: Physiology.
Thesis: Studies on Radioiodine Uptake in Surviving Human Thyroid Slices.
Major Adviser: Dr. Alexander Albert.

1957. ABERNATHY, ROBERT SHIELDS. B.S. '49, M.D. '49, Duke University.
Major: Medicine. Minor: Bacteriology.
Thesis: The Role of Bacterial Endotoxin in the Pathogenesis of
Brucellosis.
Major Adviser: Dr. W. W. Spink.
1957. BASHOUR, FOUAD ANIS. B.S. '42, B.A. '44, M.D. '49, American
University of Beirut.
Major: Medicine. Minor: Anatomy.
Thesis: Study of Uroporphyrin Metabolism with Special Reference to
Conditions Other Than Porphyria.
Major Adviser: Dr. C. J. Watson.
1957. PRASAD, ANANDA SHIVA. B.Sc. (Honors) '46, M.B.B.S. '51,
Patna University.
Major: Medicine. Minor: Anatomy.
Thesis: Studies on Ultrafiltrable Calcium.
Major Adviser: Dr. E. B. Flink.
1957. SCHUMACHER, OTTO PETER. B.A. '49, Dartmouth College; M.D. '52,
John Hopkins University.
Major: Medicine. Minor: Physiology.
Thesis: A Study of Iodine Metabolism in Thyroid Slices of Patients
with Disorders of the Thyroid Gland.
Major Adviser: Dr. Alexander Albert.
1957. WEIL, MAX HARRY. B.A. '48, University of Michigan; M.D. '52,
State University of New York.
Major: Medicine. Minor: Physiology.
Thesis: Investigations on Shock Due to Bacterial Infection, with
Special Reference to the Role of Endotoxin from Gram-negative
Microorganisms.
Major Adviser: Dr. W. W. Spink.
1958. TUNA, NAIP. M.D. '47, University of Istanbul.
Major: Medicine. Minor: Anatomy.
Thesis: The Fatty Acids of Blood and Atheromatous Plaques and Their
Relation to Atheroma Formation.
Major Adviser: Dr. I. D. Frantz.
1959. MANGER, WILLIAM MUIR. B.S. '44, Yale University; M.D. '46,
Columbia University.
Major: Medicine. Minor: Physiology.
Thesis: Chemical Quantitation of Epinephrine and Norepinephrine in
Plasma: A Clinical and Experimental Study.
Major Adviser: Dr. K. G. Wakim.
1960. GLENCHUR, HARRY. B.A. '49, University of California (Berkeley);
M.D. '53, University of Rochester.
Major: Medicine. Minor: Bacteriology.
Thesis: The Serum Agglutinating, Blocking and Precipitating
Antibodies and the Proteins in Brucellosis.
Major Adviser: Dr. W. H. Hall.

1961. ALEXANDER, CARL STUART. B.A. '44, University of Wisconsin; M.D. '48, Columbia University.
Major: Medicine. Minor: Anatomy.
Thesis: Studies in Experimental and Clinical Diabetes Insipidus.
Major Adviser: Dr. E. B. Flink.
1961. CASDORPH, HERMAN RICHARD. M.D. '53, Indiana University.
Major: Medicine. Minor: Physiology.
Thesis: Studies of Cholesterol Metabolism: Relationships of the Body Cholesterol Pool Size, Cholesterol Turnover, and Hepatic Synthetic Rate of Cholesterol to the Concentration of Plasma Cholesterol in the Dog.
Major Adviser: Dr. C. A. Owen.
1961. ROSS, GRIFF TERRY. M.D. '45, University of Texas.
Major: Medicine. Minor: Pathology.
Thesis: Studies of Some Morphologic Properties and Hormonal Activities of a Suspension of Intact Single Cells Derived from the Anterior Hypophysis of the Adult Male Rat.
Major Adviser: Dr. R. C. Bahn.
1961. ROSSING, ROBERT GRANGAARD. B.S. '45, M.D. '49, University of Minnesota.
Major: Medicine. Minor: Physiology.
Thesis: Airflow Resistance in the Lower Airway of the Dog.
Major Adviser: Dr. C. J. Watson.
1962. BIRKHEAD, NEWTON CHARLES. M.D. '49, University of Pennsylvania; M.S. in Med. '56, University of Minnesota.
Major: Medicine. Minor: Physiology.
Thesis: The Effect of Body Tilt, Lower Body Pressurization and Ganglion Blockade on the Variations in Thoracic Aorta Blood Flow during the Valsalva Maneuver in Man.
Major Adviser: Dr. E. H. Wood.
1962. DOSCHERHOLMEN, ALFRED. M.D. with honors '46, University of Oslo.
Major: Medicine. Minor: Anatomy.
Thesis: Studies on the Metabolism of Vitamin B₁₂.
Major Adviser: Dr. C. J. Watson.
1962. KINNEY, VENARD ROBERT. B.S. '53, Iona College; M.D. '57, New York University.
Major: Medicine. Minor: Physiology.
Thesis: The Mechanism of Chloride Absorption in the Small Bowel of Dogs.
Major Adviser: Dr. W. H. Dearing.
1962. KOTTKE, BRUCE ALLEN. B.S. '50, Hamline University; M.D. '54, University of Minnesota.
Major: Medicine. Minor: Physiology.
Thesis: Cholesterol Metabolism in Experimental Animals as Modified by Nicotinic Acid and Its Analogues, Triparanol, and Dietary Fat; Effects on Cholesterol Synthesis, Bile Acid Formation and Atherosclerosis.
Major Adviser: Dr. C. A. Owen.

1963. AZIZ, MOHAMMED ABDUL. M.B.B.S. '54, University of Dacca.
Major: Medicine. Minor: Anatomy.
Thesis: Studies of Coproporphyrin and Its Isomers in Human Excreta,
Bile and Liver with Special Reference to Liver Disease and
Jaundice.
Major Adviser: Dr. C. J. Watson.
1963. BECKER, KENNETH LOUIS. B.A. '52, University of Michigan;
M.D. '56, New York Medical College.
Major: Medicine. Minor: Physiology.
Thesis: Chromosomal Abnormalities in Genetic Endocrine and Neoplastic
Disease.
Major Adviser: Dr. R. G. Sprague.
1963. FOLEY, JOHN FRANCIS. M.D. '55, University of Buffalo.
Major: Medicine. Minor: Microbiology.
Thesis: Interactions between Diverse Cell Types: The Formation of a
Growth Factor by HeLa Cells Promoting Colonial Growth of Human
Fibroblast-like Cells in Culture.
Major Adviser: Dr. B. J. Kennedy.
1963. SILVERSTEIN, MURRAY NORMAN. B.S. '50, Ursinus College;
M.D. '54, Washington and Jefferson College.
Major: Medicine. Minor: Physiology.
Thesis: Experimental Leukemia and Diabetes in AKR Mice.
Major Adviser: Dr. E. D. Bayrd.
1964. BLAUFOX, MORTON DONALD. M.D. '59, State University of New York.
Major: Medicine. Minor: Pathology.
Thesis: Studies of Renal Function and Experimental Hypertension:
(1) Single Injection Clearance (2) the Radioisotope Renogram
(3) Experimental Hypertension (4) Partial Nephrectomy and
Hypertension (5) Electron Microscopy in Experimental Hypertension.
Major Adviser: Dr. C. A. Owen, Jr.
1964. DAVIS, RICHARD BRADLEY. B.S. '49, Yale University; M.D. '53,
State University of Iowa.
Major: Medicine. Minor: Anatomy.
Thesis: Studies of Alterations in 5-Hydroxytryptamine and Blood
Platelets Caused by Pulmonary Embolism and Bacterial Endotoxin.
Major Adviser: Dr. C. J. Watson.
1964. HARRISON, CARLOS EVANS. B.A. '53, Dartmouth College; M.D. '56,
Washington University.
Major: Medicine. Minor: Physiology.
Thesis: The Kinetics of Degradation, Distribution, and Excretion of
 H^3 -Digoxin in Experimental Animals.
Major Adviser: Dr. C. A. Owen, Jr.
1964. SCHOENFIELD, LESLIE JACK. B.A. '52, M.D. '56, Temple University.
Major: Medicine. Minor: Physiology.
Thesis: Studies on Bilirubin Conjugation.
Major Adviser: Dr. H. R. Butt.
1965. GOKCEN, MUHARREM. M.D. '55, University of Ankara (Turkey).
Major: Medicine. Minor: Anatomy.
Thesis: Autoimmunity in Liver Disease.
Major Adviser: Dr. C. J. Watson.

1965. GOLDENBERG, GERALD JOSEPH. M.D. '57, University of Manitoba.
 Major: Medicine. Minors: Anatomy and Biochemistry.
 Thesis: The Metabolism of Polyamines by Normal and Neoplastic
 Mammalian Cells.
 Major Adviser: Dr. Samuel Schwartz.
1965. GORDON, MICHAEL STANLEY. B.S. '61, M.D. '61, M.S. '61,
 University of Illinois.
 Major: Medicine. Minor: Pathology.
 Thesis: Effect of Ouabain and Calcium on Myofibrillar ATPase Activity
 of Postmortem and Surgical Human Heart Tissue in Congestive
 Failure.
 Major Adviser: Dr. H. B. Burchell.
1966. ALFREY, CLARENCE POWHATAN, JR. M.D. with honors '55, Baylor
 University.
 Major: Medicine. Minor: Hematology.
 Thesis: A Systematic Study of Autoradiographic Techniques of
³H-Thymidine Labeling of Human Bone Marrow Cells; Application to
 Evaluation of DNA Synthesis in Hemopoietic Disorders.
 Major Adviser: Dr. W. N. Tauxe.

NEUROLOGY

1957. LOGOTHETIS, JOHN A. M.D. '50, University of Thessaloniki.
 Major: Neurology. Minor: Physiological Chemistry.
 Thesis: A Study of Free Aminoacids in the Human Cerebrospinal Fluid.
 Major Adviser: Dr. A. B. Baker.
1961. NELSON, ERLAND. B.A. '47, Carthage College; M.D. '51, Columbia
 University.
 Major: Neurology. Minor: Pathology.
 Thesis: Electron Microscopic Studies on Inflammation in the Central
 Nervous System.
 Major Adviser: Dr. A. B. Baker.
1965. RILEY, WILLIAM JOHN. M.S. '58, M.D. '60, University of Chicago.
 Major: Neurology. Minor: Anatomy.
 Thesis: Nerve Degeneration and Regeneration in vitro: An Experimental
 Study.
 Major Adviser: Dr. A. B. Baker.
1966. ALTER, MILTON. B.A. magna cum laude '51, M.D. '55, University
 of Buffalo.
 Major: Neurology. Minor: Genetics.
 Thesis: Dermatoglyphics in Mental Retardation.
 Major Adviser: Dr. A. B. Baker.

NEUROSURGERY

1959. HAINES, GERALD LEON. B.S. cum laude '42, M.D. '44, University of
 Vermont; M.S. in Neurosurgery '51, University of Minnesota.
 Major: Neurosurgery. Minor: Pathology.
 Thesis: Studies on the Blood-Brain and Blood-Liquor Barriers by
 Radio-Isotope Methods, with Special Reference to the Appearance
 of I¹³¹ in the Cerebrospinal Fluid of Man.
 Major Adviser: Dr. W. T. Peyton.

1962. WHITE, ROBERT JOSEPH. B.S. '51, University of Minnesota; M.D. '53, Harvard University.
Major: Neurosurgery. Minor: Pathology.
Thesis: The Operative Method and Physiological Consequences of Total Hemispherectomy in the Monkey (*Macaca Mulatta*).
Major Adviser: Dr. C. S. MacCarty.
1964. CHOU, SHELLY NIEN-CHUN. B.S. '46, St. John's University (China); M.D. '49, University of Utah; M.S. in Neurosurgery '54, University of Minnesota.
Major: Neurosurgery. Minor: Pathology.
Thesis: Microelectrode Investigations of the Cerebral Cortex in the Cat.
Major Adviser: Dr. L. A. French.
1964. LONG, DONLIN MARTIN. M.D. '59, University of Missouri.
Major: Neurosurgery. Minor: Anatomy.
Thesis: An Electron Microscopic Evaluation of Cerebral Edema and Its Response to Steroid Administration.
Major Adviser: Dr. L. A. French.

ORTHOPEDIC SURGERY

1965. KANE, WILLIAM JAMES. B.A. cum laude '54, Holy Cross College; M.D. '58, Columbia University.
Major: Orthopedic Surgery. Minor: Physiology.
Thesis: Blood Flow to Bone: A Quantitative Method and Its Validation.
Major Adviser: Dr. J. E. Moe.

OTOLARYNGOLOGY

1966. CODY, DOUGLAS THANE ROMNEY. M.D. '57, Dalhousie University.
Major: Otolaryngology. Minor: Physiology.
Thesis: The Liberation and Destruction of Histamine in Relation to Anaphylaxis in Rats.
Major Adviser: Dr. C. F. Code.

PATHOLOGY

1956. CHAUDHRY, ANAND PARKASH. B.Sc. '42, Sikh National College (Lahore); B.D.S. '47, Demontmorency College of Dentistry (Lahore); M.S. '53, University of Michigan.
Major: Pathology. Minor: Physiology.
Thesis: Certain Physiologic and Pharmacologic Aspects of 24-Hour Periodicity in Mitosis.
Major Adviser: Dr. J. R. Dawson.
1962. TITUS, JACK L. B.S. '48, University of Notre Dame; M.D. '52, Washington University.
Major: Pathology. Minor: Hematology.
Thesis: The Atrioventricular Conduction System in Congenital Ventricular Septal Defect.
Major Adviser: Dr. A. H. Baggenstoss.

1962. YAMANE, GEORGE MITSUYOSHI. B.A. '46, Haverford College;
D.D.S. '50, University of Minnesota.
Major: Pathology. Minors: Physiological Chemistry and Anatomy.
Thesis: The Effects of Subminimal Amounts of Magnesium on the Syrian
Hamster.
Major Adviser: Dr. J. R. Dawson.

PEDIATRICS

1958. KRIVIT, WILLIAM. M.D. '48, Tulane University.
Major: Pediatrics. Minor: Anatomy.
Thesis: The Use of Radioactive Chromium in Hemolytic Anemias.
Major Adviser: Dr. R. A. Good.
1958. STICKLER, GUNNAR BRYNOLF. M.D. '49, University of Munich.
Major: Pediatrics. Minor: Physiology.
Thesis: Studies Regarding the Pathogenesis of the Nephrotic Syndrome.
Major Adviser: Dr. R. L. J. Kennedy.
1961. WORTHEN, HOWARD GEORGE. B.A. '47, Brigham Young University;
M.D. '51, Northwestern University.
Major: Pediatrics. Minor: Physiological Chemistry.
Thesis: Disorders of the Proximal Tubule.
Major Adviser: Dr. R. A. Good.

PHARMACOLOGY

1956. HOWARD, LARIMORE BRUCE. B.A. '49, Montana State University.
Major: Pharmacology. Minor: Physiological Chemistry.
Thesis: The Pharmacology of Tetramethylthiuram Disulfide Intoxication
in Chickens.
Major Advisers: Profs. H. N. Wright and P. E. Waibel.
1957. BERMAN, ELEANOR. B.S. with honors '42, Superior State Teachers
College; M.S. '50, University of Minnesota.
Major: Pharmacology. Minors: Physiological Chemistry and Anatomy.
Thesis: The Pharmaco-Hematology of Certain Carbamates.
Major Adviser: Prof. H. N. Wright.
1961. JIMENEZ-PABON, EDWARD. B.S. cum laude '45, University of Puerto
Rico; M.D. '49, Loyola University.
Major: Pharmacology. Minor: Neurology.
Thesis: Studies on the Effects of Some Halogenated Hydrocarbons on
the Central Nervous System of Cats.
Major Adviser: Prof. H. N. Wright.
1961. PALMER, JOHN DAVIS. B.S. '54, M.S. '55, University of Colorado.
Major: Pharmacology. Minor: Pathology.
Thesis: The Treatment of Experimental Acute Hemorrhagic Hypotension
with Mixtures of Pressor Amines.
Major Adviser: Dr. R. N. Bieter.
1961. RUETHER, MILLARD HERBERT. B.A. '44, B.S. '47, University of
Minnesota.
Major: Pharmacology. Minor: Bacteriology.
Thesis: Cytotoxicity of Antibacterial Agents.
Major Adviser: Dr. R. N. Bieter.

1962. EICKHOLT, THEODORE HENRY. B.S. in Pharm. '55, University of Minnesota.
Major: Pharmacology. Minors: Pharmaceutical Chemistry and Biostatistics.
Thesis: A Study of Iron Absorption in Mice as Modified by Various Agents.
Major Adviser: Prof. W. F. White.
1962. KING, WILLIAM MORELAND. B.S. '51, College of St. Thomas.
Major: Pharmacology. Minor: Pathology.
Thesis: Contributions to the Pharmacology and Pathology of Levarterenol and Related Compounds.
Major Adviser: Dr. R. N. Bieter.
1962. MCCONNELL, ROBERT GORDON. B.S. '52, North Dakota Agricultural College.
Major: Pharmacology. Minor: Microbiology.
Thesis: Some Aspects of the Treatment of Experimentally-Induced Salicylate Poisoning in the Dog.
Major Adviser: Dr. H. N. Wright.
1963. ENER, HUSEYIN SIRET. B.S. '47, University of Istanbul; M.S. '53, Agricultural and Mechanical College of Texas.
Major: Pharmacology. Minor: Physiological Chemistry.
Thesis: The Estimation of Epinephrine, Norepinephrine, and Aldrin (a Chlorinated Naphthalene Derivative) in Mammalian Tissue Employing Biological and Chemical Methods of Assay, and Some Considerations of Toxicological Effects of Aldrin.
Major Adviser: Dr. H. N. Wright.
1963. FAYLE, HARLAN DOWNING. B.A. '31, Hamline University; M.S. '36, University of Minnesota.
Major: Pharmacology. Minor: Physiological Chemistry.
Thesis: Studies in the Toxicology of Cadmium.
Major Adviser: Dr. H. N. Wright.
1964. ANDERS, MARION WALTER. D.V.M. '60, Iowa State University.
Major: Pharmacology. Minor: Agricultural Biochemistry.
Thesis: Studies on the Mechanism of the Inhibition of Drug Metabolism by SKF 525-A (2-Diethylaminoethyl 2, 2-Diphenylvalerate HCl) and Related Compounds.
Major Adviser: Dr. G. J. Mannering.
1964. GRAM, THEODORE EDWARD. B.S. in Pharm. '57, M.S. '61, University of Minnesota.
Major: Pharmacology. Minor: Physiological Chemistry.
Thesis: Some Aspects of the Biochemical Pharmacology of Metaraminol in Rabbits.
Major Adviser: Dr. H. N. Wright.
1964. STITZEL, ROBERT ELI. B.S. '59, M.S. '61, Columbia University.
Major: Pharmacology. Minor: Physiology.
Thesis: Influence of Innervation and Various Drugs on Catecholamine Content of Heart and Certain Other Organs.
Major Adviser: Dr. F. E. Shideman.

1965. ERTEL, ROBERT JAMES. B.S. cum laude '54, College of St. Thomas.
Major: Pharmacology. Minor: Microbiology.
Thesis: Effects of Su-4885 (2-Methyl-1-2-Bis(3-Pyridyl)-1-Propanone)
and NADPH on the Metabolism of Progesterone-4-¹⁴C in the Mouse.
Major Advisers: Drs. R. N. Bieter and Frank Ungar.
1965. GALWAY, CHARLES F. M.D., C.M. '34, Queens University; M.S. in
Anesthesiology '58, University of Minnesota.
Major: Pharmacology. Minor: Physiology.
Thesis: The Effects of Acidosis and Alkalosis on the Cardiac
Fibrillation Threshold in the Intact Dog.
Major Adviser: Dr. H. N. G. Wright.
1965. GREEN, RICHARD DUANE, III. B.S. Pharm. with honors '61,
Philadelphia College of Pharmacy.
Major: Pharmacology. Minor: Physiology.
Thesis: The Effect of Drugs on the Active Transport and Tissue
Binding of Catecholamines in the Uterus of the Rat.
Major Adviser: Dr. J. W. Miller.
1965. VAN HARKEN, DONALD RICHARD. B.S. '60, Columbia University.
Major: Pharmacology. Minor: Biochemistry.
Thesis: Role of the Hepatic Catalase-Peroxidative System in the
Metabolism of Methanol by the Rat.
Major Adviser: Dr. G. J. Mannering.
1966. GOLDBERG, ALAN M. B.S. Pharm. '61, Long Island University.
Major: Pharmacology. Minor: Physiology.
Thesis: A Study of the Negative Inotropic Action of Ephedrine.
Major Adviser: Dr. F. E. Shideman.
1966. KULKARNI, ANANT SADASHIV. G.F.A.M. '58, Podar College.
Major: Pharmacology. Minor: Physiology.
Thesis: Effect of Reserpine on Brain Catecholamines in the Infant
and Adult Rat: Its Relationship to Operant Behavior.
Major Adviser: Dr. F. E. Shideman.
1966. MAKAR, ADEEB BASSILI. B.Pharm. '58, Alexandria University.
Major: Pharmacology. Minor: Biochemistry.
Thesis: Methanol Metabolism in the Monkey.
Major Adviser: Dr. G. J. Mannering.

PHYSICAL MEDICINE AND REHABILITATION

1961. GULLICKSON, GLENN, JR. B.A. '42, B.S. '43, M.D. '45, University
of Minnesota.
Major: Physical Medicine and Rehabilitation. Minor: Physiology.
Thesis: Studies on the Influence of the Sympathetic Nervous System
on the Longitudinal Growth of Bones in Dogs.
Major Adviser: Dr. F. J. Kottke.
1964. AWAD, ESSAM AHMAD. M.B., B.Ch. '57, Cairo University (Egypt).
Major: Physical Medicine and Rehabilitation. Minor: Anatomy.
Thesis: Changes in the Structure, Innervation, Electromyographic
Patterns and Enzymes of Skeletal Muscle Resulting from Treatment
with Triamcinolone.
Major Adviser: Dr. F. J. Kottke.

PHYSIOLOGICAL CHEMISTRY

1956. MIZUNO, NOBUKO SHIMOTORI. B.A. '37, M.A. '39, University of California.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: Biochemical Studies on an Experimentally Induced Hypoplastic Anemia in Calves.
Major Advisers: Profs. W. D. Armstrong and M. O. Schultze.
1958. GRAY, ERNEST DAVID. B.Sc. in Pharm. '52, University of Manitoba.
Major: Physiological Chemistry. Minor: Pharmacology.
Thesis: Kinetic Studies of Metabolic Interactions among Mono- and Polynucleotides of Mouse Liver.
Major Adviser: Prof. C. P. Barnum.
1958. GREENBERG, LEONARD JASON. B.S. '52, New England College of Pharmacy; M.S. '54, University of Rochester.
Major: Physiological Chemistry. Minor: Pharmacology.
Thesis: Quantitative Histochemical Distribution of Coenzyme A and Certain Phosphorous Compounds in the Rat Adrenal Gland in Various Functional States.
Major Adviser: Prof. David Glick.
1958. NELSON, WALTER LELAND. B.A. magna cum laude '48, M.S. '50, University of Minnesota.
Major: Physiological Chemistry. Minor: Pharmacology.
Thesis: The Effect of Diisopropylfluorophosphate Administration on the Phosphorus Metabolism of Mouse Brain.
Major Adviser: Prof. C. P. Barnum.
1959. CARLSON, CURTIS HARVEY. B.A. magna cum laude '49, B.S. '51, M.D. '53, University of Minnesota.
Major: Physiological Chemistry. Minor: Physical Chemistry.
Thesis: Retention, Distribution, and Excretion of Radiofluoride.
Major Adviser: Dr. W. D. Armstrong.
1959. SMITH, QUENTON TERRILL. B.S. '51, M.S. '52, Iowa State College.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: In Vivo Effects of Certain Hormonal Variations on Collagen Metabolism.
Major Adviser: Dr. W. D. Armstrong.
1960. IVES, DAVID HOMER. B.A. '55, Cornell College.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: A Kinetic Evaluation, Employing Radiophosphorus of the Synthesis and Metabolic Stability of DNA in Regenerating Rat Liver.
Major Adviser: Dr. C. P. Barnum, Jr.
1960. PAREKH, AMRITLAL CHHAGANLAL. B.Sc. '52, Samaldas College and Sir P. P. Institute of Science; M.S. '54, University of Bombay.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: Quantitative Cytochemical Studies of the Mast Cell.
Major Adviser: Prof. David Glick.
1960. REYNARD, ALAN MARK. B.S. '53, George Washington University.
Major: Physiological Chemistry. Minor: Physical Chemistry.
Thesis: The Mechanism of Enzymatic Phosphate Transfer Reactions.
Major Adviser: Prof. P. D. Boyer.

1961. CHANG, KIM YONG. M.D. '53, Seoul National University.
Major: Physiological Chemistry. Minor: Physical Chemistry.
Thesis: Studies on Fine Structure of Nucleic Acids and Nucleoproteins
by Ion Binding Techniques.
Major Adviser: Prof. C. W. Carr.
1961. DAHLE, LELAND KENNETH. B.A. cum laude '50, St. Olaf College;
M.S. '53, Purdue University.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: Effects of Protein and Unsaturated Fatty Acids in Autoxidation
Phenomena
Major Adviser: Prof. R. T. Holman.
1961. DEMPSEY, MARY ELIZABETH. B.A. '50, College of St. Catherine;
M.S. '52, Wayne State University.
Major: Physiological Chemistry. Minor: Physiology.
Thesis: Studies on the Possible Occurrence of Unrecognized Phosphate
Compounds Related to Muscle Contraction and Oxidative
Phosphorylation.
Major Adviser: Prof. P. D. Boyer.
1961. HAYES, DORA KRUSE. B.S. summa cum laude '52, Hamline University;
M.S. '53, University of Wisconsin.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: Body Fluid and Skeletal Tissue Interrelations in the
American Lobster.
Major Adviser: Dr. W. D. Armstrong.
1961. SCHROEPFER, GEORGE JOHN, JR. B.S. '55, M.D. '57, University of
Minnesota.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: Studies on the Conversion of Zymosterol to Cholesterol
in the Rat.
Major Adviser: Prof. I. D. Frantz.
1962. KING, CHARLES MILLER. B.A. '54, University of Illinois.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: Studies on the Interaction of Oxidative Metabolites of the
Carcinogen 2-Acetylaminofluorene with Protein.
Major Adviser: Dr. H. R. Gutmann.
1962. POTHAPRAGADA, VENKATESWARLU. B.Sc. '45, M.Sc. '48, D.Sc. '55,
Andhra University.
Major: Physiological Chemistry. Minor: Microbiology.
Thesis: Studies on Fluoride Metabolism and Transport.
Major Adviser: Dr. W. D. Armstrong.
1963. DELUCA, MARLENE ANDEREGG. B.A. '45, University of Minnesota;
B.S. '58, Hamline University.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: Studies of the Rapid Uptake of Inorganic Phosphate p^{32} by
Mitochondria as Related to Oxidative Phosphorylation.
Major Adviser: Dr. P. D. Boyer.

1963. OLESON, ARLAND EUGENE. B. of Chem. '57, University of Minnesota.
Major: Physiological Chemistry. Minor: Microbiology.
Thesis: A Newly-Formed Deoxyribonuclease from Cells of Escherichia coli Infected with T2 Bacteriophage.
Major Adviser: Dr. C. P. Barnum.
1963. PETERSON, WILLIAM JENNINGS. B.A. '55, University of Minnesota.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: Studies on the Structure of the Red Cell Membrane.
Major Adviser: Dr. C. W. Carr.
1963. POLLARA, BERNARD. Ph.B. '51, M.S. '54, Northwestern University.
Major: Physiological Chemistry. Minors: Organic Chemistry and Pharmacology.
Thesis: Studies on the Nature of Cryofibrinogens.
Major Adviser: Dr. R. W. Von Korff.
1963. RAHM, JOSEPH JOHN. B.Chem. '59, University of Minnesota.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: The Effects of Dietary Fatty Acids upon Lipids of Subcellular Particles.
Major Adviser: Dr. R. T. Holman.
1963. SILVERSTEIN, EMANUEL. B.S. magna cum laude '50, City College of New York; M.D. '54, State University of New York.
Major: Physiological Chemistry. Minor: Pathology.
Thesis: Equilibrium Reaction Rates and Enzyme Mechanism. I. Beef Heart and Rabbit Muscle Lactate Dehydrogenase. II. Liver and Yeast Alcohol Dehydrogenase. III. Yeast Hexokinase.
Major Adviser: Dr. P. D. Boyer.
1964. BLOMQUIST, CHARLES HOWARD. B.S. '55, University of Illinois.
Major: Physiological Chemistry. Minor: Zoology.
Thesis: Studies of Embryonic Chick Heart Cells in Tissue Culture.
Major Adviser: Dr. W. D. Armstrong.
1964. JOOS, RICHARD WILLIAM. B.S. cum laude '58, College of St. Thomas.
Major: Physiological Chemistry. Minor: Physical Chemistry.
Thesis: Calcium Binding to Phospholipids and Phospholipid-Protein Complexes.
Major Adviser: Dr. C. W. Carr.
1964. KVISTBERG, DAVID ROBERT. B. of Chem. with distinction '59, University of Minnesota.
Major: Physiological Chemistry. Minor: Anatomy.
Thesis: Model Studies on the Staining Reaction of Beta Cells of the Islets of Langerhans by Aldehyde Fuchsin.
Major Adviser: Dr. C. P. Barnum, Jr.
1964. PETER, JAMES BERNARD. B.S. magna cum laude '54, Creighton University; M.D. '58, St. Louis University.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: Studies of Bound Phosphohistidine and Its Possible Precursors in Mitochondria and in Soluble Enzyme Systems.
Major Adviser: Dr. P. D. Boyer.

1965. LINN, TRACY CLAUD. B.S. '59, University of Oklahoma.
Major: Physiological Chemistry. Minor: Organic Chemistry.
Thesis: B-Hydroxy-B-Methylglutaryl-CoA Reduction by an Enzyme from
Rat Liver Microsomes.
Major Adviser: Dr. I. D. Frantz.
1965. YARBRO, JOHN WILLIAMSON. B.A. '52, M.D. '56, University of
Louisville.
Major: Physiological Chemistry. Minor: Medicine.
Thesis: Hydroxyurea and Mithramycin Inhibition of Nucleic Acid
Synthesis in Mouse Ascites Tumor as Measured by Radiophosphorus
Incorporation.
Major Adviser: Dr. C. P. Barnum, Jr.

PHYSIOLOGICAL HYGIENE

1957. MENDEZ, JOSÉ. B.S. '47, University of San Carlos; M.S. '48,
University of Illinois.
Major: Physiological Hygiene. Minor: Physiological Chemistry.
Thesis: The Composition of the Body and Its Estimation by Indirect
Methods.
Major Adviser: Prof. Ancel Keys.
1960. GILBERTSON, JOHN ROBERT. B.A. '51, M.S. '56, University of
Minnesota.
Major: Physiological Hygiene. Minor: Physiology.
Thesis: The Effect of Dietary Fat upon the Serum Lipid Fractions.
Major Adviser: Prof. Francisco Grande.

PHYSIOLOGY

1956. HEATH, CHARLES. B.Sc.A. '41, M.Sc. '51, University of Alberta.
Major: Physiology. Minor: Analytical Chemistry.
Thesis: Hemodynamic Changes during and Following 30% CO₂ Breathing
in Dogs.
Major Adviser: Prof. E. B. Brown.
1956. JARDETZKY, OLEG. B.A. '50, Macalester College; M.S. '53,
M.D. '54, University of Minnesota.
Major: Physiology. Minor: Physical Chemistry.
Thesis: A Study of Interactions of Aqueous Sodium Ion by Nuclear
Spin Resonance.
Major Adviser: Dr. Victor Lorber.
1956. THOMPSON, ALAN MORLEY. B.S. '49, Iowa State College.
Major: Physiology. Minor: Physiological Chemistry.
Thesis: Kinetics of Distribution of D₂O and Antipyrine in Isolated
Perfused Rat Liver.
Major Adviser: Dr. M. B. Visscher.
1957. LOVE, JOHN KING. B.A. '38, Swarthmore College.
Major: Physiology. Minor: Pharmacology.
Thesis: A Study of Transtubular Movements of Urea in the Doubly
Perfused Bullfrog Kidney.
Major Adviser: Dr. Nathan Lifson.

1958. DONALD, DAVID ELDER. B.V.Sc. '43, University of Edinburgh; M.R.C.V.S. '43, Royal (Dick) Veterinary College (Edinburgh).
Major: Physiology. Minor: Surgical Research.
Thesis: A Study of Right Ventricular Function. The Effects of Massive Infarction of the Myocardium of the Canine Right Ventricle.
Major Adviser: Dr. H. E. Essex.
1958. HOSIE, KENNETH FORBES. M.R.C.V.S. '50, University of Glasgow; B.Sc. '51, University of London.
Major: Physiology. Minor: Biophysics.
Thesis: Studies on the Mechanics of the Aorta in vivo.
Major Advisers: Drs. M. B. Visscher and C. F. Code.
1959. HUMPHREY, EDWARD WILLIAM. B.A. magna cum laude '48, M.D. '52, University of Minnesota.
Major: Physiology. Minor: Physiological Chemistry.
Thesis: Potassium Flux in the Isolated, Perfused Rabbit Heart.
Major Adviser: Prof. J. A. Johnson.
1959. SCHAFER, DAVID EDWARD. B.A. '48, Friends University.
Major: Physiology. Minor: Physics.
Thesis: Studies on Convection and Diffusion through Membranes.
Major Adviser: Prof. J. A. Johnson.
1961. MEYER, MAURICE WESLEY. B.S. '53, D.D.S. '57, M.S. '59, University of Minnesota.
Major: Physiology. Minor: Anatomy.
Thesis: Hemodynamic Studies of Endotoxin Shock in the Dog.
Major Adviser: Dr. M. B. Visscher.
1961. NELSON, RALPH ALFRED. B.A. cum laude '50, M.D. '53, University of Minnesota.
Major: Physiology. Minor: Pathology.
Thesis: The Sorption of Water, Sodium and Potassium in the Small Bowel of Dogs during Nicotinic Acid Deficiency.
Major Advisers: Drs. C. F. Code and M. B. Visscher.
1961. REEVES, JOHNNIE LEE. D.V.M. '50, Agricultural and Mechanical College of Texas; M.S. '57, University of Minnesota.
Major: Physiology. Minor: Physiological Chemistry.
Thesis: Electrolyte and Acid-Base Changes Produced in Rats Exposed Intermittently to 18,000 Feet Simulated Altitude.
Major Adviser: Prof. E. B. Brown, Jr.
1961. TRANK, JOHN WALTER. B.E.E. '51, M.S. '57, University of Minnesota.
Major: Physiology. Minor: Biophysics.
Thesis: Studies on the Carotid Sinus Baroreceptors with Particular Reference to Endotoxin Shock.
Major Adviser: Dr. M. B. Visscher.
1961. WERMERS, GEORGE WILLIAM. B.A. '53, Merrimack College; M.S. '55, Boston College.
Major: Physiology. Minor: Physiological Chemistry.
Thesis: Incorporation of Glucose-C¹⁴ and Fructose-U-C¹⁴ into Glycogen of Rat Diaphragm Muscle.
Major Adviser: Dr. H. M. Cavert.

1962. FOX, IRWIN J. B.A. '47, Princeton University; M.D. '51, New York University.
Major: Physiology. Minor: Medicine.
Thesis: Studies on Indicator-Dilution Curves: Instrumentation and Indicators.
Major Advisers: Drs. M. B. Visscher and E. H. Wood.
1962. ROWELL, LORING BERNARD. B.S. '53, Springfield College.
Major: Physiology. Minor: Physiological Chemistry.
Thesis: Factors Affecting the Prediction of the Maximal Oxygen Intake from Measurements Made during Submaximal Work with Observations Related to Factors Which May Limit Maximal Oxygen Intake.
Major Adviser: Dr. Francisco Grande.
1963. DELANEY, JOHN PATRICK. B.S. '53, M.D. '55, University of Minnesota.
Major: Physiology. Minor: Physiological Chemistry.
Thesis: Studies on Gastric Circulation.
Major Adviser: Dr. Eugene Grim.
1963. KROVETZ, L. JEROME. B.A. '50, Cornell University; M.D. '54, State University of New York.
Major: Physiology. Minor: Mathematics.
Thesis: The Effect of Vessel Branching on Fluid Flow.
Major Adviser: Dr. J. A. Johnson.
1963. VARGAS, FERNANDO FIGUEROA. B.Sc. '45, D.D.S. '51, University of Chile.
Major: Physiology. Minor: Physical Chemistry.
Thesis: Determination of Equivalent Pore Radius in Rabbit Heart Capillaries.
Major Adviser: Dr. J. A. Johnson.
1963. WALKER, JOHN LAWRENCE, JR. B.S. '56, University of Wisconsin; M.A. '58, Duke University.
Major: Physiology. Minor: Mathematics.
Thesis: Phasic Efflux of Various Ions from Frog Heart Muscle.
Major Adviser: Dr. Victor Lorber.
1964. BASSINGTHWAIGHTE, JAMES BUCKLIN. B.A. '51, M.D. '55, University of Toronto.
Major: Physiology. Minors: Mathematics and Medicine.
Thesis: Dispersion of Indicator in the Plasma of Circulating Blood.
Major Adviser: Dr. E. H. Wood.
1964. FENSTERMACHER, JOSEPH DON. B.A. cum laude '56, Augustana College; M.S. '59, Michigan State University.
Major: Physiology. Minor: Zoology.
Thesis: The Osmotic Flow of Water across the Blood Brain Barrier.
Major Adviser: Dr. J. A. Johnson.
1964. HAMILTON, ROBERT WILLIAM, JR. B.A. '51, University of Texas; M.S. '58, Agricultural and Mechanical College of Texas.
Major: Physiology. Minor: Biophysics.
Thesis: Carbon Dioxide, Oxygen, and Acidity: The Interaction and Independent Effects on Breathing of These Factors in the Arterial Blood.
Major Advisers: Drs. E. B. Brown, Jr. and M. B. Visscher.

1964. MILLIGAN, JOHN VORLEY. B.Sc. '58, M.Sc. '60, University of Alberta.
Major: Physiology. Minor: Physical Chemistry.
Thesis: Factors Affecting the Loss and Recovery of the Ability of
Frog Striated Muscle to Produce Potassium Contractures.
Major Adviser: Dr. Charles Edwards.
1964. THOMAS, KATHRYN HELEN. B.A. with high honors '59, Montana State
University.
Major: Physiology. Minor: Physiological Chemistry.
Thesis: Integration of Segmental and Supraspinal Action on Single
Spinal Mononeurons.
Major Adviser: Dr. C. A. Terzuolo.
1965. LONG, DAVID MICHAEL, JR. B.S. cum laude '51, Muhlenberg College;
M.S. '54, M.D. '56, Hahnemann Medical College.
Major: Physiology. Minor: Anatomy.
Thesis: Some Effects of Temporary Pulmonary Arterial Ischemia.
Major Adviser: Dr. M. B. Visscher.
1965. PAK, MOON JAE. B.M.S. '56, M.D. '60, Yonsei University (Korea).
Major: Physiology. Minor: Physical Chemistry.
Thesis: Evaluation of a Rapid-Flow Technique in the Measurement of
Tracer Movements in a Single Cardiac Cycle.
Major Adviser: Dr. Victor Lorber.
1965. POPPELE, RICHARD ELWOOD. B.S.E.E. cum laude '58, Tufts University
Major: Physiology. Minor: Mathematics.
Thesis: A Quantitative Study of Vestibular Influences upon Spinal
Cord Activities.
Major Adviser: Dr. C. A. Terzuolo.

PSYCHIATRY

1963. MENA, ABELARDO. M.D. '52, University of the Southeast (Mexico).
Major: Psychiatry. Minor: Psychology.
Thesis: Evaluation of Regressive Electroshock Treatments in Chronic
Paranoid Schizophrenics.
Major Adviser: Dr. D. W. Hastings.
1965. BRANSFORD, PAUL WESLEY. B.A. '38, Duke University; M.D. '42,
Harvard University.
Major: Psychiatry. Minor: Child Psychology.
Thesis: Experimental Demonstration of Difficulties in the Development
of a Classification for Children's Behavioral Disorders.
Major Adviser: Dr. D. W. Hastings.

RADIOLOGY

1962. CARLSON, HARLEY CORWIN. B.A. '47, Concordia College (Moorhead);
M.D. '51, University of Minnesota.
Major: Radiology. Minor: Physiology.
Thesis: Motor Action of the Gastroduodenal Junctional Zone: A Cine-
radiographic, Pressure and Electric Study.
Major Adviser: Dr. C. A. Good.

1965. HALLERMANN, FRANZ JOSEF. M.D. '56, University of Muenster (Germany).
Major: Radiology. Minor: Physiology.
Thesis: Left Ventricular Volumes in Dogs Measured by an Indicator Dilution and an Angiocardiographic Method: A Comparison and Critical Evaluation of Both Methods.
Major Adviser: Dr. C. A. Good.
1966. HILAL, SADEK KAMIL. M.B.B., Ch. '54, Cairo University (Egypt).
Major: Radiology. Minor: Pathology.
Thesis: Determination of the Blood Flow by a Radiographic Technique.
Major Adviser: Dr. H. O. Peterson.

SURGERY

1956. ARHELGER, STUART WALDO. B.S. cum laude '42, Hamline University; M.D. '45, University of Wisconsin; M.S. in Surgery '51, University of Minnesota.
Major: Surgery. Minors: Pathology and Cancer Biology.
Thesis: Studies of the Pathology and Management of Gastric Cancer: With Special Reference to the Anatomico-pathological Basis for Extirpation of the Lymphatics of the Hepatic Pedicle and Retropancreaticoduodenal Areas.
Major Adviser: Dr. O. H. Wangensteen.
1956. CASEY, JAMES HUGH. M.D. '51, Marquette University.
Major: Surgery. Minor: Pathology.
Thesis: The Role of Bone in Sodium Metabolism with Particular Regard to Surgical Patients.
Major Adviser: Dr. Bernard Zimmermann.
1956. GARAMELLA, JOSEPH JOHN. B.S. '43, Holy Cross College; M.D. '45, Georgetown University.
Major: Surgery. Minor: Pathology.
Thesis: Modified Cardiopneumopexy and Allied Studies in Revascularization of the Heart.
Major Adviser: Dr. L. J. Hay.
1956. NIAZI, SUAD ASAD. M.B., Ch.B. '41, Iraq Royal Medical College.
Major: Surgery. Minor: Pathology.
Thesis: Profound Hypothermia in Nonhibernating Mammals.
Major Adviser: Dr. F. J. Lewis.
1956. SHUMWAY, NORMAN E., JR. M.D. '49, Vanderbilt University.
Major: Surgery. Minor: Physiology.
Thesis: Experimental Surgery of the Heart and Great Vessels under Hypothermia.
Major Adviser: Dr. R. L. Varco.
1956. THAL, ALAN PHILIP. M.B., Ch.B. '49, University of Cape Town.
Major: Surgery. Minor: Pathology.
Thesis: The Origins of Pancreatitis.
Major Adviser: Dr. O. H. Wangensteen.

1957. EGDAHL, RICHARD HARRISON. M.D. '50, Harvard University.
Major: Surgery. Minor: Physiology.
Thesis: Studies on the Functional Vascularization of Autografts,
Homografts, and Heterografts.
Major Adviser: Dr. R. L. Varco.
1957. MACLEAN, LLOYD DOUGLAS. B.S. '47, M.D. '49, University of Alberta.
Major: Surgery. Minor: Physiology.
Thesis: Some Observations on the Hematological Function of the
Stomach.
Major Adviser: Dr. O. H. Wangenstein.
1957. MENGUY, RENE BORIS. M.D. '49, University of Paris.
Major: Surgery. Minor: Pathology.
Thesis: On the Physiology of the Pancreatic and Biliary Ducts in the
Dog.
Major Adviser: Dr. R. L. Varco.
1957. MURPHY, THOMAS OGDEN. B.S. '46, Willamette University; M.D. '49,
Johns Hopkins University.
Major: Surgery. Minor: Pathology.
Thesis: The Progression of Experimental Atherosclerosis Following
Lumbar Sympathectomy.
Major Adviser: Dr. R. L. Varco.
1957. READ, RAYMOND CHARLES. M.A. '44, Cambridge University; M.D. '51,
M.S. '57, University of Minnesota.
Major: Surgery. Minor: Physiology.
Thesis: hemodynamic Aspects of Total Body Perfusion.
Major Adviser: Dr. C. W. Lillehei.
1958. AUST, J. BRADLEY. M.D. '49, University of Buffalo; M.S. '57,
University of Minnesota.
Major: Surgery. Minor: Physiology.
Thesis: Kinetics of Distribution of Various Tagged Substances in
Endotoxin-Produced Shock.
Major Adviser: Dr. O. H. Wangenstein.
1958. BARNARD, CHRISTIAAN NEETHLING. M.B., Ch.B. '46, M.D. '52, M.Med.
'53, University of Capetown.
Major: Surgery. Minor: Pathology.
Thesis: Etiology of Congenital Intestinal Atresia.
Major Adviser: Dr. O. H. Wangenstein.
1958. PERRY, JOHN FRANCIS. B.A. '44, M.D. '47, University of Texas.
Major: Surgery. Minor: Physiology.
Thesis: Observations on the Digestive Activity of Human Gastric Juice.
Major Adviser: Dr. O. H. Wangenstein.
1958. TOON, ROBERT WALLACE. B.S. '43, M.D. '44, University of Oregon.
Major: Surgery. Minor: Physiology.
Thesis: Studies in Gastro-Intestinal Ulceration with Special Reference
to the Effect of Gastric Juice on Gastric Mucosa.
Major Adviser: Dr. O. H. Wangenstein.

1960. BASCOM, JOHN UPTON. B.S. '48, M.S. '49, Kansas State College of Agriculture and Applied Science; M.D. '53, Northwestern University.
Major: Surgery. Minor: Pathology.
Thesis: Gelatin Sealing of Fabric Arterial Grafts.
Major Adviser: Dr. C. R. Hitchcock.
1960. BERKAS, ERNEST MAURICE. B.A. magna cum laude '48, B.S. '49, M.D. '52, University of Minnesota.
Major: Surgery. Minor: Physiology.
Thesis: Water, Sodium and Chloride Flux in the Canine Small and Large Intestine.
Major Advisers: Drs. E. D. Grim and W. D. Kelly.
1960. JENSON, CONRAD BELNAP. B.A. with high honors '50, M.D. '52, University of Utah.
Major: Surgery. Minor: Pathology.
Thesis: The Effect of Hypothermia on Experimentally Induced Pancreatitis.
Major Adviser: Dr. O. H. Wangensteen.
1960. LILLEHEI, RICHARD CARLTON. B.A. magna cum laude '48, B.S. '49, M.D. '52, University of Minnesota.
Major: Surgery. Minor: Physiology.
Thesis: An Experimental Inquiry into the Nature of Irreversible Shock.
Major Adviser: Dr. O. H. Wangensteen.
1960. LINDSETH, ESTEN O. M.D. '49, University of Oslo.
Major: Surgery. Minor: Physiology.
Thesis: Vascular Flow Patterns in the Tissues of the Dog Intestines.
Major Advisers: Drs. C. R. Hitchcock and E. D. Grim.
1960. MOWLEM, ALBERT. B.A. '47, Columbia University; M.D. '51, Yale University.
Major: Surgery. Minor: Physiology.
Thesis: Observations on Some Factors Influencing Blood Flow in the Lungs.
Major Adviser: Dr. R. L. Varco.
1960. SHAHON, DONALD BERNARD. B.S. '44, M.D. '49, Tufts College.
Major: Surgery. Minors: Pathology and Physiological Chemistry.
Thesis: The Uptake of Radioactive Phosphorus by Human and Experimental Tumors.
Major Adviser: Dr. O. H. Wangensteen.
1960. YONEHIRO, EARL GRANT. M.D. '52, University of Rochester.
Major: Surgery. Minor: Pathology.
Thesis: Experimental and Clinical Studies on the Use of Radioactive Ferrous Citrate, Fe⁵⁹, with Particular Reference to the Detection of Minute Gastrointestinal Bleeding and the Selective Uptake of This Isotope in Malignant and Benign Tissue.
Major Adviser: Dr. O.H. Wangensteen.
1961. DOUMANIAN, ARA VAHAN. M.D. '53, American University of Beirut; M.S. '60, University of Minnesota.
Major: Surgery. Minor: Pathology.
Thesis: The Effect of Femoral Arteriovenous Fistula on Experimental Deep Venous Insufficiency.
Major Adviser: Dr. J. H. Grindlay.

1961. IMAMOGLU, KAMIL. M.D. '50, University of Istanbul.
Major: Surgery. Minor: Pathology.
Thesis: The Origin of Gallstones.
Major Adviser: Dr. O. H. Wangenstein.
1961. ROOT, HARLAN DAVID. B.A. with distinction '50, M.D. '53, Cornell University.
Major: Surgery. Minors: Physiological Chemistry and Pathology.
Thesis: Gastric Digestion with Hypothermia: Observations and Applications.
Major Adviser: Dr. O. H. Wangenstein.
1961. SALMON, PETER ALEXANDER. B.S. '53, M.D. '55, University of Washington; M.S. '61, University of Minnesota.
Major: Surgery. Minor: Physiology.
Thesis: The Treatment of Massive Upper Gastrointestinal Hemorrhage by Direct Perfusion of the Stomach with Hypothermic Solutions: Investigations into the Effect of Hypothermia on Bowel Motility, Gastric Emptying and the Function of the Pylorus.
Major Adviser: Dr. O. H. Wangenstein.
1962. FELLER, WILLIAM FRANK. B.A. magna cum laude '48, B.S. '52, M.D. '54, University of Minnesota.
Major: Surgery. Minor: Microbiology.
Thesis: The Biochemical and Cellular Determinants of Tissue Resistance in Ulcer Disease.
Major Adviser: Dr. R. L. Varco.
1962. HAYWARD, RONALD HAMILTON. M.B.Ch.B. '51, Otago University.
Major: Surgery. Minor: Pathology.
Thesis: Assessment of the Role of the Colonic Mucosa, Kidney, Liver and Endocrine Glands in Hyperchloremic Acidosis: An Experimental Study in Dogs.
Major Adviser: Dr. W. H. ReMine.
1963. ABSOLON, KAREL B. M.D. '52, Yale University.
Major: Surgery. Minor: Physiology.
Thesis: Experimental Studies of Abdominal Emergencies with Reference to Pancreatitis, Chemical Peritonitis and Mesenteric Infarction.
Major Adviser: Dr. O. H. Wangenstein.
1963. CASTANEDA, ALDO R. M.D. '58, University of San Carlos of Guatemala.
Major: Surgery. Minor: Physiology.
Thesis: Gastric Hypersecretion and Porta-Caval Shunt.
Major Adviser: Dr. O. H. Wangenstein.
1963. GRAGE, THEODOR BERNHARD. M.D. '55, Creighton University.
Major: Surgery. Minor: Physiological Chemistry.
Thesis: Factors Regulating the Release of Antidiuretic Hormone.
Major Adviser: Dr. O. H. Wangenstein.
1963. GRIFFEN, WARD ORIN, JR. B.A. '49, Princeton University; M.D. '53, Cornell University.
Major: Surgery. Minor: Physiology.
Thesis: Observations on the Influence of Hypothermia on the Gastric Secretory Mechanisms.
Major Adviser: Dr. O. H. Wangenstein.

1963. LEONARD, ARNOLD SHEY. B.A. cum laude '52, B.S. '53, M.D. '55, University of Minnesota.
Major: Surgery. Minor: Pathology.
Thesis: Hypothalamic Influence on Gastric Secretion Blood Flow, and Ulcer Formation.
Major Adviser: Dr. O. H. Wangenstein.
1963. ROSENBERG, JERRY C. B.S. cum laude '50, Wagner College; M.D. '54, Chicago Medical School.
Major: Surgery. Minor: Pathology.
Thesis: The Determination of Plasma Catecholamine and Serum Serotonin Concentration by Fluorimetric Analysis in Irreversible Hemorrhagic and Lethal Endotoxin Shock.
Major Adviser: Dr. J. B. Aust.
1964. ACKERMAN, NORMAN BERNARD. B.A. '52, Harvard University; M.D. '56, University of Pennsylvania.
Major: Surgery. Minor: Pathology.
Thesis: The Diagnosis of Gastric Cancer by the Detection of Increased Concentrations of Radioactive Phosphorus with in vivo Radioautography.
Major Adviser: Dr. O. H. Wangenstein.
1964. BERNSTEIN, EUGENE FELIX. M.D. '54, State University of New York.
Major: Surgery. Minor: Physiology.
Thesis: Some Physiological Responses to Intravenous Diatrizoates, and Their Application to Intravenous Aortography.
Major Adviser: Dr. O. H. Wangenstein.
1964. GANS, HENRY. M.D. '51, University of Utrecht; D.M.Sc. '55, University of Nymegen.
Major: Surgery. Minor: Physiological Chemistry.
Thesis: Study of Fibrinolytic and Anticoagulant Mechanisms Following Thrombin Infusions in Normal and Reversed Eck Fistula Dogs.
Major Adviser: Dr. R. C. Varco.
1964. GOOTT, BERNARD. M.B., B.Ch. '54, University of the Witwaterstrand (South Africa).
Major: Surgery. Minor: Physiology.
Thesis: Studies on the Effect of Carbon Dioxide Inhalation upon Extracellular and Intracellular pH, the Sympatho-Adrenal System, Potassium Movement and Cardiac Rhythm.
Major Adviser: Dr. R. C. Lillehei.
1964. HAGLIN, JOHN JUNELL. B.A. '41, University of Michigan; M.D. '50, Wayne State University.
Major: Surgery. Minor: Pathology.
Thesis: A Comparative Study of Reimplantation of the Lung in the Dog and Kenya Baboon.
Major Adviser: Dr. C. R. Hitchcock.
1964. MCQUARRIE, DONALD GRAY. B.S. with high honors '53, M.D. '56, University of Utah.
Major: Surgery. Minor: Pathology.
Thesis: The Effect of Nitrogen Mustard on the Survival of Skin Homografts.
Major Adviser: Dr. R. L. Varco.

1965. CASSELLA, ROBERT ROMEO. B.S. '53, University of Notre Dame; M.D. '60, University of Pittsburgh.
Major: Surgery. Minor: Pathology.
Thesis: Pathology of Achalasia of the Esophagus.
Major Adviser: Dr. A. L. Brown, Jr.
1965. DOBERNECK, RAYMOND CLEMENS. B.S. '53, M.D. '56, Marquette University.
Major: Surgery. Minor: Pathology.
Thesis: The Relationship of the Pancreas to Peptic Ulceration: An Experimental Study.
Major Adviser: Dr. O. H. Wangensteen.
1965. NICOLOFF, DEMETRE MATTHEW. B.A. cum laude '54, M.D. cum laude '57, Ohio State University.
Major: Surgery. Minor: Physiology.
Thesis: The Relationship of Steroid Secretion by the Adrenal Glands to Gastric Secretion and Peptic Ulceration: Their Role in the Etiology of Stress Ulcer and Chronic Duodenal Ulcer.
Major Adviser: Dr. O. H. Wangensteen.
1965. PESTANA, CARLOS. B.S. '52, M.D. '56, National University of Mexico.
Major: Surgery. Minor: Pathology.
Thesis: The Function of the Thymus in Pigs.
Major Adviser: Dr. G. A. Hallenbeck.
1965. PETER, EDWARD TURBERVILLE. B.S. '54, M.D. '58, University of Alabama.
Major: Surgery. Minor: Physiology.
Thesis: Gastric Hemodynamics Observations in the Dog.
Major Adviser: Dr. O. H. Wangensteen.
1965. SELLERS, ROBERT DOUGLAS. B.A. '52, M.D. '55, Vanderbilt University.
Major: Surgery. Minor: Pathology.
Thesis: Changes in Cerebrovascular Permeability during Extracorporeal Circulation.
Major Adviser: Dr. C. W. Lillehei.
1966. NAKIB, AHMAD AREF. B.A. '43, M.D. '48, American University of Beirut (Lebanon).
Major: Surgery. Minor: Pathology.
Thesis: Critical Assessment of Different Priming Solutions for Oxygenators by Renal Blood Flow Study and Metabolism: "Under Complete Cardiopulmonary."
Major Adviser: Dr. C. W. Lillehei.
1966. SOSIN, HENRY. B.A. '52, M.D. '56, University of Louisville; M.S. '66, University of Minnesota.
Major: Surgery. Minor: Physiology.
Thesis: Some Studies concerning the Mechanism of Gastric Acid Stimulation and Inhibition in the Canine Gastric Antrum.
Major Adviser: Dr. O. H. Wangensteen.

1966. WOODS, JOHN ELMER. B.A. '49, M.D. '55, Western Reserve University.
Major: Surgery. Minor: Pathology.
Thesis: Studies on Coagulation Changes during and after Extracorporeal
Circulation--with Special Reference to the Effects of Heparin and
Protamine.
Major Adviser: Dr. J. W. Kirklin.

UROLOGY

1959. ANSELL, JULIAN SAMUEL. B.A. '46, Bowdoin College; M.D. '51,
Tufts College.
Major: Urology. Minor: Physiology.
Thesis: A Comparison of Naturally Occurring Rubidium and Radioactive
Potassium as Parameters of Total Body Potassium Stores.
Major Adviser: Dr. C. D. Creevy.
1966. Hakim, Ali Aiman. M.D. '51, Alexandria University.
Major: Urology. Minor: Physiology.
Thesis: Superiority of Bladders Reconstructed from Intestine Covered
with Vesical Epithelium over Those with Intestinal Epithelium.
Major Adviser: Dr. C. D. Creevy.

PHYSICAL SCIENCES

AERONAUTICAL ENGINEERING

1957. BRADFIELD, WALTER SAMUEL. B.S. in M.E. '41, Purdue University; M.S. in A.E. '45, California Institute of Technology; Ae.E. '53, University of Michigan.
Major: Aeronautical Engineering. Minor: Mathematics and Mechanics.
Thesis: An Experimental Investigation of the Turbulent Boundary Layer in Supersonic Flow around Unyawed Cones with Small Heat Transfer and Correlations with Two Dimensional Data.
Major Adviser: Prof. E. R. G. Eckert.
1958. EBCIOGLU, IBRAHIM KUTSI. Graduate '45, Technical University of Istanbul.
Major: Aeronautical Engineering. Minor: Mathematics.
Thesis: Elastic and Plastic Buckling of Polygon-Shaped Plates under Various Loadings and Simply Supported Boundary Conditions.
Major Adviser: Prof. C. C. Chang.
1962. FANG, BERTRAND TIEN-CHUEH. B.S. in Eng. '54, National Taiwan University; M.S. '57, Iowa State College.
Major: Aeronautical Engineering. Minor: Mathematics.
Thesis: On a Theory of Inflatable Shells.
Major Adviser: Prof. C. C. Chang.
1962. KLAIMON, JEROLD HOWARD. B.S.(Aero.Eng.) with honors '55, University of Colorado; M.S. in Aero.Eng. '57, University of Southern California.
Major: Aeronautical Engineering. Minor: Mathematics.
Thesis: Some Effects of the Motion of Electrically Conducting Fluids and Bodies in the Presence of a Magnetic Field.
Major Advisers: Profs. C. C. Chang and W. C. Meecham.
1963. YALAMANCHILI, JANARDANARAO. B.S. '52, Andhra University; Diploma '56, Madras Institute of Technology (India); M.S. in A.E. '59, University of Minnesota.
Major: Aeronautical Engineering. Minor: Mechanics and Materials.
Thesis: Non-Equilibrium Hypersonic Flow of Air in Hypersonic Nozzles and around Blunt Bodies.
Major Adviser: Prof. Rudolf Hermann.
1964. ARCHER, RICHARD DOUGLAS. B.S. '45, University of Melbourne; B.Eng. '50, University of Sydney; M.S. in A.E. '52, University of Minnesota.
Major: Aeronautical Engineering. Minor: Mathematics.
Thesis: Inviscid Supersonic and Hypersonic Flow around an Elliptical Nose.
Major Advisers: Profs. Rudolf Hermann and W. H. Warner.
1964. MELNIK, WALTER LOUIS. B.S. with distinction '51, M.S. in A.E. '53, University of Minnesota.
Major: Aeronautical Engineering. Minor: Mathematics.
Thesis: Supersonic and Hypersonic Flow of an Ideal Gas about Elliptic Cones by the Method of Integral Relations.
Major Advisers: Profs. Rudolf Hermann and W. T. Warner.

1964. RUST, LAWRENCE WAYNE, JR. B.S. with distinction '59, M.S. in A.E. '61, University of Minnesota.
Major: Aeronautical Engineering. Minor: Mathematics.
Thesis: Two Higher Order Corrections for the Theory of Incompressible, Axially Symmetric, Turbulent Wakes.
Major Advisers: Profs. H. G. Heinrich and W. C. Meecham.
1965. ALLEN, STUART JOSEPH. B.S.(M.E.) '58, University of Wisconsin; M.S. '61, Seattle University.
Major: Aeronautical Engineering. Minor: Mechanics and Materials.
Thesis: A Theory of Transversely Isotropic Fluids.
Major Adviser: Prof. C. N. De Silva.
1965. HAIGHT, CHARLES HERBERT. B.S. with high distinction '59, M.S. in A.E. '62, University of Minnesota.
Major: Aeronautical Engineering. Minor: Mathematics.
Thesis: Shock Structure in a Gas of Rigid Non-Central Particles.
Major Adviser: Prof. T.S. Lundgren.
1965. IBRAHIM, SHUKRY KAMEL. B.E.E. (honors) '38, Cairo University (Egypt); Diploma '45, University of London.
Major: Aeronautical Engineering. Minor: Mathematics.
Thesis: Apparent Added Mass and Moment of Inertia of Cup-Shaped Bodies in Unsteady Incompressible Flow.
Major Adviser: Prof. H. G. Heinrich.
1966. ROSE, RAYMOND EDWARD. B.S.Aero.E. '51, University of Kansas; M.S. in A.E. '56, University of Minnesota.
Major: Aeronautical Engineering. Minor: Mathematics.
Thesis: Experimental Investigations of Instability of Supersonic Flow about Cup-Shaped Bodies.
Major Advisers: Profs. H. G. Heinrich and W. C. Meecham.

AGRICULTURAL ENGINEERING

1959. RYU, HAN YEOL. B.S.(Ag.Eng.) '52, Seoul National University; M.S. in Ag.E. '57, University of Minnesota.
Major: Agricultural Engineering. Minor: Mathematics.
Thesis: Physical Tests to Measure the Durability of Concrete Drain Tile When Exposed to Acid Waters.
Major Adviser: Prof. Andrew Hustrulid.
1960. LEE, CHUL CHOO. B.S. '54, Seoul National University; M.S. in Ag.E. '57, University of Minnesota.
Major: Agricultural Engineering. Minor: Mechanical Engineering.
Thesis: The Drying Characteristics of Rewetted Soybeans.
Major Adviser: Prof. Andrew Hustrulid.
1966. MACHMEIER, ROGER ERLE. B.Ag.E. with distinction '52, M.S. in Ag.E. '61, University of Minnesota.
Major: Agricultural Engineering. Minor: Civil Engineering.
Thesis: The Effect of Runoff Supply Rate and Duration on Runoff Time Parameters and Peak Outflow Rates.
Major Adviser: Prof. Andrew Hustrulid.

1966. SRIVASTAVA, RAMA KANT. B.Sc.Agr.E. '53, University of Allahabad (India); M.S. '61, University of Massachusetts.
Major: Agricultural Engineering. Minor: Mathematics.
Thesis: The Influence of the Physical Properties of the Alfalfa Hay Bale on Its Internal Air Flow Characteristics.
Major Adviser: Prof. Andrew Hustrulid.

ANALYTICAL CHEMISTRY

1956. GILBERT, THEODORE WILLIAM, JR. B.S. '51, Massachusetts Institute of Technology.
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: The Reaction between Molybdenum and Toluene-3, 4-Dithiol.
Major Adviser: Prof. E. B. Sandell.
1957. SURASITI, CHARLIO. B.Sc. '50, Chulalongkorn University; M.S. '57, University of Minnesota.
Major: Analytical Chemistry. Minor: Chemistry.
Thesis: The Catalytic Determination of Ruthenium.
Major Adviser: Prof. E. B. Sandell.
1957. VAN'T RIET, BARTHOLOMEUS. B.Sc. '50, Vrije University.
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: The Precipitation Mechanism of Lead Sulfate.
Major Adviser: Prof. I. M. Kolthoff.
1958. BEATTIE, WILLARD H. B.A. '51, M.S. '54, University of Chicago.
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: Light Scattering by Silver Bromide Sols.
Major Adviser: Prof. E. J. Meehan.
1958. CHANG CHI. B.S. '49, Massachusetts Institute of Technology.
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: The Distribution Relationship in the Formation of Mixed Crystals of Barium-Lead Sulfate by Kinetically Controlled Precipitation.
Major Adviser: Prof. I. M. Kolthoff.
1958. MARKHAM, JAMES JOSEPH. B.S. '50, Villanova College.
Major: Analytical Chemistry. Minor: Chemistry.
Thesis: The Reaction between Rhodium (III) and Tin (II) in Iodide Solution.
Major Adviser: Prof. E. B. Sandell.
1958. MATHRE, OWEN BERTWELL. B.A. cum laude '51, Harvard College.
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: Lead-Dithizone Equilibria in Water-Carbon Tetrachloride Systems.
Major Adviser: Prof. E. B. Sandell.
1959. GILBERT, DON DALE. B.S. '56, University of California (Berkeley).
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: The Benzene Extraction of Tin (IV) Iodide.
Major Adviser: Prof. E. B. Sandell.

1959. KNECHT, LAURANCE ARTHUR. B.S. with high honors '53, University of Illinois.
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: Polarography and Acid-Base Properties in N-Methylacetamide.
Major Adviser: Prof. I. M. Kolthoff.
1961. CHANTOONI, MIRAN KEVORK, JR. B.S. '51, M.S. '54, State University of Iowa.
Major: Analytic Chemistry. Minor: Physical Chemistry.
Thesis: Acid-Base Equilibria in Acetonitrile.
Major Adviser: Prof. I. M. Kolthoff.
1961. MUKHERJEE, LAL MOHAN. B.S. (honors) '49, M.S. '51, University of Calcutta.
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: Equilibrium Studies in Ethylenediamine.
Major Adviser: Prof. Stanley Bruckenstein.
1961. ROUSE, THOMAS OWEN. B.S. '55, University of New Mexico.
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: An Evaluation of Chronopotentiometry and an Investigation of Several New Types of Constant Current Linear Diffusion Problems.
Major Adviser: Prof. Stanley Bruckenstein.
1962. CHIU, GRACE PO-YUEN. B.S. '57, East Texas Baptist College.
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: Analytical Applications of Light Scattering to Silver Bromide Sols.
Major Adviser: Prof. E. J. Meehan.
1962. GRACIAS, CECILIO EUGENIO. Ch.E. '54, M.Ch.E. '57, Instituto Superior Technico (Portugal).
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: Acid-Base Studies in Methyl Isobutyl Ketone.
Major Adviser: Prof. I. M. Kolthoff.
1963. BIXLER, JOHN WILSON. B.S. '59, Lakeland College.
Major: Analytical Chemistry. Minors: Inorganic and Physical Chemistry.
Thesis: Chemical Stripping Analysis.
Major Adviser: Prof. Stanley Bruckenstein.
1963. FOK, JOHN SHIU-KANG. B.A. '57, International Christian University (Japan).
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: Chloroform Extraction of Tetraphenylarsonium Chloride and Tetraphenylarsonium Chloroiodate.
Major Adviser: Prof. E. B. Sandell.
1965. MARHENKE, KARL. B.S. '57, University of California (Berkeley).
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: The Reaction of Tellurium (IV) with Dithizone.
Major Adviser: Prof. E. B. Sandell.

1965. MARSH, FREDERICK LEON. B.A. '58, Blackburn College.
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: An Electroanalytical Study at the Continuously Deposited,
Mercury-Coated, Rotating Platinum Electrode.
Major Adviser: Prof. Stanley Bruckenstein.
1965. TURNQUIST, TRUMAN DALE. B.A. '61, Bethel College.
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: Iron (III)-8-Hydroxyquinoline Equilibria.
Major Adviser: Prof. E. B. Sandell.
1966. MILLER, JERRY KEITH. B.Ch. '57, University of Minnesota; M.A.
'63, University of Missouri.
Major: Analytical Chemistry. Minor: Physical Chemistry.
Thesis: The Mechanism of Formation and Growth of Silver Bromide
Particles.
Major Adviser: Prof. E. J. Meehan.

CHEMICAL ENGINEERING

1956. LUEDEKING, ROBERT. B.S. in Ch.E. '46, Purdue University.
Major: Chemical Engineering. Minor: Bacteriology.
Thesis: The Lactic Acid Fermentation at Controlled pH--Kinetics of
the Batch Process and Continuous Flow Theory and Experiments.
Major Adviser: Prof. E. L. Piret.
1956. MOEN, ROBERT HENRY. B.Ch.E. with high distinction '50,
University of Minnesota.
Major: Chemical Engineering. Minor: Organic Chemistry.
Thesis: Pressure Drop in Two-Phase Flow.
Major Adviser: Prof. H. S. Isbin.
1957. KENNY, WILLIAM JAMES. B.S.Ch.E. with distinction '52, Purdue
University.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Energy-New Surface Relationship in the Crushing of Solids;
VII. Slow Compression Crushing of Single Particles of Glass.
Major Adviser: Prof. A. J. Madden.
1957. NICKELSON, ROBERT LELAND. B.S. in Ch.E. with honors '51, M.S. in
Ch.E. '52, Montana State College.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Some Effects of Heat Transfer Surfaces Observed in Natural
Convection and Nucleate Pool Boiling Heat Transfer.
Major Advisor: Prof. G. W. Preckshot.
1957. PENNEY, WILLIAM HARRY. Pet. Ref Eng. '51, Colorado School of
Mines.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Ethylation of Benzene Extractive Reaction.
Major Adviser: Prof. E. L. Piret.
1957. VANDERWATER, ROBERT GEORGE. B.S. '50, University of Illinois.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: An Analysis of Burnout in Two-Phase, Liquid-Vapor Flow.
Major Adviser: Prof. H. S. Isbin.

1957. WYNNEMER, DONALD JAMES. B.Ch.E. with distinction '53, University of Minnesota.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Thermodynamic Properties of the Zinc-Cadmium System by EMF Measurements.
Major Adviser: Prof. N. H. Ceaglske.
1957. ZELENY, RICHARD ALAN. B.S. with distinction '52, M.S. '54, Worcester Polytechnic Institute.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: A Study of the Dissipation of Energy in Single Particle Crushing.
Major Adviser: Prof. A. J. Madden.
1958. BERGOUGNOU, MARUICE AMEDEE. Graduate '53, Ecole Nationale Supérieure des Industries Chimiques.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Diffusional Transfer for Distributed Particle Sizes and Extension of Two-Phase Leaching Equations.
Major Adviser: Prof. E. L. Piret.
1958. DALLA LANA, IVO GIOVANNI. B.A.Sc. '48, University of British Columbia; M.Sc. '53, University of Alberta.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: The Hydrogen Reduction of Ferric Oxide Powder in a Tubular Reactor.
Major Adviser: Prof. N. R. Amundson.
1958. SCHILSON, ROBERT EARL. B.S. with honors '50, University of Illinois.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Study of Intraparticle Diffusion Effects in a Gas Phase Catalytic Reaction.
Major Adviser: Prof. N. R. Amundson.
1958. SEVERSON, DONALD EVERETT. B.Ch.E. with distinction '41, University of Minnesota.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Evaporation Rates of Liquids to Flowing Gas Streams for Conditions of High Concentration Gradients.
Major Adviser: Prof. E. L. Piret.
1959. COSTE, JOSEPH ANDRE. Graduate '55, University of Toulouse(France).
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Tubular Reactor Studies: Sensitivity and Diffusion.
Major Adviser: Prof. N. R. Amundson.
1959. HAHN, TAE HEE. B.S. '50, M.S. '53, Seoul National University; M.S. in Ch.E. '57, University of Minnesota.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Effects of Geometry and Size of Specimen on Impact Crushing of Solids.
Major Adviser: Prof. A. J. Madden.

1959. SATHER, GLENN ARTHUR. B.Ch.E. with distinction '52, B.B.A. '52, University of Minnesota.
Major: Chemical Engineering. Minor: Organic Chemistry.
Thesis: Extractive Reaction- I. Batch Kinetics of a Homogeneous Alcoholysis Reaction; II. Two-Phase Alcoholysis Reaction in a Continuous Stirred Tank Reactor.
Major Advisers: Profs. E. L. Piret and A. J. Madden.
1959. WALTHER, HERBERT CARL, JR. B.S. with highest honors '54, University of Illinois.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Some Physico-Chemical Properties of the Humic Acids.
Major Advisers: Profs. E. L. Piret and A. M. Madden.
1960. KANG, WOONG KI. B.S. '55, Seoul National University; M.S. '57, University of Minnesota.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: A Study on Mixing in a Continuous Flow Stirred Vessel.
Major Adviser: Prof. W. E. Ranz.
1960. LIN, KUANG HUI. B.S. '50, National Taiwan University; M.S. '56, Iowa State College.
Major: Chemical Engineering. Minor: Mechanical Engineering.
Thesis: Simultaneous Oxidation-Ammoniation of Peat in a Fluidized-bed Reactor.
Major Adviser: Prof. A. J. Madden.
1960. LIU, SHEAN-LIN. B.S. '55, National Taiwan University; M.S. '57, West Virginia University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Analytical Studies of Polymerization Kinetics.
Major Adviser: Prof. N. R. Amundson.
1960. NELSON, RODNEY ALDEN. B.Ch.E. '52, B.B.A. '52, University of Minnesota.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Simultaneous Heat and Mass Transfer by Natural Convection in Liquid Systems.
Major Adviser: Prof. A. J. Madden.
1960. O'TOOLE, JAMES THOMAS. B.A. '56, B.S. '57, Rice Institute.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: The Role of Internal Motions in the Kinetic Theory of Gases.
Major Adviser: Prof. J. S. Dahler.
1960. PARK, WON HEE. B.S. in Eng. '55, Seoul National University; M.S. in Ch.E. '57, University of Minnesota.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Study on Packed Bed--Its Analytical Description and Solution.
Major Adviser: Prof. N. R. Amundson.
1960. PHILLIPS, DOUGLAS DUANE. B.S.Ch.E. '54, Washington University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: The Application of Dynamic Feedforward Compensation to Linearized Process Control Systems.
Major Adviser: Prof. N. H. Ceaglske.

1960. RUDD, DALE FREDERICK. B.S. with distinction '56, University of Minnesota.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: A Study of Iterative Optimization and on the Design of Processes Subject to Random Failures.
Major Adviser: Prof. N. R. Amundson.
1961. DENNY, VERNON EDWIN. B.Ch.E. with high distinction '53, University of Minnesota.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Some Effects of Surface Micro-Geometry on Natural Convection and Pool Boiling Heat Transfer to Saturated Carbon Tetrachloride.
Major Adviser: Prof. G. W. Preckshot.
1961. GARLID, KERMIT LEROY. B.S. '50, Wisconsin State College (River Falls); B.Ch.E. with high distinction '56, University of Minnesota.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: A Theoretical Study of the Transient Operation and Stability of Two-Phase Natural Circulation Loops.
Major Adviser: Prof. N. R. Amundson.
1961. MCCABE, JOHN MURRAY. B.S. with honors '56, Pennsylvania State University.
Major: Chemical Engineering. Minor: Statistics.
Thesis: A Study of the Chlorination of Benzene Using Co^{60} Gamma Radiation in a Flow System.
Major Adviser: Prof. H. S. Isbin.
1962. BYDAL, BRUCE ALFRED. B.S. '59, University of Illinois.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Inductively Heated, High Temperature Reactor.
Major Adviser: Prof. W. E. Ranz.
1962. DICKSON, PHILIP FLOYD. B.S.Ch.Eng. with honors '58, South Dakota School of Mines and Technology.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Large Gradient Mass Transfer.
Major Adviser: Prof. W. E. Ranz.
1962. FAW, RICHARD EARL. Ch.Eng. '59, University of Cincinnati.
Major: Chemical Engineering. Minor: Physics.
Thesis: Radiation Induced Chlorination of Benzene.
Major Adviser: Prof. H. S. Isbin.
1962. LEE, KUNG-YOU. B.S. '44, Ordinance Engineering College (Formosa); M.S. in Ch.E. '58, University of Minnesota.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Optimum Studies on Multi-bed Adiabatic Reactors with Cold Shot Cooling.
Major Adviser: Prof. Rutherford Aris.
1962. MILLER, RICHARD LINN. B.S. '55, M.S. '59, Oregon State College.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: The Effect of Controlled Light Patterns on the Rate of Photosynthesis in an Algal Gas Exchanger.
Major Advisers. Profs. H. M. Tsuchiya and A. G. Fredrickson.

1962. OLSON, KENNETH EARL. B.S.Ch.E. '57, Northwestern University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: An Analytical Study of the Regeneration of Fixed Bed Catalytic Reformers.
Major Adviser: Prof. N. R. Amundson.
1962. SATHER, NORMAN FREDRICK. B.S. with high distinction '58, University of Illinois.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Thermal Relaxation and Transport Phenomena in Polyatomic Fluids.
Major Adviser: Prof. J. S. Dahler.
1962. SCHMITZ, ROGER ANTHONY. B.S. with high distinction '59, University of Illinois.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: An Analytical Study of the Transient Behavior and Stability of Two-Phase Chemical Reacting Systems.
Major Adviser: Prof. N. R. Amundson.
1962. SINGER, RALPH MARK. B.S. in Ch.Eng. '58, Illinois Institute of Technology.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: The Condensation of Vapor on a Rotating Cylinder.
Major Adviser: Prof. G. W. Preckshot.
1963. CHIEN, HENRY HUNG-YEH. B.S. '56, Taiwan Provincial Institute of Technology.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Optimal Control of a Batch Reactor.
Major Adviser: Prof. Rutherford Aris.
1963. ELIASSEN, JOHN DAVID. B.S.E. '57, Princeton University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Interfacial Mechanics.
Major Adviser: Prof. L. E. Scriven.
1963. GORE, ROBERT WALTON. B.Ch.E. '59, University of Delaware; M.S. '62, University of Minnesota.
Major: Chemical Engineering. Minor: Mechanical Engineering.
Thesis: Backflows in Rotating Fluids Moving Axially through Expanding Cross Sections.
Major Adviser: Prof. W. E. Ranz.
1963. RAYMOND, LEE ROY. B.S.(Ch.E.) with honors '60, University of Wisconsin.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: An Analytical Study of the Transient Behavior and Stability of Tubular Reactors and Catalyst Particles.
Major Adviser: Prof. N. R. Amundson.
1963. SANI, ROBERT LEROY. B.S. '58, M.S. '60, University of California.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Convective Instability.
Major Adviser: Prof. L. E. Scriven.

1963. SIEBENTHAL, CHARLES DON. B.S.Ch.E. '60, Washington University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Some Topics in the Optimal Control of Chemical Reactors.
Major Adviser: Prof. Rutherford Aris.
1963. SU, ALBERT YUNG-SUNG. B.S. in Eng. '59, National Taiwan University.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Gamma-Ray Induced Recombination of Hydrogen and Oxygen in the Presence of Water Vapor.
Major Adviser: Prof. H. S. Isbin.
1963. WARDEN, ROBERT BAILEY. B.S. in Eng. '59, Princeton University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: An Analytic Study of the Stability and Control of an Addition Polymerization Reaction System.
Major Adviser: Prof. N. R. Amundson.
1964. BECKER, PHILIP MONROE, B.S. '58, University of California.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Double Excitation of Helium by Electronic Impact.
Major Adviser: Prof. J. S. Dahler.
1964. BENJAMIN, BENNY MOSES. B.Ch.E. '60, University of Bombay (India).
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Recombination of Hydrogen and Oxygen in the Presence of Water Vapor under the Influence of Radiation.
Major Adviser: Prof. H. S. Isbin.
1964. CHAN, WING-CHENG. B.S. with honors '60, University of California.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Heat and Mass Transfer across Fluid Interfaces in Wave Motion.
Major Adviser: Prof. L. E. Scriven.
1964. CHUNG, HAROLD SET. B.S. with distinction '59, University of Minnesota.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Some Aspects of the Equilibrium Theory of the Liquid State.
Major Adviser: Prof. J. S. Dahler.
1964. DENN, MORTON MACE. B.S.E. with high honors '61, Princeton University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: The Optimization of Complex Systems.
Major Adviser: Prof. N. R. Amundson.
1964. DREIER, WILLIAM MATTHEWS, JR. B.S. '59, M.S. '60, University of Wisconsin.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: An Analysis of Some Problems in Two-Phase Breakup and Coalescence.
Major Adviser: Prof. W. E. Ranz.

1964. GAVALAS, GEORGE ROUSETOS. Chemical Engineer '58, National Technical University of Athens (Greece); M.S. in Ch.E. '62, University of Minnesota.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Analysis of Continuous Reactions and Variational Problems Arising from Chemical Reaction Systems.
Major Adviser: Prof. N. R. Amundson.
1964. GOLDSTEIN, ROBERT PHILIP. B.Ch.E. '60, Rensselaer Polytechnic Institute.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: An Analytical Study of the Steady State and Transient Behavior of One- and Two-Phase Polymerization Reactors.
Major Adviser: Prof. N. R. Amundson.
1964. GRACE, THOMAS MICHAEL. B.S. with honors '60, University of Wisconsin.
Major: Chemical Engineering. Minor: Physics.
Thesis: The Mechanism of Burnout in Initially Sub-Cooled Forced Convective Systems.
Major Adviser: Prof. H. S. Isbin.
1964. JACKISCH, DAVID ALLAN. B.S.(Ch.E.) '59, University of Wisconsin.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: The Effect of Vibration on Mass Transfer from Bubbles.
Major Adviser: Prof. G. W. Preckshot.
1964. VALENTAS, KENNETH JOHN. B.S.(Ch.E.) with high distinction '60, University of Illinois.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: An Analytical Study of Dispersed Phase Reactors.
Major Adviser: Prof. N. R. Amundson.
1964. VELA, SAUL. B.S. '61, University of California.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Relaxation Phenomena in Viscoelastic Fluids.
Major Adviser: Prof. A. G. Fredrickson.
1964. YESBERG, DESBOROUGH. B.Sc. '55, M.Sc. '56, University of Queensland; M.A.Sc. '59, University of Toronto.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Studies in the Design and Optimization of Cocurrent and Countercurrent Chemical Reactors.
Major Adviser: Prof. Rutherford Aris.
1964. ZEMAN, RONALD JOSEPH. B.S. '60, Northwestern University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Continuous Polymerization Models.
Major Adviser: Prof. N. R. Amundson.
1965. BUPARA, SARGIT SAMUEL. B.S. '59, University of California.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Spontaneous Movements of Small Round Bodies in Viscous Fluids.
Major Adviser: Prof. L. E. Scriven.

1965. CHEN, PING CHIEN. B.S. in Eng. '56, National Taiwan University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Two-Phase Flow through Apertures.
Major Adviser: Prof. H. S. Isbin.
1965. CONDIFF, DUANE WILLIAM. B.S. with high distinction '61,
University of Minnesota.
Major: Chemical Engineering. Minors: Mathematics and Physics.
Thesis: Transport Phenomena in Fluids with Rotating Molecules.
Major Adviser: Prof. J. S. Dahler.
1965. FINLAYSON, BRUCE ALAN. B.A. magna cum laude '61, M.S. '63,
Rice University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Approximate Solutions of Equations of Change; Convective
Instability by Active Stress.
Major Adviser: Prof. L. E. Scriven.
1965. HERMES, ROBERT A. B.S.Ch.E. '62, University of Texas.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Flow of Viscoelastic Fluids Past a Flat Plate.
Major Adviser: Prof. A. G. Fredrickson.
1965. KUO, JAMES CHENG-WU. B.S. '59, National Taiwan University;
M.S.Ch.E. '61, University of Washington.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Theoretical Studies of the Asymptotic Stability of a Mono-
Molecular Reaction System in a Catalyst Particle.
Major Adviser: Prof. N. R. Amundson.
1965. LEE, DON EVARD. B.S.Ch.E. summa cum laude '59, University of
Denver.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Root Locus Areas for the Analysis and Design of Multiple
Loop Cascade and Related Control Systems.
Major Adviser: Prof. N. H. Ceaglske.
1965. NORDIN, JOHN STAYNE. B.S. '61, University of Minnesota
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: Interfacial Phenomena Governing Microalgae Adhesions to
Surfaces.
Major Adviser: Prof. H. M. Tsuchiya.
1965. RAMKRISHNA, DORAISWAMI. B.Ch.E. '60, University of Bombay.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Models for the Dynamics of Microbial Growth.
Major Advisers: Profs. A. G. Fredrickson and H. M. Tsuchiya.
1965. REED, X. B., JR. B.S.(Ch.E.) '59, Agricultural and Mechanical
College of Texas.
Major: Chemical Engineering. Minor: Physical Chemistry.
Thesis: On Time Differentiation; Studies in Interfacial Mechanics.
Major Adviser: Prof. L. E. Scriven.

1965. SCHINDLER, ROBERT ERNEST. B.S.Ch.E. cum laude '59, University of Washington; M.S. in Ch.E. '61, University of Minnesota.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Structure of a Vortex Flame.
Major Adviser: Prof. W. E. Ranz.
1965. SCHMEAL, WALTER RICHARD. B.S.(Ch.E.) '61, University of Illinois; M.S. '62, Northwestern University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Packed Bed Reactors with Recycle.
Major Adviser: Prof. N. R. Amundson.
1965. VANDERVEEN, JOHN WARREN. B.S.Ch.E. '60, M.S. '61, University of Nebraska.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Mathematical Models of an Adiabatic Fixed Bed Reactor.
Major Adviser: Prof. N. R. Amundson.
1966. KLEEMAN, GEORGE EUGENE, III. B.S.Ch.E. '62, Gonzaga University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Critical Heat Flux in Two-Phase Flow.
Major Adviser: Prof. H. S. Isbin.
1966. MURPHY, CHARLES LOUIS. B.S. '62, Michigan State University.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Thermodynamics of Low Tension and Highly Curved Interfaces.
Major Adviser: Prof. L. E. Scriven.
1966. SCHINDLER, ROGER NEIL. B.S.Ch.E. '61, M.S. '62, University of Nebraska.
Major: Chemical Engineering. Minor: Mathematics.
Thesis: Questing Control of Continuous Flow Stirred Tank Reactors.
Major Adviser: Prof. Rutherford Aris.

CHEMICAL PHYSICS

1964. COFFMAN, ROBERT EDGAR. B.S. with highest honors '53, University of Illinois; M.S. '55, University of California.
Major: Chemical Physics.
Thesis: A Study of the Eg Ground States of Cr(II) and Cu(II) in MgO by the Method of Paramagnetic Resonance.
Major Adviser: Prof. J. E. Wertz.

CIVIL ENGINEERING

1958. CHOI, JONG WAN. B.S. in C.E. '50, Seoul National University; M.S. in C.E. '57, University of Minnesota.
Major: Civil Engineering. Minor: Mathematics.
Thesis: Stress Study of a Steel Framed Dome.
Major Adviser: Prof. Paul Andersen.
1958. FLAMMER, GORDON HANS. B.S. '52, M.S. '53, Utah State Agricultural College.
Major: Civil Engineering. Minor: Mathematics.
Thesis: The Use of Ultrasonics in the Measurement of Suspended Sediment Size Distribution and Concentration.
Major Adviser: Prof. L. G. Straub.

1958. SCIPPIO, LOUIS ALBERT. B.S. with highest honors '42, Tuskegee Institute; B.C.E. '48, M.S. in C.E. '50, University of Minnesota.
Major: Civil Engineering. Minor: Mathematics.
Thesis: A Study of Non-Uniform Flat Plates Supported on Non-Equidistant Vertical Supports.
Major Adviser: Prof. Paul Andersen.
1960. ANANDAKRISHNAN, M. B.E. '52, Madras University; M.S. in C.E. '57, University of Minnesota.
Major: Civil Engineering. Minor: Mathematics.
Thesis: A Study of Some of the Variables of Consolidation Theory as Applied in Vertical Sand Drain Design.
Major Adviser: Prof. M. S. Kersten.
1960. SONG, CHIEH-SHYANG. B.Sc. '53, National Taiwan University; M.S. '56, State University of Iowa.
Major: Civil Engineering. Minor: Mathematics.
Thesis: Similar and Quasi-Similar Solutions of the Boundary Layer Equations for Two-Dimensional Incompressible Flows.
Major Adviser: Prof. L. G. Straub.
1961. CHRISTENSEN, BENT AKSEL. Ph.B. '48, University of Denmark; M.S. in C.E. '51, The Technical University of Denmark.
Major: Civil Engineering (Hydraulic Engineering). Minor: Civil Engineering (Soil Mechanics).
Thesis: A Treatise on the Critical Shear Stress in Alluvial Water-courses.
Major Adviser: Prof. L. G. Straub.
1962. BARKER, RICHARD MORELL. B.C.E. with high distinction '55, M.S. in C.E. '56, University of Minnesota.
Major: Civil Engineering. Minor: Mathematics.
Thesis: Folded Plate Analysis Using a Digital Computer and Experimental Model Studies.
Major Adviser: Prof. Paul Andersen.
1962. RAO, GUTTI SUBBA. B.E.(Civil) '51, Annamalai University; M.Tech. '55, Indian Institute of Technology.
Major: Civil Engineering. Minor: Mathematics.
Thesis: Hydraulic Design of an Overfall Founded on Permeable Soils.
Major Adviser: Prof. L. G. Straub.
1962. SELF, MORRIS WALDT. B.C.E. with distinction '50, M.S. in C.E. '53, University of Minnesota.
Major: Civil Engineering. Minor: Aeronautical Engineering.
Thesis: An Investigation of the Ultimate Strength of Reinforced Concrete Flat Slab Floors.
Major Adviser: Prof. Paul Andersen.
1962. SINGH, MANSA. B.Sc.C.E. '52, Panjab University (India); M.S. in C.E. '56, University of Minnesota.
Major: Civil Engineering. Minor: Mathematics.
Thesis: Thermo-Elastoplastic Bending and Stability of Beam-Columns.
Major Adviser: Prof. W. H. Warner.

1962. TARAPORE, ZAL SOHRAB. B.Sc. '53, University of Edinburgh;
M.S. '56, University of Minnesota.
Major: Civil Engineering. Minor: Mathematics.
Thesis: A Theoretical and Experimental Determination of the Erosion
Pattern Caused by Obstructions in an Alluvial Channel with
Particular Reference to Vertical Circular Cylindrical Piers.
Major Adviser: Prof. L. G. Straub.
1963. BOHNE, QUENTIN R. B.C.E. with high distinction '44, M.S. '48,
University of Minnesota.
Major: Civil Engineering. Minor: Mathematics.
Thesis: Ground Wind-Induced Loads on Axisymmetric Launch Vehicles.
Major Adviser: Prof. Paul Andersen.
1963. JOHNSON, WALTER KLINE. B.C.E. with distinction '48, M.S. in C.E.
'51, University of Minnesota.
Major: Civil Engineering. Minor: Chemical Engineering.
Thesis: Nitrogen Removal from Waste Water by Biochemical
Nitrification and Denitrification.
Major Adviser: Prof. G. J. Schroepfer.
1964. MAXWELL, WILLIAM HALL CHRISTIE. B.Sc. '56, M.Sc.C.E. '58,
Queen's University.
Major: Civil Engineering. Minor: Mathematics.
Thesis: Linearized, Two-Dimensional, Hydrodynamic Theory for the Lift
and Moment on a Non-Cavitating Hydrofoil with an Oscillating Flap
in a Channel of Limited Depth.
Major Adviser: Prof. Edward Silberman.
1964. MERCER, ALBERT GEORGE. B.A.Sc. '54, University of British
Columbia; M.S. in C.E. '57, University of Minnesota.
Major: Civil Engineering. Minor: Mathematics.
Thesis: Characteristics of Sand Ripples in Low Froude Number Flow.
Major Adviser: Prof. A. G. Anderson.
1964. PEDERSON, LYLE PERRY. B.C.E. '52, B.S. '52, M.S. in C.E. '56,
University of Minnesota.
Major: Civil Engineering. Minor: Geology.
Thesis: An Investigation of the Durability of Silty Soils Stabilized
with Bituminous Materials.
Major Adviser: Prof. M. S. Kersten.
1964. PREUL, HERBERT CHARLES. B.S.C.E. '50, University of Iowa;
M.S. in C.E. '55, University of Minnesota.
Major: Civil Engineering. Minors: Chemical Engineering and Public
Health.
Thesis: Travel of Nitrogen Compounds in Soils.
Major Adviser: Prof. G. J. Schroepfer.
1964. SACK, RONALD LESLIE. B.S. '57, M.S. in C.E. '58, University of
Minnesota.
Major: Civil Engineering. Minor: Mathematics.
Thesis: The Elastic and Elasto-Plastic Instability of Plane Frames.
Major Adviser: Prof. W. T. Graves.

1964. SRIDHAR RAO, JAWALKER KISHANRAO. B.E.(Civil) '60, University of Mysore (India); M.S. in C.E. '63, University of Minnesota.
Major: Civil Engineering. Minor: Mathematics.
Thesis: Analysis of Flat Slabs with Drop Panels by Finite Difference Methods.
Major Adviser: Prof. Paul Andersen.
1964. ZANONI, ALPHONSE ELIGIUS. B.C.E. '56, Marquette University;
M.S. in C.E. '60, University of Minnesota.
Major: Civil Engineering. Minors: Microbiology and Public Health.
Thesis: The Effect of Temperature on the Rate of Deoxygenation of Waste Water.
Major Adviser: Prof. G. J. Schroepfer.
1965. SUSAG, RUSSELL HARRY. B.C.E. with distinction '56, University of Minnesota.
Major: Civil Engineering. Minor: Chemical Engineering.
Thesis: The Effect of Chlorination on the Deoxygenation Behavior of Waste Waters.
Major Adviser: Prof. G. J. Schroepfer.
1965. YALAMANCHILI, KESAVARAO. B.Sc. '55, University of Madras;
B.E. '59, University of Mysore (India); M.S. in C.E. '60,
University of Minnesota.
Major: Civil Engineering. Minor: Mathematics.
Thesis: A Linearized Theory for Potential and Rotational Super-cavitating Flow over a Wedge in a Two Dimensional Open Channel.
Major Adviser: Prof. A. G. Anderson.

ELECTRICAL ENGINEERING

1956. HANNAM, HERBERT JAMES. B.S. with distinction '51, M.S. in E.E. '53, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Noise Generated in Oxide Cathodes.
Major Adviser: Aldert van der Ziel.
1957. HANSON, GORDON HAROLD. B.A. '49, M.A. '51, University of British Columbia.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: An Experimental Investigation of Noise in Transistors.
Major Adviser: Prof. Aldert van der Ziel.
1957. HAXBY, BERNARD VAN LOAN. B.E.E. with distinction '48, B.S. in E.E. '49, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: A Study of Color Centers in Magnesium Oxide.
Major Adviser: Prof. A. J. Dekker.
1957. JENSEN, ANDREW O. B.E.E. with distinction '50, M.S. in E.E. '53, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: The Utilization of Magnetic Levitation in Studies of Piezoelectric Quartz Crystals.
Major Adviser: Prof. R. F. Lambert.

1957. LYE, ROBERT GLEN. B.A.Sc. '50, M.A.Sc. '52, University of British Columbia.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Some Investigations of Secondary Electron Emission.
Major Adviser: Prof. A. J. Dekker.
1958. ANDERSON, DONALD EDWARD. B.S. with high distinction '52, M.S. in E.E. '54, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Electrolysis and the Activation Processes in the Oxide Coated Cathode.
Major Adviser: Prof. W. G. Shepherd.
1958. CHAMPLIN, KEITH SCHAFFNER. B.S. with distinction '54, M.S. in E.E. '55, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: The Electrical Noise of Reverse Bias Breakdown in Silicon P-N Junctions.
Major Adviser: Prof. Aldert van der Ziel.
1958. GLEWWE, CARL WILLIAM. B.E.E. with high distinction '50, M.S. in E.E. '55, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Effects of Temperature Transients in Oxide Coated Cathodes.
Major Adviser: Prof. W. G. Shepherd.
1958. SCHWANTES, ROBERT CHARLES. B.E.E. with distinction '49, M.S. in E.E. '55, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: A Study of Flicker Noise in Multi-Electrode Vacuum Tubes.
Major Adviser: Prof. Aldert van der Ziel.
1958. SHIMADA, KATSUNORI. B.S. '45, Tokyo Imperial University; M.S. in E.E. '54, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Impedance and Noise Measurements of Various Gas Discharge Devices.
Major Adviser: Prof. Aldert van der Ziel.
1959. BONSTROM, DONALD BRYAN. B.E.E. '51, M.S. in E.E. '55, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Magnetic Resonance Properties of Magnetite below Its Transition Temperatures.
Major Adviser: Prof. A. H. Morrish.
1959. CHENETTE, EUGENE RICHARD. B.S. with distinction '55, M.S. in E.E. '56, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Noise in Junction Transistors.
Major Adviser: Prof. Aldert van der Ziel.
1959. JOHNSON, ROY RAGNAR. B.E.E. '54, M.S. in E.E. '56, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Study of the Cause of Flicker Noise in Oxide Coated Cathodes.
Major Adviser: Prof. Aldert van der Ziel.

1959. WATT, LYNN ALEXANDER KEELING. B.Sc.(honors) '47, University of Manitoba; M.S. '51, University of Chicago.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Some Magnetic Properties of Iron Oxide Micropowders.
Major Adviser: Prof. A. H. Morrish.
1960. HOLTE, JAMES EDWARD. B.S. with distinction '53, M.S. in E.E. '56, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: The Synthesis of Transmission Systems with Step Discontinuities.
Major Adviser: Prof. R. F. Lambert.
1960. SOSHEA, RICHARD WILLIAM. B.S. with high distinction '54, M.S. in E.E. '56, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: The Variation of Secondary Electron Emission from Titanium Single Crystals with Angle of Incidence of the Primary Electron Beam.
Major Adviser: Prof. A. J. Dekker.
1961. HALVERSON, RICHARD PEYTON. B.S.E.E. '51, University of North Dakota; M.Sc. '54, The Ohio State University.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: A Calculation of Static Magnetization Reversal in a Truncated Ferromagnetic Cylinder with Axially Applied Field.
Major Adviser: Prof. W. F. Brown.
1961. SPELIOTIS, DIONYSIOS ELIAS. B.S. '55, University of Rhode Island; M.S. in E.E. '57, E.E. '58, Massachusetts Institute of Technology.
Major: Electrical Engineering. Minor: Physics.
Thesis: A Cryomagnetic Study of Iron Oxides.
Major Adviser: Prof. A. H. Morrish.
1962. BOLL, HARRY JOSEPH. B.S. with high distinction '56, M.S. in E.E. '58, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: The Study of Charge Trapping Centers in MgO Thin Films.
Major Adviser: Prof. W. T. Peria.
1962. CAMPBELL, DONALD ARTHUR. B.S. with distinction '55, M.S. in E.E. '58, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Long Pulse Performance of Oxide Coated Cathodes.
Major Adviser: Prof. W. G. Shepherd.
1962. FASSETT, JOHN RICHARD. B.E.E. with distinction '56, M.S. in E.E. '58, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Electronic Fluctuations in Solids Involving the Transport, Generation, and Recombination of Charge Carriers.
Major Adviser: Prof. K. M. van Vliet.
1962. GALBRAITH, ALDEN REYNOLDS. B.E.E. with high distinction '56, M.S. in E.E. '58, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Probe Noise in Gas Discharges.
Major Adviser: Prof. Aldert van der Ziel.

1962. HILL, JAMES EDWIN. B.E.E. with distinction '56, M.S. in E.E. '57, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Noise Associated with Low Voltage Breakdown Processes in Germanium Single Crystals at Liquid Helium Temperatures.
Major Adviser: Prof. Aldert van der Ziel.
1962. KHOKLEY, WAMAN SADASHEO. B.E. '55, Government Engineering College, Jabalpus (India); M.S. in E.E. '59, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: The Escape Mechanism of Secondary Electrons in Polar Crystals.
Major Adviser: Prof. K. M. van Vliet.
1962. LEE, SHAO-CHUNG. B.S. in Eng. '54, National Taiwan University; M.S. '56, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Blast Waves from Spatially Concentrated Energy Releases.
Major Adviser: Prof. R. F. Lambert.
1962. LO, SHIH-FANG. B.S. in Eng. '54, National Taiwan University; M.S. in E.E. '58, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Noise in Tunnel Diode Mixers.
Major Adviser: Prof. Aldert van der Ziel.
1962. VALSTYN, ERICH PHILIP. B.S.E.E. '57, M.S. '58, University of Manitoba.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Ferromagnetic Resonance in Single-Domain Powders.
Major Adviser: Prof. A. H. Morrish.
1963. GOETZ, GEORGE GABRIEL. B.S. with high distinction '56, M.S. in E.E. '59, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Secondary Electron Emission from Single Crystals of Titanium, Germanium, Tungsten, and Beryllium.
Major Adviser: Prof. K. M. van Vliet.
1963. LUH, JOHNSON YANG-SENG. B.S. '47, La Universitato Utopia (China); M.S. '50, Harvard University.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: An Analysis of a Sampled-Data Control System Containing Prescribed Natural Frequencies Higher Than the Half Sampling Frequency.
Major Adviser: Prof. W. G. Shepherd.
1963. MITTELSTADT, VERLYN RENO. B.S. with high distinction '58, M.S. in E.E. '59, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Recombination Coefficients and Mobilities of Positive Ions in the Rare Gases, Hydrogen, and Rare Gas-Hydrogen Mixtures.
Major Adviser: Prof. H. J. Oskam.

1964. ARMSTRONG, DONALD BRUCE. B.S. with distinction '59,
M.S. in E.E. '61, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Charge Carrier Inertia Effects in Silicon and Germanium.
Major Adviser: Prof. K. S. Champlin.
1964. BAERTSCH, RICHARD DUDLEY. B.E.E. with distinction '59,
M.S. in E.E. '61, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Noise in Double Base Diodes.
Major Adviser: Prof. Aldert van der Ziel.
1964. BRUNCKE, WILLIAM CONRAD. B.S. '58, M.S. in E.E. '61, University
of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Thermal Noise in Field--Effect Transistors.
Major Adviser: Prof. Aldert van der Ziel.
1964. CHEN, TSONG-MING. B.S. in Eng. '56, National Taiwan University.
Major: Electrical Engineering, Minor: Mathematics.
Thesis: Photon Noise in Noisy Light Sources.
Major Adviser: Prof. Aldert van der Ziel.
1964. DUNN, CHARLES NORD. B.S. with high distinction '58,
M.S. in E.E. '60, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Electrical Charge Transport Phenomena in Gases.
Major Adviser: Prof. H. J. Oskam.
1964. HANTON, JOHN PATRICK. B.S. with high distinction '57,
M.S. in E.E. '59, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: The Intrinsic Coercive Force of Some Rare Earth Iron Garnets
near the Compensation Temperature.
Major Adviser: Prof. A. H. Morrish.
1964. JOHNSON, DEWAYNE CARL. B.S. with high distinction '57,
M.S. in E.E. '60, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: The Diffraction of Slow Electrons by Magnesium Oxide.
Major Adviser: Prof. W. T. Peria.
1964. MATISOO, JURI. B.S. '60, M.S.E.E. '60, Massachusetts Institute
of Technology.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: A Model of a Ferromagnetic Thin Film.
Major Advisers: Profs. E. R. Chenette and R. P. Halverson.
1964. MOSHARRAFA, MOUSTAFA ALY. B.E.E. '57, Cairo University;
M.S. in E.E. '61, University of Minnesota.
Major: Electrical Engineering. Minor: Physics.
Thesis: Isotopic Abundance Studies of Homonuclear and Heteronuclear
Molecular Ions in Rare-Gas Plasmas.
Major Adviser: Prof. H. J. Oskam.

1964. PARK, GERALD LESLIE. B.M.E. with distinction '55, University of Minnesota; M.S. '58, Stanford University.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: The Optimal Control of Linear Systems Subject to Random Load and Observation Disturbances.
Major Adviser: Prof. E. B. Lee.
1964. PUSHPAVATI, P. J. B.Sc. '53, M.Sc. '54, Andhra University (India); M.S. in E.E. '59, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Theory of Noise in Field Emission Devices.
Major Adviser: Prof. Aldert van der Ziel.
1965. BESSER, PAUL JEROME. B.E.E. with high distinction '58, M.S. in E.E. '61, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Magnetocrystalline Anisotropy in Pure and Doped Synthetic Single Crystals of Hematite.
Major Adviser: Prof. A. H. Morrish.
1965. BUTZ, ARTHUR ROBERT. B.S. '56, M.S.E.E. '56, E.E. '59, Massachusetts Institute of Technology.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Perceptron Type Learning Algorithms in Non-Separable Situations.
Major Advisers: Profs. R. P. Halverson and E. B. Lee.
1965. CHYUNG, DONG HAK. B.S. in Eng. '59, Seoul National University; M.S. in E.E. '61, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: The Theory of Optimal Control for Systems with Time Delay.
Major Adviser: Prof. E. B. Lee.
1965. GILCHRIST, JAMES DOUGLAS. B.S.(E.E.) '59, M.S.(E.E.) '61, University of Manitoba.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: State Reconstruction: Synthesis of Feedback Controllers.
Major Adviser: Prof. E. B. Lee.
1965. HANSON, DAVID GORDON. B.S. with distinction '60, M.S. in E.E. '62, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Low Frequency Fluctuation Phenomena of a Gaseous Discharge.
Major Adviser: Prof. Aldert van der Ziel.
1965. JUDY, JACK HOWARD. B.S.E.E. '57, M.S.E.E. '59, Massachusetts Institute of Technology.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Anisotropic Magnetic Resonance and Relaxation in Silicon-Substituted Yttrium Iron Garnet.
Major Adviser: Prof. A. H. Morrish.
1965. KASKE, ALAN D. B.S. with distinction '58, M.S. in E.E. '61, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Negative Space Charge Neutralization by an Auxiliary Discharge Ion Source.
Major Adviser: Prof. H. J. Oskam.

1965. NELSON, OWEN LLOYD. B.S. with distinction '57, M.S. in E.E. '60, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Studies of Potential Barrier Parameters in Thin Film Metal-Oxide-Metal Devices.
Major Adviser: Prof. D. E. Anderson.
1965. PAI, DAMODAR M. B.S. '54, University of Madras; D.I.I.S. '58, Indian Institute of Science; M.S. in E.E. '61, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Fluctuation Studies in Cadmium Sulphide Photoconductors.
Major Adviser: Prof. K. M. van Vliet.
1965. PALMBERG, PAUL WILLIAM. B.S. with high distinction '59, M.S. in E.E. '61, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Electron Diffraction and Secondary Emission Studies on Sodium-Covered Germanium.
Major Adviser: Prof. W. T. Peria.
1965. PRESCOTT, LARRY JOSEPH. B.E.E. with distinction '58, University of Minnesota; M.S.E.E. '60, Massachusetts Institute of Technology.
Major: Electrical Engineering. Minor: Physics.
Thesis: Noise of a Helium-Neon Gas Laser.
Major Adviser: Prof. Aldert van der Ziel.
1965. SEARLE, CLARK WELLINGTON. B.S. with distinction '61, M.S. in E.E. '63, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Magnetic Resonance of Pure and Doped Single Crystals of Hematite.
Major Adviser: Prof. A. H. Morrish.
1965. SHOJI, MASAKAZU. B.S. '58, University of Tokyo.
Major: Electrical Engineering. Minor: Physics.
Thesis: On the Limiting Noise of Field Effect Transistors.
Major Adviser: Prof. Aldert van der Ziel.
1965. SPRINGER, ROBERT HAROLD. B.S. '58, M.S. in E.E. '60, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Vapor Phase Chemical Activation of Oxide Cathodes.
Major Adviser: Prof. D. E. Anderson.
1965. STURGES, DEREK JOHN. B.A. '58, University of Oxford (England); M.S. '60, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Studies of the Hollow Cathode Discharge Mechanism.
Major Adviser: Prof. H. J. Oskam.

1965. TACK, DUANE HOLTON. B.S. with high distinction '58, M.S. in E.E. '60, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Coherent Reception of Pulsed Signals with Linear Arrays in Traveling Noise Fields.
Major Adviser: Prof. R. F. Lambert.
1965. ZIEMER, RODGER EDMUND. B.S. with high distinction '60, M.S. in E.E. '62, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Multi-Level Digital Signalling in Impulsive Noise Channels.
Major Adviser: Prof. R. F. Lambert.
1966. CARLSON, RICHARD WILLIAM. B.S. with distinction '59, M.S. '62, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Theoretical Studies of Plasma Boundary Space Charge Sheaths.
Major Advisers: Profs. L. M. Chanin and H. J. Oskam.
1966. FANG, GAUTIER TIEN-NI. B.S.(Eng.) '55, National Taiwan University; M.S. in E.E. '62, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: On the Wave Motion and Stability of Magnetoplasmas Having Imperfect Boundaries.
Major Adviser: Prof. R. F. Lambert.
1966. GERBER, ROBERT ARTHUR. B.S. with distinction '60, M.S. in E.E. '61, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Afterglow Studies in Gaseous Plasmas.
Major Adviser: Prof. H. J. Oskam.
1966. LABONTE, ANTON EDWARD. B.S. with high distinction '57, M.S. in E.E. '60, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: The Theory of Bloch-Type Domain Walls in Ferromagnetic Thin Films.
Major Adviser: Prof. W. F. Brown.
1966. STOLTE, CHARLES ALBERT. B.S. with distinction '55, M.S. in E.E. '58, University of Minnesota.
Major: Electrical Engineering. Minor: Mathematics.
Thesis: Photoelectric and Thermionic Properties of BaO.
Major Adviser: Prof. D. E. Anderson.

FLUID MECHANICS

1960. LUNDGREN, THOMAS SONERAL. B.S. with distinction '54, M.S. in A.E. '56, University of Minnesota.
Major: Fluid Mechanics. Minor: Mathematics.
Thesis: The Non-Equilibrium Debye Potential in a Plasma and Its Effect on the Kinetic Equation.
Major Adviser: Prof. C. C. Chang.

1961. ATABEK, BULENT HASIP. M.S. in Aero.E. '49, Technical University of Istanbul.
Major: Fluid Mechanics. Minor: Mathematics.
Thesis: Unsteady and Oscillatory Flows in the Entrance Regions of the Coaxial Tubes, Tubes and Channels.
Major Adviser: Prof. N. R. Amundson.
1961. WHANG, YUN CHOW. B.S. in Mech.Eng. '54, Taiwan College of Engineering.
Major: Fluid Mechanics. Minor: Mathematics.
Thesis: A Kinetic Theory Approach to the Structure of Shock Waves in a Fully Ionized Gas.
Major Adviser: Prof. C. C. Chang.
1961. YEN, JAMES TSING-SEN. B.S. '52, Taiwan College of Engineering; M.S. in M.E. '56, University of Minnesota.
Major: Fluid Mechanics. Minor: Mathematics.
Thesis: Theoretical Analysis of Heat Transfer for the Magneto-Hydrodynamic Rayleigh's Problem.
Major Adviser: Prof. C. C. Chang.
1962. HAYDAY, ALEXANDER ARTHUR. B.S. '55, University of Minnesota.
Major: Fluid Mechanics. Minor: Mathematics.
Thesis: Fundamental Equations of Multicomponent Fluid Continua with an Application to Problems Encountered in Mass Transfer Cooling with a Reacting Light Weight Gas.
Major Advisers: Profs. E. R. G. Eckert and J. B. Serrin.
1963. CHU, CHONG-WEI. B.S. '53, Taiwan College of Engineering; M.S. in M.E. '58, University of Minnesota.
Major: Fluid Mechanics. Minor: Mathematics.
Thesis: Nonlinear Wave Motion in an Infinite Cylindrical Plasma Confined by a Magnetic Field.
Major Adviser: Prof. T. L. Lundgren.
1963. WARMING, ROBERT FULTON. B.S. with high distinction '58, University of Minnesota.
Major: Fluid Mechanics. Minor: Mathematics.
Thesis: Statistical Properties of an Exact Solution of Burgers' Model of Turbulence.
Major Adviser: Prof. W. C. Meecham.
1965. CHIANG, DONALD CHI-AN. B.Sc. '53, Taiwan Provincial Cheng Kung University.
Major: Fluid Mechanics. Minor: Mathematics.
Thesis: Steady Flow of an Electrically Conducting Liquid through a Rectangular Duct with Perfectly Conducting Walls Parallel to the Applied External Magnetic Field.
Major Adviser: Prof. T. S. Lundgren.

GEOLOGY

1956. HENRICKSON, ELIER LEONARD. B.A. '43, Carleton College.
Major: Geology. Minors: Geophysics and Mining and Petroleum Engineering.
Thesis: A Study of the Metamorphism of the Upper Huronian Rocks of the Western Portion of the Marquette District Northern Peninsula, Michigan.
Major Adviser: Prof. J. W. Gruner.
1956. SMITH, DEANE KINGSLEY, JR. B.S. '52, California Institute of Technology.
Major: Geology. Minor: Physical Chemistry.
Thesis: The Crystal Structure of Uranophane $[Ca(H_3O)_2] (UO_2)_2(SiO_4)_2 \cdot 3H_2O$.
Major Adviser: Prof. J. W. Gruner.
1956. TAYLOR, RICHARD SPENCE. B.A. summa cum laude '52, M.S. '55, University of Minnesota.
Major: Geology. Minors: Soils and Civil Engineering (Soils Mechanics).
Thesis: A Study of Some High-Latitude Patterned-Ground Features.
Major Adviser: Prof. H. E. Wright, Jr.
1957. GEHMAN, HARRY MERRILL, JR. B.S. '52, Union College; M.S. '54, Cornell University.
Major: Geology. Minors: Geophysics and Physical Chemistry.
Thesis: The Petrology of the Beaver Bay Complex, Lake County, Minnesota.
Major advisers: Profs. S. S. Goldich and G. M. Schwartz.
1957. SCHNEIDER, ALLAN FRANK. B.S. '48, Beloit College; M.S. '51, Pennsylvania State College.
Major: Geology. Minor: Soils.
Thesis: Pleistocene Geology of Part of Central Minnesota.
Major Adviser: Prof. H. E. Wright, Jr.
1958. BLAKE, ROLLAND LAWS. B.Geol.E. '50, M.S. '51, University of Minnesota.
Major: Geology. Minor: Metallurgical Engineering.
Thesis: A Study of Iron Silicate Minerals in Iron-Formations of the Lake Superior Region, with Emphasis on the Cuyuna District, Minnesota.
Major Adviser: Prof. J. W. Gruner.
1958. GUNDERSEN, JAMES RONALD NOVOTNY. B.S. '49, University of Wisconsin; M.A. '55, University of California at Los Angeles.
Major: Geology. Minor: Metallurgical Engineering.
Thesis: The Stratigraphy and Mineralogy of the Metamorphosed Biwabik Iron Formation, Eastern Mesabi District, Minnesota.
Major Advisers: Profs. G. M. Schwartz and J. W. Gruner.
1958. QUIRKE, TERENCE THOMAS, JR. B.S. '51, University of Illinois; M.S. '53, University of Minnesota.
Major: Geology. Minor: Metallurgical Engineering.
Thesis: Mineralogy and Stratigraphy of the Temiscamie Iron-Formation, Lake Albanel Iron Range, Mistassini Territory, Quebec, Canada.
Major Adviser: Prof. J. W. Gruner.

1959. PALACAS, JAMES GEORGE. B.A. cum laude '52, Harvard College;
M.S. '57, Pennsylvania State University.
Major: Geology. Minor: Agricultural Biochemistry.
Thesis: Geochemistry of Carbohydrates.
Major Advisers: Profs. F. M. Swain and Fred Smith.
1959. SATO, MOTOAKI. B.S. '53, M.S. '55, University of Tokyo.
Major: Geology. Minors: Geophysics and Physical Chemistry.
Thesis: The Oxidation of Sulfide Ore Bodies with Special Reference to
Self-Potentials.
Major Advisers: Profs. G. M. Schwartz and H. M. Mooney.
1959. WHELAN, JAMES ARTHUR. B.Min.E. with distinction '49, M.S. in
Min. and Pet. Eng. '56, University of Minnesota.
Major: Geology. Minor: Mineral Engineering.
Thesis: A Study of Hisingerite and Related Silicates.
Major Adviser: Prof. J. W. Gruner.
1960. MCGANNON, DONALD EDWARD, JR. B.A. '52, Syracuse University;
M.S. '57, University of Minnesota.
Major: Geology. Minors: Geophysics and Geology (Petrology).
Thesis: A Study of the St. Lawrence Formation in the Upper Mississippi
Valley.
Major Adviser: Prof. G. A. Thiel.
1961. KEHLE, RALPH OTTMAR. B.S. '56, M.S. '57, California Institute of
Technology.
Major: Geology. Minor: Mechanics and Materials.
Thesis: Analysis of the Deformation of the Ross Ice Shelf, Antarctica.
Major Adviser: Prof. J. C. Craddock.
1961. KOHLS, DONALD WILLIAM. B.A. '56, Carleton College; M.S. '58,
University of Minnesota.
Major: Geology. Minors: Physical Chemistry and Geophysics.
Thesis: Lithostratigraphy of the Cedar Valley Formation in Minnesota
and Northern Iowa.
Major Adviser: Prof. G. A. Thiel.
1961. MAHER, LOUIS JAMES, JR. B.A. with highest distinction '55, M.S.
'59, State University of Iowa.
Major: Geology. Minor: Botany.
Thesis: Pollen Analysis and Postglacial Vegetation History in the
Animas Valley Region, Southern San Juan Mountains, Colorado.
Major Adviser: Prof. H. E. Wright, Jr.
1962. DICKINSON, KENDELL A. B.A. '54, M.S. '59, University of Minnesota.
Major: Geology. Minors: Geophysics and Zoology.
Thesis: The Upper Jurassic Stratigraphy of Mississippi and South-
western Alabama.
Major Adviser: Prof. F. M. Swain.
1963. BRIGHT, ROBERT C. B.S. '52, M.S. '60, University of Utah.
Major: Geology. Minor: Botany.
Thesis: Pleistocene Lakes Thatcher and Bonneville, Southeastern
Idaho.
Major Adviser: Prof. H. E. Wright, Jr.

1963. CUSHING, EDWARD JOHN. B.A. with honors '54, Washington University.
Major: Geology. Minor: Botany.
Thesis: Late-Wisconsin Pollen Stratigraphy in East-Central Minnesota.
Major Adviser: Prof. H. E. Wright, Jr.
1964. HANSON, GILBERT NIKOLAI. B.A. '58, M.S. 62, University of Minnesota.
Major: Geology. Minor: Physical Chemistry.
Thesis: The Effect of Contact Metamorphism on Mineral Ages in the Snowbank Lake Area, Minnesota, and in the Beartooth Mountains, Wyoming.
Major Adviser: Prof. P. W. Gast.
1964. PAPIKE, JAMES JOSEPH. B.S. in Geol.E. with high honors '59, South Dakota School of Mines and Technology.
Major: Geology. Minor: Physical Chemistry.
Thesis: The Crystal Structure and Crystal Chemistry of Scapolite.
Major Adviser: Prof. Tibor Zoltai.
1964. WEBERS, GERALD FRANK. B.S. '54, Lawrence College; M.S. '61, University of Minnesota.
Major: Geology. Minors: Geophysics and Zoology.
Thesis: A Study of the Middle and Upper Ordovician Conodont Faunas of Minnesota.
Major Adviser: Prof. R. E. Sloan.
1965. ANDERSON, DANIEL HARVIE. B.S. '58, Massachusetts Institute of Technology.
Major: Geology. Minor: Physical Chemistry.
Thesis: Uranium-Thorium-Lead Ages of Zircons and Model Lead Ages of Feldspars from the Saganago, Snowbank and Giants Range Granites of Northeastern Minnesota.
Major Adviser: Prof. P. W. Gast.
1965. BAYER, THOMAS NORTON. B.A. '57, Macalester College; M.S. '60, University of Minnesota.
Major: Geology. Minors: Botany and Geophysics.
Thesis: The Maquoketa Formation in Minnesota and an Analysis of Its Benthonic Communities.
Major Adviser: Prof. R. E. Sloan.
1965. HIMMELBERG, GLEN RAY. B.S. '59, M.S. '60, Texas Technological College.
Major: Geology. Minor: Physical Chemistry.
Thesis: Precambrian Geology of the Granite Falls-Montevideo Area, Minnesota.
Major Adviser: Prof. W. C. Phinney.
1965. MOREY, GLENN BERNHARDT. B.A. '57, M.S. '62, University of Minnesota.
Major: Geology. Minors: Geophysics and Zoology.
Thesis: The Sedimentology of the Precambrian Rove Formation in Northeastern Minnesota.
Major Adviser: Prof. F. M. Swain.

1965. ROGERS, MARION ALAN. B.A. '58, Earlham College; M.S. '62, University of Minnesota.
Major: Geology. Minor: Biochemistry.
Thesis: Organic Geochemistry of Some Devonian Black Shales from Eastern North America: Carbohydrates.
Major Adviser: Prof. F. M. Swain.
1965. SEDDON, GEORGE. B.A.(honors) '47, University of Melbourne; M.S. '65, University of Minnesota.
Major: Geology. Minors: Botany and Zoology.
Thesis: Middle Paleozoic Conodonts from the Llano Uplift, Central Texas.
Major Advisers: Profs. P. E. Cloud, Jr. and R. E. Sloan.
1965. WEIBLEN, PAUL WILLARD. B.A. with high distinction '50, Wartburg College; M.A. '52, M.S. '65, University of Minnesota.
Major: Geology. Minor: Physical Chemistry.
Thesis: A Basic Funnel Shaped Intrusion in the Duluth Gabbro Complex Lake County, Minnesota.
Major Adviser: Prof. W. C. Phinney.
1966. BENSON, RICHARD NORMAN. B.A. '58, Augustana College.
Major: Geology. Minors: Mineral Engineering and Zoology.
Thesis: Recent Radiolaria from the Gulf of California.
Major Adviser: Prof. F. M. Swain.
1966. BLEIFUSS, RODNEY L. B.Geol.E. '51, M.S. '53, University of Minnesota.
Major: Geology. Minor: Metallurgical Engineering.
Thesis: The Origin of the Iron Ores of Southeastern Minnesota.
Major Adviser: Prof. P. K. Sims.
1966. KARLINS, OLGERTS LONGINS. B.S. '57, Columbia University; M.S. '61, University of Minnesota.
Major: Geology. Minors: Biology and Geophysics.
Thesis: Cryptostome Bryozoa from Middle Ordovician Decorah Shale of Minnesota.
Major Adviser: Prof. F. M. Swain.

INORGANIC CHEMISTRY

1957. HEINO, WALDEN LEO. B.S. with high distinction '53, University of Minnesota.
Major: Inorganic Chemistry. Minor: Chemistry.
Thesis: Metal Complexes with o-Xylylenediamine and Homo-o-Xylylenediamine.
Major Adviser: Prof. R. C. Brasted.
1957. HIRAYAMA, CHIKARA. B.S. '46, M.S. 48, University of Hawaii.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: I. Preliminary Investigation on the Role of Transition Metal Complexes in Nitrogen Fixation; II. Stereochemistry of Coordination Compounds: a. Solvent Effects in Optical Absorption. An Examination and Clarification of Spectra in Aqueous and Non-Aqueous Media; b. The Cis-Trans Isomerization of Dichlorobis(Ethylenediamine)-Cobalt(III) Chloride and Dichlorobis(Propylenediamine)Cobalt(III) Chloride in Alcohols.
Major Adviser: Prof. R. C. Brasted.

1957. LANDIS, VINCENT JAMES. B.S. '50, State College of Washington.
Major: Inorganic Chemistry. Minor: Analytical Chemistry.
Thesis: Anomalous Optical Properties of Some Metal Complex Ions.
Major Adviser: Prof. R. C. Brasted.
1957. SCHMALL, EDWIN ARTHUR. B.S. '51, Northwestern University.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: I.-An Investigation of the Structure of Trichlorogermane;
II.-A Mechanism of Substitution of Some Triarylgermlyl Halides.
Major Adviser: Prof. O. H. Johnson.
1959. KUSTIN, KENNETH. B.S. cum laude '55, Queens College.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: The Cobalt-60 Gamma Irradiation of Aqueous Nitrate Solutions.
Major Adviser: Prof. P. R. O'Conner.
1959. NELSON, ARTHUR KENDALL. B.S.(Chem.) '54, University of Wisconsin.
Major: Inorganic Chemistry. Minor: Chemistry.
Thesis: Refractometric Observations of Aqueous Solutions of Metal Complexes.
Major Adviser: Prof. R. C. Brasted.
1959. SCHULTZ, JOHN LAWRENCE. B.S. summa cum laude '54, St. John's University at Brooklyn.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: Solution Calorimetry: I. The Complexing of Nickel (II) Ion by Ammonia and Methylamine; II. The Mixing of Hydrogen and Potassium Polystyrene Sulfonate Resinates.
Major Adviser: Prof. Z Z. Hugus, Jr.
1959. SCOTT, PAUL CHARLES. B.A. '54, Cornell University.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: Determination of Enthalpies of Complex Ion Formation by Solution Calorimetry: I. Cupric Ion with Ammonia; II. Iron (III) with Fluoride.
Major Adviser: Prof. Z Z. Hugus, Jr.
1960. BATES, JOHN FREDERICK. B.S. '51, M.S. '52, Ohio University.
Major: Inorganic Chemistry. Minor: Metallurgy.
Thesis: I. A Preliminary Search for Sulfur Interchange between Sulfates and Sulfamates. II. An Electrochemical Study of Corrosion and Passivation of Austenitic Stainless Steels in Acid Media.
Major Adviser: Prof. R. C. Brasted.
1961. KERN, NEIL VANCE. B.A. '55, University of Minnesota.
Major: Inorganic Chemistry. Minor: Organic Chemistry.
Thesis: The Reaction of Triphenyltin Hydride with the Acetylenic Bond.
Major Adviser: Prof. O. H. Johnson.
1961. TAUB, IRWIN ALLEN. B.S. cum laude '55, Queens College (N.Y.).
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: Solubility Studies of Nitric Oxide in Various Metal Salt Solutions: The Equilibrium between Ferrous Ion and Nitric Oxide.
Major Adviser: Prof. Z Z. Hugus, Jr.

1962. GRIMES, RUSSELL NEWELL. B.S. in Chem. '57, Lafayette College.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: The Preparation and Characterization of Decaborane (16) and Related Studies.
Major Adviser: Prof. P. R. O'Conner.
1962. KUHAJEK, EUGENE JAMES. B.S. in N.S. '55, Loyola University (Chicago).
Major: Inorganic Chemistry. Minor: Organic Chemistry.
Thesis: Optical Rotation of Zinc-Phenanthroline Complexes with Resolving Agents: The Pfeiffer Effect.
Major Adviser: Prof. R. C. Brasted.
1963. JOHNSON, CHARLES DOUGLAS. B.Chem. '58, University of Minnesota.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: Shock Waves in Chemical Kinetics: I. The Use of Reflected Shock Waves; II. The Dissociation of Molecular Fluorine.
Major Adviser: Prof. Doyle Britton.
1963. NELSON, WILFRED HERDING. B.S. '59, M.S. '59, University of Chicago.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: Studies of Selected Polyanions in Aqueous Solution: The Hexaniobate and the Hexatantalate.
Major Adviser: Prof. R. S. Tobias.
1964. NORDQUIST, PAUL E. R., JR. B.S. with distinction '58, George Washington University.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: The Pfeiffer Effect: The Optical Rotation of Solutions of Metal Complexes with Resolving Agents.
Major Adviser: Prof. R. C. Brasted.
1964. POND, JUDSON SAMUEL. B.M.E. '43, B.B.A. '55, University of Minnesota.
Major: Inorganic Chemistry. Minor: Chemistry.
Thesis: An Investigation of the Feasibility of Employing Trisulfur Dichloride in Cyclization Condensation Reactions with Primary Organic Amines.
Major Adviser: Prof. R. C. Brasted.
1965. EL-AWADY, ABBAS ABBAS MOHAMMAD EL-SAID. B.Sc. '58, Cairo University.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: Studies on Bridged Complexes of Cobalt (III) and Chromium (III).
Major Adviser: Prof. Z Z. Hugus, Jr.
1965. KANAMUELLER, JOSEPH MAX. B.S. magna cum laude '60, St. Joseph's College.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: Cyclic Chalcogen-Nitrogen Compounds: Some Interactions of Amines with Chalcogen Halides and Pseudo-halides.
Major Adviser: Prof. R. C. Brasted.

1965. MARKING, RALPH HAROLD. B.S. '57, Wisconsin State College (La Crosse).
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: Combustion Calorimetry of Sulfur-Containing Organic Compounds.
Major Adviser: Prof. Z Z. Hugus, Jr.
1965. MCGRADY, SISTER MARY MERCY. B.A. '55, Mount Mercy College.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: Synthesis and Structure of Non-Tetrahedral Dialkyltin (IV) Compounds.
Major Adviser: Prof. R. S. Tobias.
1965. MICKUS, JAMES CLEMENT. B.S. '55, College of St. Thomas; M.S. '61, University of Minnesota.
Major: Inorganic Chemistry. Minor: Chemistry.
Thesis: Electrochemical Study of Metal-Metal Oxide Electrode Systems with Sulfamic Acid and Sulfamic Acid-Alkali Metal Hydrogensulfate Electrolytes.
Major Adviser: Prof. R. C. Brasted.
1965. SCHLEMPER, ELMER OTTO. B.A. '61, Washington University.
Major: Inorganic Chemistry. Minor: Physical Chemistry.
Thesis: The Structure of Some Cyano Compounds of Group IV and Group V Elements.
Major Adviser: Prof. J. D. Britton.
1966. FREIDLINE, CHARLES EUGENE. B.A. '60, Westmont College; M.S. '63, University of Minnesota.
Major: Inorganic Chemistry. Minor: Chemistry.
Thesis: The Hydrolysis, Structure, and Bonding of the Aquo-Dimethyllead (IV) Cation.
Major Adviser: Prof. R. S. Tobias.

MATHEMATICS

1956. BROWN, LEON. B.S.E. (E.E.) '50, B.S.E. (Math.) '50, University of Michigan.
Major: Mathematics. Minor: Physics.
Thesis: Non-Linear Equations in a Banach Space.
Major Adviser: Prof. P. C. Rosenbloom.
1956. JOHNSON, G. PHILIP. B.S. '48, M.A. '49, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: Spaces of Functions with Values in a Banach Algebra.
Major Adviser: Prof. B. R. Gelbaum.
1956. MAYBEE, JOHN STANLEY. B.S. '50, University of Maryland.
Major: Mathematics. Minor: Philosophy.
Thesis: On Some Problems Suggested by the Mathematical Theory of Compressible Flow.
Major Advisers: Profs. P. C. Rosenbloom and A. N. Milgram.
1957. BRADEN, CHARLES MCMURRAY. B.S. '39, Northwestern University; M.S. '50, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: Harmonic, Biharmonic, and Related Partial Difference Equations.
Major Advisers: Profs. Fulton Koehler and P. C. Rosenbloom.

1957. PEDERSON, ROGER NOEL. B.S. with distinction '52, M.S. '53, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: On the Unique Continuation Theorem for Certain Elliptic Partial Differential Equations.
Major Adviser: Prof. A. N. Milgram.
1957. RANG, EDWARD ROY. B.S. with honors '49, M.S. '50, University of Wisconsin.
Major: Mathematics. Minor: Mathematics and Mechanics.
Thesis: Periodic Solutions of Singular Perturbation Problems.
Major Adviser: Prof. H. L. Turriffin.
1957. YEH, JAMES JUEI-CHIN. B.S. '50, National Taiwan University; M.A. '54, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: Nonlinear Volterra Functional Equations and Linear Parabolic Differential Systems.
Major Adviser: Prof. R. H. Cameron.
1957. ZEITLIN, DAVID. B.Ch.E. '45, B.B.A. '48, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: Behavior of Conformal Maps under Analytic Deformation of the Domain.
Major Adviser: Prof. S. E. Warschawski.
1958. HARRIS, WILLIAM ASHTON, JR. B.A. with honors '51, Talladega College; M.S. '53, University of Minnesota.
Major: Mathematics. Minor: Mechanics and Materials.
Thesis: A Boundary Value Problem for a System of Ordinary Linear Differential Equations Involving Powers of a Parameter.
Major Adviser: Prof. H. L. Turriffin.
1958. HEUER, GERALD ARTHUR. B.A. '51, Concordia College; M.A. '53, University of Nebraska.
Major: Mathematics. Minor: Statistics.
Thesis: Algebraic Extensions of Banach Algebras.
Major Adviser: Prof. B. R. Gelbaum.
1958. JUBERG, RICHARD KENT. B.S. with high distinction '52, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: On the Dirichlet Problem for the Equation $\Delta^2 U + U_t = 0$.
Major Adviser: Prof. A. N. Milgram.
1958. KIRMSER, PHILIP GEORGE. B.Ch.E. '39, M.S. '44, University of Minnesota.
Major: Mathematics. Minor: Chemical Engineering.
Thesis: Initial and Boundary Value Problems Associated with the Partial Differential Equation $U_{xxxx} + U_t = 0$.
Major Adviser: Prof. W. B. Fulks.
1958. PUTZER, EUGENE JAMES. B.A. '51, M.S. '54, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: A Method for Investigation of the Properties of Solutions of the Equation $x'' + f(x,t)x' + g(x,t) = \phi(t)$.
Major Adviser: Prof. W. S. Loud

1959. CHAPIN, GEORGE GILMAN, JR. B.Ch.E. with distinction '47, University of Minnesota.
Major: Mathematics and Mechanics. Minor: Chemical Engineering.
Thesis: One and Two Point Boundary Value Problems for Ordinary Linear Differential Equations Containing a Parameter.
Major Adviser: Prof. H. L. Turrittin.
1959. CULMER, WILLIAM JOHN ANDREW. B.A. magna cum laude '35, M.A. '38, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: Convergent Solutions of Ordinary Linear Homogeneous Difference Equations in the Neighborhood of an Irregular Singular Point.
Major Adviser: Prof. H. L. Turrittin.
1959. NELSON, EDWARD OLAF. B.A. '49, Luther College; M.A. '50, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: A Solution of the Generalized Heat Flow Equation in a Bounded Region as a Wiener Integral.
Major Adviser: Prof. R. H. Cameron.
1959. VARBERG, DALE ELTHON. B.A. magna cum laude '54, M.A. '57, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: Some Radon-Nikodym Derivatives Associated with Stochastic Processes.
Major Adviser: Prof. R. H. Cameron.
1959. WOODWARD, DAVID ANSON. B.A. '54, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: A Linear Transformation of Double Wiener Integrals.
Major Adviser: Prof. R. H. Cameron.
1960. ADAMS, ROBERT DUKE. B.S.E.E. '46, Northwestern University.
Major: Mathematics. Minor: Physics.
Thesis: L_p Density of Solutions to Parabolic and Related Equations on Space Time Surfaces.
Major Adviser: Prof. A. N. Milgram.
1960. DRIVER, RODNEY DAVID. B.S. with high distinction '53, M.S. '55, University of Minnesota.
Major: Mathematics. Minor: Electrical Engineering.
Thesis: Delay-Differential Equations and an Application to a Two-Body Problem of Classical Electrodynamics.
Major Adviser: Prof. Lawrence Markus.
1960. HARVEY, CHARLES ARTHUR. B.A. '51, Nebraska Wesleyan University; M.A. '53, University of Nebraska.
Major: Mathematics. Minor: Physics.
Thesis: Existence of Periodic Solutions of the Differential Equation $x'' + g(x) = p(t)$.
Major Adviser: Prof. W. S. Loud.
1960. JOHNSON, HARRY LEE. B.S. magna cum laude '52, West Coast University; M.S. '57, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: Quadratic Versus Linear Dependence of Solutions of Certain Linear Partial Differential Equations.
Major Adviser: Prof. J. P. Nitsche.

1960. LINDBERG, JOHN ALBERT, JR. B.S. '54, Wagner College; M.A. '57, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: On the Theory of Algebraic Extensions of a Normed Algebra.
Major Adviser: Prof. B. R. Gelbaum.
1960. VAN VLECK, FRED SCOTT. B.Sc. with distinction '56, M.A. '57, University of Nebraska.
Major: Mathematics. Minor: Statistics.
Thesis: Bifurcation of an Invariant Manifold from a Periodic Solution of a Differential System.
Major Adviser: Prof. Lawrence Markus.
1962. BLAIR, KAY WINGER. B.A. cum laude '45, St. Olaf College; M.S. '48, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: Periodic Solutions of a Perturbed Autonomous System.
Major Adviser: Prof. W. S. Loud.
1962. FILLMORE, PETER ARTHUR. B.Sec. '57, Dalhousie University; M.A. '60, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: The Application of Cardinal Algebras to the Dimension Theory of Operator Algebras.
Major Adviser: Prof. Bjarni Jonsson.
1962. KANTOROVITZ, SAMUEL. M.Sc. '56, The Hebrew University of Jerusalem.
Major: Mathematics. Minor: Statistics.
Thesis: An Operational Calculus and Spectral Operators.
Major Adviser: Prof. G. K. Kalisch.
1962. RADJAVI, HEYDAR. B.S. '56, University of Tehran; M.A. '60, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: Simultaneous Unitary Invariants for Sets of Bounded Operators on a Hilbert Space.
Major Adviser: Prof. G. K. Kalisch.
1963. AHERN, PATRICK ROBERT. B.S. with distinction '59, M.S. '61, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: Tauberian Methods in the Theory of Primes.
Major Adviser: Prof. S. A. Gaal.
1963. AVISHALOM, DOV ISSACHAR. B.A. '35, University of Warsaw; M.Sc. '37, Hebrew University of Jerusalem.
Major: Mathematics. Minor: Philosophy.
Thesis: The Axiomatic Processes in the Foundations of Geometry and Their Translation into Reality and Education.
Major Adviser: Prof. P. C. Rosenbloom.
1963. BEEKMAN, JOHN ALFRED. B.A. '53, M.S. '57, State University of Iowa.
Major: Mathematics. Minor: Statistics.
Thesis: Solutions to Generalized Schroedinger Equations via Feynman Integrals Connected with Gaussian Markov Stochastic Processes.
Major Adviser: Prof. R. H. Cameron.

1963. BURGSTAHLER, SYLVAN DUANE. B.S. with high distinction '51, M.S. '53, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: Contributions to the Study of Heat Conduction in Composite Systems and to Heat Potential Theory.
Major Adviser: Prof. J. B. Serrin, Jr.
1963. GAALSWYK, ARIE. B.A. '42, Luther College; M.S. '47, University of Wisconsin.
Major: Mathematics. Minor: Mechanics and Materials.
Thesis: An Investigation of the Existence and Qualitative Behavior of One-Dimensional Combustion Shock Layers.
Major Adviser: Prof. J. B. Serrin, Jr.
1963. JORGENSEN, ROY ALFRED, JR. B.A. '50, Emmanuel Missionary College; M.A. '51, University of Michigan.
Major: Mathematics. Minor: Physics.
Thesis: Construction and Variation of Canonical Conformal Maps of Multiply-Connected Domains.
Major Adviser: Prof. S. E. Warschawski.
1963. SATHER, DUANE PAUL. B.Phys. with high distinction '59, M.S. '60, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: Maximum Properties of Cauchy's Problem in N-Dimensional Space-Time.
Major Adviser: Prof. H. F. Weinberger.
1963. SATHER, JEROME ODELL. B.S. '57, M.S. '59, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: The Initial-Boundary Value Problem for the Navier-Stokes Equations in Regions with Moving Boundaries.
Major Adviser: Prof. J. B. Serrin, Jr.
1963. SCHMAEDEKE, WAYNE WILLIAM. B.S. with distinction '57, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: Optimal Control Theory for Non-Linear Vector Differential Equations with Measure Coefficients.
Major Adviser: Prof. W. A. Harris, Jr.
1963. SPIELBERG, STEPHEN ESRAEL. B.A. '56, University of Pennsylvania; M.A. '58, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: Solutions to Certain Non-Homogeneous Second Order Partial Differential Equations Expressed in Terms of Wiener Integrals.
Major Adviser: Prof. R. H. Cameron.
1963. STACKELBERG, OLAF PATRICK. B.S. '55, Massachusetts Institute of Technology; M.S. '60, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: Probabilistic Limit Theorems Arising in Arithmetic Analysis.
Major Adviser: Prof. S. A. Gaal.

1963. WALCZAK, HUBERT RONALD. B.A. magna cum laude '55, College of St. Thomas.
Major: Mathematics. Minor: Statistics.
Thesis: Distortion Theorems for Quasiconformal Mappings Using the Complex Dilatation.
Major Adviser: Prof. Edgar Reich.
1963. WILLIAMSON, JOHN ALEXANDER. B.A. magna cum laude '54, Macalester College; M.A. '60, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: Some Renewal Theorems for Positive Independent Random Variables.
Major Adviser: Prof. Steven Orey.
1964. FILLMORE, JAY PAUL. B.S. with high distinction '60, University of Minnesota.
Major: Mathematics. Minor: Physics.
Thesis: On Macaulay Modules and Abstract Hilbert Polynomials.
Major Adviser: Prof. Helmut Rohrl.
1964. FINLAYSON, HENRY CHARLES. B.S. '52, M.S. '54, University of Alberta.
Major: Mathematics. Minor: Statistics.
Thesis: A Generalization of Cameron's "A Simpson's Rule" for the Numerical Evaluation of Wiener's Integrals in Function Space.
Major Adviser: Prof. R. H. Cameron.
1964. GROSSMAN, NATHANIEL. B.S. '58, California Institute of Technology.
Major: Mathematics. Minor: Mechanics and Materials.
Thesis: Geodesics on Hilbert Manifolds.
Major Adviser: Prof. L. W. Green.
1964. GROVE, LARRY CHARLES. B.A. summa cum laude '60, M.A. '61, University of Minnesota.
Major: Mathematics. Minor: Philosophy.
Thesis: Tensor Products of H^* -Algebras.
Major Adviser: Prof. B. R. Gelbaum.
1964. HSIEH, PO-FANG. B.S. '59, National Taiwan University; M.S. '61, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: A Turning Point Problem for a System of Linear Ordinary Differential Equations of the Third Order.
Major Advisers: Profs. Yatsutaka Sibuya and H. L. Turrittin.
1964. LARDY, LAWRENCE JAMES. B.S. '57, Dickinson State Teachers College; M.S. '57, University of North Dakota.
Major: Mathematics. Minor: Philosophy.
Thesis: Tensor Products Involving Semigroup Algebras.
Major Adviser: Prof. B. R. Gelbaum.
1964. MILGRAM, RICHARD JAMES. B.S. '61, M.S. '61, University of Chicago.
Major: Mathematics. Minor: Physics.
Thesis: The Homology Ring of Symmetric Products of Moore Spaces.
Major Adviser: Prof. Eugenio Calabi.

1964. NATZITZ, BOAZ. B.A. '60, Hebrew University.
Major: Mathematics. Minor: Physics.
Thesis: Tensor Products of Group Algebras.
Major Adviser: Prof. B. R. Gelbaum.
1964. RUSSELL, DAVID LEWIS. B.A. '60, Emmanuel Missionary College.
Major: Mathematics. Minor: Physics.
Thesis: Analytic Simplification of Second Order Systems with
Transition Points.
Major Advisers: Profs. W. A. Harris, Jr., and H. L. Turrittin.
1964. WILSON, HOWELL KENNETH. B.S. with highest honors '60, Georgia
Institute of Technology.
Major: Mathematics. Minor: Physics.
Thesis: A Boundary Value Problem in Ordinary Differential Equations
on the Structure of Solutions to the Karman Swirling Flow Problem
and a Canonical Form for Linear Transformations of E_n under Non-
linear Substitutions.
Major Adviser: Prof. J. B. Serrin, Jr.
1964. YACKEL, JAMES WILLIAM. B.A. cum laude '58, M.S. '60, University
of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: Semi-Markov Processes.
Major Adviser: Prof. Steven Orey.
1965. BERK, KENNETH NATHAN. B.S. in Phys. '60, Carnegie Institute of
Technology.
Major: Mathematics. Minor: Statistics.
Thesis: A General Ergodic Theorem with Weighted Averages on Continuous
Flows.
Major Adviser: Prof. Steven Orey.
1965. BOWERS, NEWTON LYNN, JR. B.S. magna cum laude '54, Yale University.
Major: Mathematics. Minor: Physics.
Thesis: Toeplitz Forms Associated with Matrix Valued Functions.
Major Advisers: Profs. G. E. Baxter and Steven Orey.
1965. COLWELL, PETER. B.A. '58, College of Wooster; M.A. '60, Ohio
University.
Major: Mathematics. Minor: Statistics.
Thesis: On the Boundary Behavior of Functions Bounded and Analytic
in the Unit Disk.
Major Adviser: Prof. D. A. Storvick.
1965. DEVALCOURT, JOHN TAYLOR. B.S. summa cum laude '58, St. Michael's
College; M.S. '63, University of Minnesota.
Major: Mathematics. Minor: Education.
Thesis: A Study of Axial Symmetry of Planar Convex Sets.
Major Adviser: Prof. Heinrich Guggenheimer.
1965. GRIMM, LOUIS JOHN. B.S. '54, St. Louis University; M.S. '60,
Georgia Institute of Technology.
Major: Mathematics. Minor: Physical Chemistry.
Thesis: General Solutions of Nonlinear Difference Equations.
Major Adviser: Prof. W. A. Harris, Jr.

1965. KALLMAN, RALPH ARTHUR. B.A. cum laude '56, M.A. '61, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: On Using the Ilstou Integral to Solve a Certain Partial Differential Equation.
Major Adviser: Prof. R. H. Cameron.
1965. KUELBS, JAMES DONALD. B.A. cum laude '60, St. John's University.
Major: Mathematics. Minor: Statistics.
Thesis: Integration on Spaces of Continuous Functions.
Major Adviser: Prof. R. H. Cameron.
1965. OSBORN, JOHN EDWARD. B.S. '58, M.S. '63, University of Minnesota.
Major: Mathematics. Minor: Philosophy.
Thesis: Approximation of the Eigenvalues of Non Self-Adjoint Operators.
Major Adviser: Prof. H. F. Weinberger.
1965. PITCHAI AH, VADLAMUDI. B.Sc. '52, Andhra Christian College;
M.S. '54, Banaras Hindu University (India).
Major: Mathematics. Minor: Statistics.
Thesis: Finite Difference Methods in the Solution of Laplace's Equation with Mixed Boundary Conditions on a Rectangular Domain.
Major Adviser: Prof. Fulton Koehler.
1965. SCHOBBER, GLENN EDWARD. B.S. with distinction '60, University of Minnesota.
Major: Mathematics. Minor: Statistics.
Thesis: Constructive Methods for the Conformal Mapping of Domains with Corners.
Major Adviser: Prof. S. A. Gaal.
1965. SPICER, DONALD ZANE. B.A. magna cum laude '59, University of Minnesota; M.A. '60, Columbia University.
Major: Mathematics. Minor: Physics.
Thesis: Group Algebras of Vector-Valued Functions.
Major Adviser: Prof. C. A. McCarthy.
1966. MONK, GEORGE STEPHEN. B.A. '59, Harvard University.
Major: Mathematics. Minor: Statistics.
Thesis: The Representation of Primary Lattices.
Major Adviser: Prof. B. Jonsson.
1966. MULLIN, FRANK EDWARD. B.S. with honors '62, California Institute of Technology.
Major: Mathematics. Minor: Physics.
Thesis: On the Regular Perturbation of the Subdominant Solution to Second Order Linear Ordinary Differential Equations with Polynomial Coefficients.
Major Adviser: Prof. Yatsutaka Sibuya.
1966. REED, TERENCE JOHN. B.A. '57, M.A. '59, Rice University.
Major: Mathematics. Minor: Physics.
Thesis: On the Boundary Correspondence of Quasiconformal Mappings.
Major Adviser: Prof. Edgar Reich.

MECHANICAL ENGINEERING

1956. BLOCK, STANLEY MARLIN. B.M.E. with high distinction '43, M.B.A. '50, University of Minnesota.
Major: Mechanical Engineering. Minor: Business Administration.
Thesis: Effects of Visual Requirements upon Certain Simultaneous Hand Motions.
Major Advisers: Profs. J. J. Jenkins and R. C. Jordan.
1956. MCMANUS, HOWARD NORBERT, JR. B.S. in M.E. with high distinction '51, M.S. '52, State University of Iowa.
Major: Mechanical Engineering. Minor: Mathematics and Mechanics.
Thesis: An Experimental Investigation of Film Establishment, Film Profile Dimensions, Pressure Drop, and Surface Conditions in Two-Phase Annular Flow.
Major Adviser: Prof. E. R. G. Eckert.
1957. CHUNG, PAUL MYUNG-HA. B.S. in M.E. with high distinction '52, M.S. in M.E. '54, University of Kentucky.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Formation of Frost and Heat Transfer along the Circumference of A Circular Cylinder in a Humid Air Cross Flow.
Major Adviser: Prof. A. B. Algren.
1957. PICHA, KENNETH GEORGE. B.S. in M.E. '46, M.S. in M.E. '48, Georgia Institute of Technology.
Major: Mechanical Engineering. Minor: Mathematics and Mechanics.
Thesis: An Experimental Study of the Flow between Two Rotating Coaxial Discs.
Major Adviser: Prof. E. R. G. Eckert.
1957. TURNACLIFF, ROBERT DALE. B.M.E. with distinction '45, M.S. in M.E. '47, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: An Experimental Study of Local Convective Heat Transfer and Pressure Drop for Laminar and Turbulent Flow of Air within a Uniformly Packed Bed of Spheres at Three Different Porosities.
Major Adviser: Prof. E. R. G. Eckert.
1958. LEE, SOCKER. B.S. '52, M.S. '54, Seoul National University; M.S. in M.E. '56, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Optimization of Servomechanisms Having Velocity Saturation.
Major Adviser: Prof. Katsuhiko Ogata.
1959. ALLEN, REDFIELD WILMERTON. B.S. '43, M.S. '49, University of Maryland.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Measurements of Friction and Local Heat Transfer for Turbulent Flow of a Variable Property Fluid (Water) in a Uniformly Heated Tube.
Major Adviser: Prof. E. R. G. Eckert.

1959. BADAWY, ELSAYED MAHMOUD. B.Sc. '51, M.Sc. '54, University of Alexandria.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: An Investigation of Deflection and Stress Distribution in Corrugated Diaphragms.
Major Adviser: Prof. J. J. Ryan.
1959. EICHHORN, ROGER. B.E.E. '53, M.S. in M.E. '55, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: An Analytical Investigation of Combined Free and Forced Convection and a New Method to Measure Free Convection Velocity Profiles.
Major Adviser: Prof. E. R. G. Eckert.
1959. GOLDSTEIN, RICHARD J. B.M.E. '48, Cornell University; M.S. in M.E. '50, M.S. '51, University of Minnesota.
Major: Mechanical Engineering. Minor: Physics.
Thesis: Interferometric Study of the Steady State and Transient Free Convection Thermal Boundary Layers in Air and in Water about a Uniformly Heated Vertical Flat Plate.
Major Adviser: Prof. E. R. G. Eckert.
1959. KOH, CHAO YAO. B.S. in M.E. '51, Taiwan University; M.S. in M.E. '53, University of Washington.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Experimental Investigations of the Pressure Distribution and Heat Transfer for Flow over Concave Hemispheres and Cylindrical Cups.
Major Adviser: Prof. J. P. Hartnett.
1959. MAHMOUDI, PARVIZ. B.S. in M.E. '55, Abadan Technological Institute; M.S. in M.E. '56, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: A Generalized Theory for Work-Hardening Materials.
Major Advisers: Profs. J. J. Ryan and W. H. Warner.
1959. STAPH, HORACE EUGENE. B.S. in M.E. '43, The Rice Institute; M.S. in M.E. '51, University of Texas.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Some Considerations of Stick-Slip in the Two-Degree-of-Freedom System.
Major Adviser: Prof. R. C. Jordan.
1960. HRYCAK, PETER. B.S. with high distinction '54, M.S. in M.E. '55, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Frost Action under Refrigerated Areas.
Major Adviser: Prof. R. C. Jordan.
1960. LEE, ERNEST BRUCE. B.S. in M.E. '55, M.S. in M.E. '56, University of North Dakota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Methods of Optimum Feedback Control.
Major Adviser: Prof. Katsuhiko Ogata.

1960. LIU, BENJAMIN YOUNG-HWAI. B.S.M.E. '56, University of Nebraska.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: The Characteristics of Solar Radiation and the Performance of
Flat-Plate Solar Energy Collectors.
Major Adviser: Prof. R. C. Jordan.
1960. NYPAN, LESTER JENS. B.S. with distinction '51, M.S. in M.E. '52,
University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: An Evaluation of the Kinematic and Kinetic Phenomena in the
Structure of Lubricating Films.
Major Adviser: Prof. J. J. Ryan.
1960. ROSENCRANTS, EDWARD WILLIAM. B.S. '52, M.S. in M.E. '53, University
of Minnesota.
Major: Mechanical Engineering. Minor: Petroleum Engineering.
Thesis: An Investigation of the Limitations on the Use of a Mechanical
Analog for the Measurement of Loads and Displacements in a Sucker
Rod Pumping System.
Major Adviser: Prof. J. J. Ryan.
1961. CHIEN, SZE-FOO. B.S. in Engr. '53, National Taiwan University;
M.S. in M.E. '56, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: An Experimental Investigation of the Liquid Film Structure
and Pressure Drop of Vertical, Downward, Annular, Two-Phase Flow.
Major Adviser: Prof. W. E. Ibele.
1961. FINGERSON, LEROY MALVIN. B.S. with high distinction '54, M.S.
'55, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: A Heat Flux Probe for Transient Measurements in High
Temperature Gases.
Major Advisers: Profs. P. L. Blackshear and R. C. Jordan.
1961. SCHOECK, PETER ALFRED. Graduate '52, University of Karlsruhe.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: An Investigation of the Energy Transfer to the Anode of High
Intensity Arcs in Argon.
Major Adviser: Prof. E. R. G. Eckert.
1962. BIRKEBAK, RICHARD CLARENCE. B.S. with distinction '55, M.S. in
M.E. '56, University of Minnesota.
Major: Mechanical Engineering. Minor: Physics.
Thesis: Monochromatic Directional Distribution of Reflected Thermal
Radiation from Roughened Surfaces.
Major Adviser: Prof. E. R. G. Eckert.
1962. SIMON, HAROLD ALEXANDER. B.Sc. '49, M.Sc. '59, University of
the Witwatersrand (Johannesburg).
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: An Interferometric Investigation of Laminar Free Convection
in Carbon Dioxide near Its Critical Point.
Major Adviser: Prof. E. R. G. Eckert.

1963. NOVOTNY, JEROME LEROY. B.S. with distinction '56, M.S. in M.E. '58, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Interferometric Study of Laminar Convection in a Vertical Parallel Plate Channel with Uniform Heat Sources in the Fluid.
Major Adviser: Prof. E. R. G. Eckert.
1963. REES, LAVERNE WILLIAM. B.S. with distinction '55, M.S. in M.E. '57, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: A Study of a Mixture of Small Unipolar Ions and Homogeneous Aerosols in a Flow System.
Major Adviser: Prof. R. C. Jordan.
1964. CREMERS, CLIFFORD JOHN. B.S. with distinction '57, M.S. in M.E. '61, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: The Spectrometric Measurement of the Temperature Field in an Arc with a Transpiration Cooled Anode.
Major Adviser: Prof. E. R. G. Eckert.
1964. LIN, SIANG-HUI. B.S. in Eng. '54, National Taiwan University; M.S. in M.E. '59, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Radiant Interchange in Cavities and Passages with Specularly and Diffusely Reflecting Surfaces.
Major Adviser: Prof. E. M. Sparrow.
1964. MCCOMAS, STUART T. B.M.E. '56, Marquette University; M.S. in M.E. '60, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Heat Transfer and Pressure Drop in Laminar Flow through a Circular Tube under Continuum and Rarefied Conditions.
Major Adviser: Prof. E. R. G. Eckert.
1964. OLSON, REUBEN MAGNUS. B.M.E. with high distinction '39, M.S. in M.E. '41, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Experimental Studies of Turbulent Flow in a Porous Circular Tube with Uniform Mass Transfer through the Tube Wall.
Major Adviser: Prof. E. R. G. Eckert.
1964. SCOTT, CHARLES JAMES. B.S. with distinction '51, M.S. in A.E. '54, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: The Influence of Turbulent Base Pressure and Heat Transfer of Distributed Mass Addition into the Near-Wake Region of a Supersonic Body of Revolution.
Major Adviser: Prof. E. R. G. Eckert.
1965. BRIGGS, DAVID GRIFFITH. B.A. magna cum laude '54, M.S. '55, Dartmouth College.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: The Measurement of the Thermal Conductivity of Gases by a Transient Method.
Major Advisers: Profs. R. J. Goldstein and W. E. Ibele.

1965. BULLOCK, CHARLES ERNEST. B.S. with high distinction '59, M.S. in M.E. '61, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Dehumidification of Moist Air by Adiabatic Adsorption.
Major Adviser: Prof. J. L. Threlkeld.
1965. CHENG, DAH YU. B.S. '57, Taiwan Provincial Cheng Kung University; M.S. in M.E. '61, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Measurement of the Viscosity of the Atomic Hydrogen.
Major Adviser: Prof. P. L. Blackshear.
1965. HAJI-SHEIKH, ABDOLHOSSEIN. Engineer '56, University of Tehran; M.S.E. '59, M.A. '61, University of Michigan.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Application of Monte Carlo Methods to Thermal Conduction Problems.
Major Adviser: Prof. E. M. Sparrow.
1965. JONSSON, VALDIMAR KRISTJAN. Certificate '60, Technical University of Denmark.
Major: Mechanical Engineering. Minor: Fluid Mechanics.
Thesis: Experimental Studies of Turbulent Flow Phenomena in Eccentric Annuli.
Major Adviser: Prof. E. M. Sparrow.
1965. KINNEY, ROBERT BRUCE. B.S. '59, M.S. '61, University of California.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Turbulent Pipe Flow of an Internally Heat Generating Fluid.
Major Adviser: Prof. E. M. Sparrow.
1965. LARSON, VINCENT HENNING. B.S. with high distinction '51, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Optimal Control of a Stochastic System.
Major Advisers: Profs. E. B. Lee and Katsuhiko Ogata.
1965. MINKOWYCZ, WOŁODYMYR J. B.S. with distinction '58, M.S. in M.E. '61, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Laminar Film Condensation of Water Vapor on an Isothermal Vertical Surface.
Major Adviser: Prof. E. M. Sparrow.
1965. SPENCER, DONALD LEE. B.S.M.E. with distinction '42, M.S. '48, State University of Iowa.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Theoretical and Experimental Investigation of Laminar Film Condensation of a Saturated and Superheated Vapor on a Surface with a Controlled Temperature Distribution.
Major Adviser: Prof. W. E. Ibele.
1965. TSOU, FU-KANG. B.E. '43, National Central University (China); M.S. '58, University of Toronto.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Velocity Field, Hydrodynamic Stability, and Heat Transfer for Boundary-Layer Flow along a Continuous Moving Surface.
Major Advisers: Profs. R. J. Goldstein and E. M. Sparrow.

1966. BLACK, ALBERT WOODSON, III. B.S.M.E. '57, Washington University; M.S.E. '59, Princeton University.
Major: Mechanical Engineering. Minor: Mechanics and Materials.
Thesis: The Effect of Circumferentially-Varying Boundary Conditions on Turbulent Heat Transfer in a Tube.
Major Adviser: Prof. E. M. Sparrow.
1966. STARR, JAMES BENJAMIN. B.S.M.E. '52, University of Southwestern Louisiana; M.S. '56, Louisiana State University.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: An Experimental Investigation of a Cylindrical Turbulent Wall Jet.
Major Adviser: Prof. E. M. Sparrow.
1966. TORRANCE, KENNETH ERIC. B.S. with high distinction '61, M.S. in M.E. '64, University of Minnesota.
Major: Mechanical Engineering. Minor: Mathematics.
Thesis: Off-Specular Peaks and Angular Distribution of Reflected Thermal Radiation.
Major Adviser: Prof. E. M. Sparrow.

MECHANICS AND MATERIALS

1959. DAS, YELLAPPA CHIDANANDA. B.E. (Civil) '54, University of Mysore; M.S. '59, University of Minnesota.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: Quasi-Orthogonal Modes of Dynamical Systems.
Major Adviser: Prof. L. E. Goodman.
1959. RATTAYYA, JASTI VENKATA. B.Sc. '48, Andhra University; D.M.I.T. '52, Madras Institute of Technology; M.S. in A.E. '56, University of Minnesota.
Major: Mechanics and Materials. Minor: Aeronautical Engineering.
Thesis: Supersonic Speed Flutter Analysis of Circular Panels with Edges Elastically Restrained against Rotation.
Major Adviser: Prof. L. E. Goodman.
1960. ANDERSON, VINCENT WESTER. B.M.E. '43, M.S. in M.E. '48, University of Minnesota.
Major: Mechanics and Materials. Minor: Metallurgy.
Thesis: Damping Properties of Materials Subjected to Various Ratios of Biaxial Stress.
Major Adviser: Prof. B. J. Lazan.
1960. DEMER, LOUIS JOSEPH. B.S. in M.E. magna cum laude '39, M.S. '49, University of Notre Dame.
Major: Mechanics and Materials. Minor: Metallography.
Thesis: On the Relation between the Micro-Mechanics of Fatigue and the Macro-Rheology, with Special Reference to Damping, of High Purity Aluminum.
Major Adviser: Prof. B. J. Lazan.
1961. CHANG, CHANG-SUN. B.S. in Civ.E. '55, University of Illinois; M.S. '57, University of Minnesota.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: Thermoelastic Damping.
Major Adviser: Prof. L. E. Goodman.

1961. FU, CHUEN-CHENG. B.S. '56, National Taiwan University;
M.S. '60, University of Minnesota.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: Response of Beams and Circular Plates Exhibiting Generalized
Boundary Damping and Empirically Based Material Damping.
Major Adviser: Prof. T. J. Mentel.
1961. WHITTIER, JAMES SPENCER. B.S. with high distinction '57, M.S.
'58, University of Minnesota.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: Phenomenological Theories of Hysteretic Material Damping
with Application to the Vibrations of Circular Plates.
Major Adviser: Prof. L. E. Goodman.
1962. BOWIE, GLENN EDWARD. B.S. '54, Columbia University; M.S. '60,
University of Minnesota.
Major: Mechanics and Materials. Minor: Geology.
Thesis: Experiments on the Contact Problem of Spheres Subjected
to Normal Loading.
Major Adviser: Prof. L. E. Goodman.
1962. BROWN, COLIN BERTRAM. B.Sc. (Eng.) '53, University of London;
A.K.C. '53, King's College (London).
Major: Mechanics and Materials. Minor: Civil Engineering.
Thesis: Incremental Analysis of Gravitational Stresses in Embankments
and Their Effect upon the Failure of Earth Structures.
Major Adviser: Prof. L. E. Goodman.
1962. KEER, LEON MORRIS. B.S. in Eng. with honors '56, M.S. in Mech.
Eng. '58, California Institute of Technology.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: The Contact Stress Problem for Elastically Identical Spheres.
Major Adviser: Prof. L. E. Goodman.
1963. CHIU, JUEN-SHING. B.S. in Eng. '56, National Taiwan University;
M.S. in C.E. '61, University of Minnesota.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: Damping Effects Due to General Cyclic Motion of Boundary
Interfaces Separated by Viscous Material.
Major Adviser: Prof. T. J. Mentel.
1963. GENIN, JOSEPH. B.C.E. '52, The City College of New York;
M.S. '58, University of Arizona.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: Effect of Nonlinear Material Damping on Shaft Vibrations.
Major Adviser: Prof. T. J. Mentel.
1964. COHEN, HARLEY. B.Sc. '56, University of Manitoba; M.S. '58,
Brown University.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: A Nonlinear Theory of Elastic Surfaces.
Major Adviser: Prof. C. N. De Silva.

1964. FENG, GEORGE CHI-CHIEN. B.S. in Eng. '55, National Taiwan University; M.S. '62, University of Minnesota.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: Analysis of Certain Two-Dimensional Rolling and Contact Stresses.
Major Adviser: Prof. L. E. Goodman.
1965. ANTMAN, STUART SHELDON. B.S. '61, Rensselaer Polytechnic Institute; M.S. '63, University of Minnesota.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: Dynamical Theory of Hyperelastic Rods.
Major Adviser: Prof. W. H. Warner.
1965. CHOW, SHUH-TWU. B.S. in Eng. '56, National Taiwan University; M.S. '59, University of Minnesota.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: Nonlinear Effects of Large Deflections and Material Damping on the Steady State Vibrations of Beams.
Major Adviser: Prof. P. R. Sethna.
1965. KLINE, KENNETH ALAN. B.S. with high distinction '61, University of Minnesota.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: A Nonlinear Theory of Thermo-Viscoelasticity for Materials with Memory.
Major Adviser: Prof. C. N. De Silva.
1965. MOGHE, SHARAD RAMCHANDRA. Diploma '60, Madras Institute of Technology; B.Sc. '57, Nagpur University (India); M.S. '63, University of Minnesota.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: Stress Analysis of Anisotropic Viscoelastic Media.
Major Advisers: Profs. C. C. Hsiao and W. H. Warner.
1965. TORVIK, PETER JOHN. B.S. with distinction '60, M.S. '62, University of Minnesota.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: Dynamic Loads on the Edge of an Elastic Plate.
Major Adviser: Prof. Robert Plunkett.
1965. WU, CHIEN HENG. B.S.Eng. '57, National Taiwan University; M.S. '62, University of Kansas.
Major: Mechanics and Materials. Minor: Mathematics.
Thesis: Electric Waves in Semi-Infinite Plates.
Major Adviser: Prof. Robert Plunkett.

METALLURGICAL ENGINEERING, METALLURGY

1958. CHOI, HYUNG SUP. B.E. '44, Waseda University; M.S. '56, University of Notre Dame.
Major: Metallurgy. Minor: Geology.
Thesis: The Function of Aliphatic Acids in Flotation Collection.
Major Adviser: Prof. S. R. B. Cooke.

1958. HANSEN, JOHN PAUL. B.S. with distinction '54, M.S. '56, University of Minnesota.
Major: Metallurgical Engineering. Minor: Chemical Engineering.
Thesis: The Reduction of Hematite to Magnetite by Carbon Monoxide.
Major Adviser: Prof. T. L. Joseph.
1959. MA, CHING HOU. B.S. '43, National Tangshan Engineering College (China); M.S. '50, Missouri School of Mines and Metallurgy.
Major: Metallurgy. Minor: Physical Chemistry.
Thesis: Solute Diffusion in Liquid Tin.
Major Adviser: Prof. R. A. Swalin.
1960. RAO, KOLLI KRISHNA. B.Sc.(honors) '53, M.S. '54, Andhra University.
Major: Metallurgy. Minors: Physical Chemistry and Chemical Engineering.
Thesis: Solid Solubilities of Carbon in Transition Elements and Their Alloys.
Major Adviser: Prof. M. E. Nicholson.
1963. CHEN, WEI-KONG. B.S. in Eng. '54, National Taiwan University; M. of Eng. '58, Tokyo Institute of Technology.
Major: Metallurgy. Minor: Physical Chemistry.
Thesis: A Study of the Anomalous Electrical Resistivity Change Accompanying Plastic Deformation in Silver-Palladium Alloys.
Major Adviser: Prof. M. E. Nicholson.
1963. GORTON, ALAN TAYLOR. B.S. with distinction '59, M.S. in Met.E. '61, University of Minnesota.
Major: Metallurgical Engineering. Minor: Physical Chemistry.
Thesis: The Isothermal Transformation of Wustite below 570° C.
Major Advisers: Profs. Gust Bitsianes and T. L. Joseph.
1964. LU, WEI-KAO. B.Sc. '57, Cheng Kung University (China).
Major: Metallurgical Engineering. Minor: Physical Chemistry.
Thesis: Interfacial Movements in Iron Oxide Reduction.
Major Adviser: Prof. Gust Bitsianes.

MINERAL ENGINEERING

1965. IMAM, HASSAN FAHMY EL-SAYED. B.M.E. '58, Cairo University; M.S. in M.E. '62, University of Minnesota.
Major: Mineral Engineering. Minor: Mechanical Engineering.
Thesis: A Viscoelastic Analysis of Mine Subsidence in Horizontally Laminated Strata.
Major Adviser: Prof. Charles Fairhurst.
1966. GNIRK, PAUL FARRELL. M.S.M.E. '59, South Dakota School of Mines and Technology.
Major: Mineral Engineering. Minors: Mathematics and Mechanical Engineering.
Thesis: An Investigation of Some Aspects of Contained Explosion Phenomena in Rock.
Major Adviser: Prof. Charles Fairhurst.

1966. PARISEAU, WILLIAM GEORGE. B.S. in Min.E. '60, University of Washington.
Major: Mineral Engineering. Minor: Mathematics.
Thesis: The Gravity Induced Movement of Materials in Ore Passes Analyzed as a Problem in Coulomb Plasticity.
Major Adviser: Prof. E. P. Pfeider.

ORGANIC CHEMISTRY

1956. HURD, RICHARD NELSON. B.S. '46, University of Michigan.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: Studies on the Synthesis of a Diquinone Derived from Butadiene.
Major Adviser: Prof. L. I. Smith.
1956. MARCUS, ERICH. B.S. cum laude '52, City College of New York.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: The Steric Effects of Methylene Groups.
Major Adviser: Prof. W. M. Lauer.
1956. MATSON, GALE WENDELL. B.A. cum laude '52, St. Olaf College.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Deuteration of Aromatic Hydrocarbons.
Major Adviser: Prof. W. M. Lauer.
1956. RUNQUIST, OLAF ALAN. B.S. '52, Iowa State College.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Some Reactions of Ascaridole and Its Thermal Rearrangement Product.
Major Adviser: Prof. S. W. Fenton.
1956. SERRES, CARL, JR. B.S. '52, University of Wisconsin.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Reactions of Nitroolefins with Diazocompounds.
Major Adviser: Prof. W. E. Parham.
1956. SWENSON, JACK SPENCER. B.S. magna cum laude '52, University of Washington.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: The Synthesis and Properties of an Allenic Nitrile.
Major Adviser: Prof. L. I. Smith.
1956. WITSIEPE, WILLIAM KENNETH. B.S. '50, Northwestern University.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: The Effect of t-Butyl Groups and Phenyl Groups on the Dissociation of Phenoxyl Radicals.
Major Adviser: Prof. C. F. Koelsch.
1956. WRIGHT, CHARLES DEAN. B.A. magna cum laude '52, Augustana College.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Intramolecular Cyclization Reactions of *o*-(1-Cyclohexenyl)-Benzyl Amine and of ϕ -(1-Cyclohexenyl)-Benzyl Alcohol and Ring Expansion Reactions of Indenes. The Reactions of Some 2- and 3-Substituted Indenes with Dihalocarbenes.
Major Adviser: Prof. W. E. Parham.

1957. BENTON, CLIFFORD STURGIS. B.A. '41, Cornell College; M.S. '43, University of Illinois.
Major: Organic Chemistry. Minor Chemistry.
Thesis: The Rearrangement of Substituted Allyl Benzimido Ethers.
Major Adviser: Prof. W. M. Lauer.
1957. GUMPRECHT, WILLIAM HENRY. B.S. with high honors '53, University of Illinois.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: The Preparation and Some Typical Reactions of Simple Diazine N-Oxides.
Major Adviser: Prof. C. F. Koelsch.
1957. MILLER, WALTER PETER. B.A. magna cum laude '53, University of Minnesota.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: The Participation of a Neighboring Carboxyl Group in Addition Reactions.
Major Adviser: Prof. S. W. Fenton.
1957. OSTLIE, DEAN ARTHUR. B.A. cum laude '53, St. Olaf College.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: An Investigation Directed towards the Synthesis of Quinodimethane Derivatives.
Major Adviser: Prof. S. W. Fenton.
1957. TWELVES, ROBERT RALPH. B.S. '50, M.A. '52, University of Utah.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Negatively Substituted Methanes as Carbene Precursors.
Major Adviser: Prof. W. E. Parham.
1958. CARBAJAL, BERNARD GONZALEZ, III. B.A. '54, Rice Institute.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: The Reaction of Phenylmagnesium Bromide with Ortho and Para Nitroso and Phenylazo Phenols.
Major Adviser: Prof. C. F. Koelsch.
1958. COOLEY, JAMES H. B.A. '52, M.S. '54, Middlebury College.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Action of Acid on Salts of 5-Nitronorbornenes.
Major Adviser: Prof. W. E. Noland.
1958. FAWCETT, MARK STANLEY. B.S. '54, Northwestern University.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: The Reactions of 1,2,4-Triphenyl-2,4-Cyclopentadiene and Some of Its Derivatives.
Major Adviser: Prof. C. F. Koelsch.
1958. KOONS, CHARLES BRUCE. B.S. '51, Southern Illinois University.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Electrophilic Hydrogen Isotope Exchange of Alkylbenzenes.
Major Adviser: Prof. W. M. Lauer.

1958. LANGE, RONALD FREDERICK. B.S. '54, University of Illinois.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: The Reactions of Indoles with Dienophiles.
Major Adviser: Prof. W. E. Noland.
1958. MAYO, GWENDOLYN LEE OLSON. B.A. '54, Vassar College.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: 2, 5-Dimethyl-1, 4-Dithiadene.
Major Adviser: Prof. W. E. Parham.
1958. MOTTER, ROBERT FRANKLIN. B.S. magna cum laude '55, Morningside College.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: The Reaction of Vinyl Sulfides with Butyllithium.
Major Adviser: Prof. W. E. Parham.
1958. OSBORN, JAMES H. B.S. with high distinction '54, University of Minnesota.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: The Addition of Hydrogen Bromide to Dinitriles and the Identification of Lagidze's Hydrocarbon.
Major Adviser: Prof. S. W. Fenton.
1958. PEARSON, WESLEY ANDREW. B.A. summa cum laude '54, St. Olaf College.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Oxidation of Conjugated Diolefins.
Major Adviser: Prof. S. W. Fenton.
1959. ANDERSEN, KENNETH KAAE. B.S. with highest honors '55, Rutgers University.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: The Stereochemistry of the Reactions of Some Alkyl Sulfates with Phenyllithium and *n*-Butyllithium.
Major Adviser: Prof. S. W. Fenton.
1959. BERNDT, EDWARD WALTON. B.S. '51, University of Wisconsin.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: The Synthesis of Some Triptycene Derivatives Substituted at the Bridgehead.
Major Adviser: Prof. C. F. Koelsch.
1959. CASEBIER, RONALD LEROY. B.S. with highest honors '55, State College of Washington.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: A Study of Radicals Containing the Allylic System.
Major Adviser: Prof. C. F. Koelsch.
1959. EVENSEN, THOMAS JAMES. B.A. '55, Augustana College (Illinois).
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Electrophilic Hydrogen Isotope Exchange Involving a Series of Benzocycloalkenes.
Major Adviser: Prof. W. M. Lauer.

1959. FIFE, THOMAS HARLEY. B.S. '55, University of Illinois.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Stereochemistry of 1,2-Cyclohexanediols.
Major Adviser: Prof. S. W. Fenton.
1959. HAMMER, CHARLES FRANKLIN. B.A. '55, Bowling Green State University.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Mixed Indole Dimers: Synthesis and a Novel Rearrangement
Involving Some of Their Derivatives.
Major Adviser: Prof. W. E. Noland.
1959. HANNA, MELVIN WESLEY. B.S. '54, University of California (Los Angeles).
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: Some Reactions of 1,2-Disubstituted Benzocyclobutene
Derivatives.
Major Adviser: Prof. S. W. Fenton.
1959. HARPER, EDWIN TUAN. B.A. with honors '55, Grinnell College.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: The Chemistry of 2,5-Diaryl-1,4-Dithiadienes.
Major Adviser: Prof. W. E. Parham.
1959. KVALNES, DONOVAN LEE. B.A. '54, Dartmouth College.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: Some Studies of the Hunsdiecker Reaction.
Major Adviser: Prof. W. M. Lauer.
1959. LIBERS, ROLAND. B.A. cum laude, '54, Macalester College.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: I. A Study of the NEF Reaction and Related Syntheses in the
9,10-Dihydro-9,10-Ethanoanthracene Series. II. Benzylation of
 α -Nitroesters.
Major Adviser: Prof. W. E. Noland.
1959. LOEW, FREDERIC CHRISTIAN. B.S. '54, University of Illinois.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Carbenes from α -Haloesters.
Major Adviser: Prof. W. E. Parham.
1959. OSTERCAMP, DARYL LEE. B.A. magna cum laude '53, St. Olaf
College; M.S. '55, University of Wisconsin.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: Synthesis of Angularly Substituted Octa-and
Decahydroquinolines.
Major Adviser: Prof. F. C. Koelsch.
1959. RICE, DAVID ELMER. B.A. magna cum laude '55, St. Olaf College.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Electrophilic Hydrogen-Deuterium Exchange of Some Polynuclear
Aromatic Hydrocarbons.
Major Adviser: Prof. W. M. Lauer.
1959. ROBINSON, DONALD NELLIS. B.A. '55, Cornell University.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: The Reactions of Indoles with Carbonyl Compounds.
Major Adviser: Prof. W. E. Noland.

1959. WILLETTE, GORDON LOUIS. B.Sc.Chem. '55, Brown University.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: The Chemistry of Benzo-1-4-Oxathiadiene.
Major Adviser: Prof. W. E. Parham.
1960. BALDWIN, JOHN JAMES. B.S. '56, University of Delaware.
Major: Organic Chemistry. Minor: Physiological Chemistry.
Thesis: Synthesis and Study of Derivatives of Trimethylhydroquinone
Possessing a Conjugated Side Chain at Position Six.
Major Adviser: Prof. L. I. Smith.
1960. BLACKLEY, WILLIAM DAVID. B.S. with honor '53, Mankato State
College.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: Deuteration of Aromatic Compounds.
Major Adviser: Prof. W. M. Lauer.
1960. BOLON, DONALD ALLEN. B.S. '56, Allegheny College.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Addition of Dichlorocarbene to Naphthalene-1-Methyl Ether
and Naphthalene-2-Ether and Synthesis and Reactions of
O-(1-Cycloheptenyl)Benzylamine Hydrochloride and
O-(1-Cyclopentenyl)Benzylamine Hydrochloride.
Major Adviser: Prof. W. E. Parham.
1960. BRAXTON, HENRY GREEN, JR. B.S. in Chem. '52, University of
Michigan.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Reactions of Diazo Compounds with Nitroolefins.
Major Adviser: Prof. W. E. Parham.
1960. EARGLE, DOLAN HOYE, JR. B.A. with honors '54, B.Mus. with honors
'54, University of Texas.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Nitrocyclobutyl Ketones I: The Synthesis and Methoxide
Reaction of 2-Nitrocyclobutyl Phenyl Ketones.
Major Adviser: Prof. L. I. Smith.
1960. HANSEN, RICHARD LAVERNE. B.S. '54, North Dakota Agricultural
College.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: The Relative Reactivities of Some Alkyl Mercuric Iodides
toward Aqueous Non-halogen Acid and a Quantum Mechanical Study
of Methyl Anion.
Major Adviser: Prof. M. M. Kreevoy.
1960. HILEMAN, ROBERT ESTON. B.S. in Ed. '51, Pennsylvania State
Teachers College (Bloomsburg); B.S. in Chem. '56, Rutgers
University.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: The Rearrangement of 4-(p-Carbethoxyphenoxy)-2-Butene-1-C¹⁴.
Major Adviser: Prof. W. M. Lauer.
1960. KURYLA, WILLIAM COLLIER. B.S. '56, Kent State University; M.S.
'58, University of Minnesota.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Synthesis of Triindole and Other Indole Trimers and Dimers:
The Reactions of Indoles with Dienophiles.
Major Adviser: Prof. W. E. Noland.

1960. SCHWARTZ, ROBERT DAVID. B.A. with honors '56, University of Connecticut.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: The Cyanoethylation of 1-Methyl-3-phenylindene.
Major Adviser: Prof. C. F. Koelsch.
1960. SEUS, EDWARD JOSEPH. B.S. '56, Queens College (New York).
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Oxidative Ring Opening of Substituted Furans and Pyrolysis of the Resulting Dibenzoylethylenes and Related Compounds.
Major Adviser: Prof. C. F. Koelsch.
1960. SMITH, LOWELL RICHARD. B.A. '55, University of Minnesota.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: The Nitration of Indoles.
Major Adviser: Prof. W. E. Noland.
1960. WILGUS, HERBERT SEDGWICK, III. B.S. '54, M.S. '56, Colorado State University.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Indenyl Free Radicals.
Major Adviser: Prof. C. F. Koelsch.
1961. CAMPBELL, ROBERT WARREN. B.A. '57, Dartmouth College.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Reactions of Dimethyl (3-Indole) Fumarate with Dienophiles.
Major Adviser: Prof. W. E. Noland.
1961. JONES, DUANE ARNOLD. B.A. cum laude '57, St. Olaf College.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Ring Expansion and Addition Reactions of Isatogens with Ammonia, Tetracyanoethylene, and Other Unsaturated Systems.
Major Adviser: Prof. W. E. Noland.
1961. KONCOS, ROBERT. B.S. with honors '56, University of Illinois.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Studies Related to the Synthesis of 1-Benzothiepin.
Major Adviser: Prof. W. E. Parham.
1961. MUMMA, RICHARD HOWARD. B.S. '57, University of Delaware.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: A Study of Some Benzocycloalkenes.
Major Adviser: Prof. S. W. Fenton.
1961. SCHALEGER, LARRY LEROY. B.A. '57, Grinnell College.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: The Mechanism of Deoxymercuration and Structure of Mercurials in Solution.
Major Adviser: Prof. M. M. Kreevoy.
1961. THEISSEN, DONALD RAYMOND. B.Chem. '58, University of Minnesota.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: A Study of the Chemistry of Vinyl Sulfides and Vinyl Sulfones.
Major Adviser: Prof. W. E. Parham.

1962. ADAMS, CHARLES DEWITT. B.A. '58, Grinnell College.
Major: Organic Chemistry. Minor: Agricultural Biochemistry.
Thesis: An Investigation in the Pyridone and Indone Series and
Some New Pyridinium-Betaines Derived from Malonic Ester and
Picolinic Acid.
Major Adviser: Prof. C. F. Koelsch.
1962. HENDERSON, WILLIAM WELDON. B.S. '59 University of Washington.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: An Investigation of Some Reactions of Anthracene Derivatives.
Major Adviser: Prof. S.W. Fenton.
1962. JOHNSON, DONALD CURTIS. B.S. cum laude '57, Hamline University.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Syntheses and Reactions of Vinylindoles.
Major Adviser: Prof. W. E. Noland.
1962. JOHNSON, THOMAS ALBERT. B.S. '59, Lawrence College.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: The Reaction of trans-1-Amino-2-butene-4-C¹⁴ with Nitrous
Acid and the Abnormal Claisen Rearrangement of 1-(4-Carboethoxy-
phenoxy)-2-butene-4-C¹⁴.
Major Adviser: Prof. W. M. Lauer.
1962. MEISTERS, GEORGE J. B.S. '58, University of Wisconsin.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Reactions of Indole Dimers and Trimers.
Major Adviser: Prof. W. E. Noland.
1962. SUNDBERG, RICHARD JAY. B.S. in Chem. with high distinction '59,
State University of Iowa.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: The Cyclizative Condensation of Nitromethane with Cyclic
Ketones.
Major Adviser: Prof. W. E. Noland.
1963. CHAMBERLIN, THOMAS ARNOLD. B.S. '59, Hamline University.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: The Effect of Alpha, Beta Unsaturated and Electronegative
Groups on Deoxymercuration.
Major Adviser: Prof. M. M. Kreevoy.
1963. DE LUCA, DONALD CARL. B.S. '57, Rensselaer Polytechnic Institute.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: The Synthesis and Thermal Rearrangement of 1,4-Transannular
Peroxides.
Major Adviser: Prof. S. W. Fenton.
1963. DELVIGS, PETER. B.A. summa cum laude '59, Western Reserve
University.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Syntheses and Reactions of Linear Polynuclear Phenazines.
Major Adviser: Prof. Edward Leete.
1963. FRIEDMAN, ALAN ROBERT. B.S. '59, University of California.
Major: Organic Chemistry. Minor: Pharmaceutical Chemistry.
Thesis: The Biosynthesis of the Pyridine Ring of Anabasine.
Major Adviser: Prof. Edward Leete.

1963. GOWER, BOBBY GENE. B.A. '58, M.S. '60, Southern Illinois University.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Syntheses and Reactions of 3-Aminomethylindoles: Biosyntheses of Gramine and 5-Fluorogamine.
Major Adviser: Prof. Edward Leete.
1963. KEENAN, JOHN RICHARD. B.S. summa cum laude '57, College of St. Thomas.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Synthetic Studies in the Pyrrole and Indole Series.
Major Adviser: Prof. Edward Leete.
1963. NI, ROXY RU-JIEN. B.Sc. '58, Cheng Kung University; M.S. '60, University of Minnesota.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: Biogenesis of Substances of Medicinal Interest.
Major Adviser: Prof. Edward Leete.
1963. OSSANNA, OLIVER ALEXANDER. B.S. summa cum laude '57, College of St. Thomas.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: Base-Catalyzed Isomerization of 1,2-Diols.
Major Adviser: Prof. S. W. Fenton.
1963. RUSH, KENT RODNEY. B.S. with high honors '60, Franklin and Marshall College.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: The Nitration of Indoles.
Major Adviser: Prof. W. E. Noland.
1964. DEASON, JAMES RONALD. B.S. in Educ. '58, Illinois State Normal University; M.A. '60, Southern Illinois University.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Stereochemistry of Steroidal Sulfur Compounds in Two Parts: I. Free Radical Additions; II. Absolute Configurations of Sulfoxides.
Major Adviser: Prof. R. M. Dodson.
1964. HART, RICHARD BRANT. B.S. '60, Franklin and Marshall College.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: Acidic Rearrangement of Salts of 5-Nitro-6-Substituted-2-Norbornenes.
Major Adviser: Prof. W. E. Noland.
1964. NEWMAN, NORMAN. B.S. '59, Brooklyn College.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: Preparation and Reactions of Optically Active Sulfoxides.
Major Adviser: Prof. R. M. Dodson.
1964. THROCKMORTON, JAMES RODNEY. B.S. '58, M.S. '60, University of Idaho.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: The Preparation and Reactions of 1-Ethoxy-7, 7-Dichlorobicyclo-(4.1.0.) Heptane and 1-Ethoxy-7,7-Dibromobicyclo-(4.1.0.)Heptane.
Major Adviser: Prof. W. E. Parham.

1964. WEINMANN, JOAN MARGRETH. B.S. summa cum laude '59, Hamline University.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Synthesis and Reactions of 3-Vinylindoles, and Reactions of Indoles with Acylating Agents.
Major Adviser: Prof. W. E. Noland.
1965. BAUDE, FREDERIC JOHN. B.S.(Chem.) '60, University of Wisconsin; M.S. '63, University of Minnesota.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Structure of the Cycloaddition Products of 3-Alkylindoles and p-Benzoquinone.
Major Adviser: Prof. W. E. Noland.
1965. COURY, ARTHUR JOSEPH. B.S. '62, University of Delaware.
Major: Organic Chemistry. Minor: Inorganic Chemistry.
Thesis: On the Syntheses of 1,4-Dialkyl-4-arylhexahydroazepines and 2,6-Dialkyl-2-aryl-6-azabicyclo[3,2,1]Octanes.
Major Adviser: Prof. C. F. Koelsch.
1965. GUEHLER, PAUL FREDERICK. B.A. '60, Augustana College.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: Transformations of Steroids by Algae.
Major Adviser: Prof. R. M. Dodson.
1965. JOHNSON, ROY ALLEN. B.Ch. '59, University of Minnesota; M.Sc. '61, University of British Columbia.
Major: Organic Chemistry. Minor: Physiological Chemistry.
Thesis: Phenanthridinones from Condensation of Indole-3-Fumarates with Acetylenic Carbonyl Compounds.
Major Adviser: Prof. W. E. Noland.
1965. LEE, SWEE-YONG. B.Sc. '59, Nanyang University (Singapore).
Major: Organic Chemistry. Minor: Analytical Chemistry.
Thesis: Syntheses from γ -cyano- γ -Phenylpimelonitrile; Ethyl 3-Dimethyl-amino-1-Phenylcyclohexanecarboxylate Hydrochloride--An Analog of Demerol.
Major Adviser: Prof. C. F. Koelsch.
1965. MODLER, ROBERT FRANCIS. B.A. '61, Northwestern University.
Major: Organic Chemistry. Minor: Chemistry.
Thesis: Ring Expansion Reactions of Isatogens.
Major Adviser: Prof. W. E. Noland.
1965. MUTSCH, EDWARD LEIGH. B.A. cum laude '61, St. Olaf College.
Major: Organic Chemistry. Minors: Physical Chemistry and Inorganic Chemistry.
Thesis: The Reaction of Certain Sulfones with the Grignard Reagent.
Major Adviser: Prof. R. M. Dodson.
1965. STEINWAND, PAUL JOSEPH. B.S. maxima cum laude '61, Loras College.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: Acid Cleavage of Allylmercuric Iodide.
Major Adviser: Prof. M. M. Kreevoy.

1965. WEWERKA, EUGENE MICHAEL. B.A. '62, University of Minnesota.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: The Reactions of Mercuric Iodine in Solution with Metallic Mercury.
Major Adviser: Prof. M. M. Kreevoy.
1966. MURRILL, SISTER JOHN BRENDAN. B.S. magna cum laude '50,
Fontbonne College.
Major: Organic Chemistry. Minor: Biochemistry.
Thesis: The Biosynthesis of Morphine and Chelidonium.
Major Adviser: Prof. Edward Leete.
1966. SELSTEDT, JOHN HAMILTON. B.Ch with distinction '62, University
of Minnesota.
Major: Organic Chemistry. Minor: Biochemistry.
Thesis: Phenanthridinones from Pyrolysis of Maleyltriindoles: A Novel
Intramolecular Diels-Alder Reaction.
Major Adviser: Prof. W. E. Noland.
1966. THEISSEN, ROBERT JAMES. B.Ch. with distinction '62, University
of Minnesota.
Major: Organic Chemistry. Minors: Physical and Inorganic Chemistry.
Thesis: Some Rearrangements of Bicyclic Organomagnesium Compounds.
Major Adviser: Prof. E. A. Hill.

PHARMACEUTICAL CHEMISTRY

1956. ECANOW, BERNARD. B.Ch.E. '47, B.S. in Pharm. '51, University of
Minnesota.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: Preparation of Some Imidazoline and Amidine Compounds of
Possible Medicinal Interest.
Major Adviser: Prof. Ole Gisvold.
1956. SCHWARTZ, SAMUEL MEYER. B.S. in Pharm. '52, University of
Manitoba.
Major: Pharmaceutical Chemistry. Minors: Organic Chemistry and
Physiological Chemistry.
Thesis: A Preliminary Phytochemical Investigation of Digitalis lutea
Second Year Growth.
Major Adviser: Prof. Ole Gisvold.
1957. COLE, JACK ROBERT. B.S. with distinction '53, University of
Arizona.
Major: Pharmaceutical Chemistry. Minors: Organic Chemistry and
Pharmacology.
Thesis: A Preliminary Phytochemical Investigation of Digitalis lutea
First Year Growth.
Major Adviser: Prof. Ole Gisvold.
1957. COUNSELL, RAYMOND ERNEST. B.S.P. '53, University of British
Columbia.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: The Synthesis of Hydroxyquinolizidines and Some of Their
Esters as Potential Therapeutic Agents.
Major Adviser: Prof. T. O. Soine.

1958. KELLY, CLARK ANDREW. B.S. with special honors '46, University of Colorado; M.S. '51, Temple University.
Major: Pharmaceutical Chemistry. Minor: Analytical Chemistry.
Thesis: Polarographic Studies of 2,3-Dimercapto-1-Propanol (Bal) and the Reactivity of the Sulfhydryl and Disulfide Groups in Heat Denatured Albumin and Heated and Unheated Blood Serum.
Major Adviser: Prof. Ole Gisvold.
1958. KIER, LEMONT BURWELL. B.S. In Pharm. '54, Ohio State University.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: Structural Studies of Related Argemone Alkaloids.
Major Adviser: Prof. T. O. Soine.
1958. MARTELL, MICHAEL JOSEPH, JR. B.S. '54, University of Minnesota.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: The Synthesis of Some Isomeric Hydroxy-1-azabicyclonanes and Certain of Their Esters as Potential Spasmodic Agents.
Major Adviser: Prof. T. O. Soine.
1959. OMODT, GARY WILSON. B.S. in Pharmacy '53, University of Minnesota.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: The Synthesis of Some Glycidic Esters as Potential Antispasmodics.
Major Adviser: Prof. Ole Gisvold.
1960. DELAGADO, JAIME NABOR. B.S. in Pharm. with honors '54, M.S. in Pharm. '55, University of Texas.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: The Synthesis of Some Aminoketones and Ketals as Potential Antispasmodics.
Major Adviser: Prof. Ole Gisvold.
1960. MERTES, MATHIAS PETER, JR. B.S. '54, University of Illinois; M.S. '56, University of Texas.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: Synthesis of Ketals and Hemithioketals of 1-Methyl-4 Piperidone and Tropinone.
Major Adviser: Prof. Ole Gisvold.
1960. WILLETTE, ROBERT EDMOND. B.S. '55, Ferris Institute.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: Structural Studies of Certain Pharmacologically Active Coumarins Isolated from Umbelliferae.
Major Adviser: Prof. T. O. Soine.
1961. LIEBMAN, ARNOLD ALVIN. B.S. '56, University of Minnesota.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: Chemistry of Guareschi Imides. Lithium Aluminum Hydride Reduction of Some Bicyclo Guareschi Imides.
Major Adviser: Prof. F. E. DiGangi.
1963. ISSACSON, EUGENE IVAN. B.S. '56, University of Minnesota.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: Studies on the Synthesis of Potential Parasympathomimetic and Parasympatholytic Agents.
Major Adviser: Prof. Ole Gisvold.

1964. MAULDING, HAWKINS VALLIANT, JR. B.S. in Pharm. '58, University of Arkansas.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: Synthesis of Some Basically Substituted Dioxanes and Dioxolanes.
Major Adviser: Prof. Ole Gisvold.
1964. PRASAD, VADLAMANI KALI. B.Pharm. '56, University of Madras; M.Pharm. '57, University of Andhra (India).
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: The Synthesis of Some Dialkyl Aminoalcohols and Some of Their Disubstituted Carbamates as Potential Anticholinesterases.
Major Adviser: Prof. Ole Gisvold.
1965. GUPTA, PREM KUMAR. B.Pharm. '57, M.Pharm. '58, Banaras Hindu University (India).
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: Studies on the Chemical Modification and Structure of Coumarins Occurring in Umbelliferous Plants.
Major Adviser: Prof. T. O. Soine.
1965. KRIESEL, DOUGLAS CLARE. B.S.Pharm. '60, University of Minnesota.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: Synthesis of Some N-Substituted Derivatives of Norpethidine as Potential Analgesics.
Major Adviser: Prof. Ole Gisvold.
1965. STUBBINS, JAMES FISKE. B.S. '53, University of Nevada; M.S. '58, Purdue University.
Major: Pharmaceutical Chemistry. Minor: Organic Chemistry.
Thesis: Synthesis of Potential Analgesics: N-2(2-Dialkylaminoethyl)-2-Phenylacetanilides.
Major Adviser: Prof. T. O. Soine.
1966. ZOGLIO, MICHAEL ANTHONY. B.S. '58, University of Rhode Island.
Major: Pharmaceutical Chemistry. Minor: Physical Chemistry.
Thesis: Certain Esters of 1-,2-,3-, Methyl-2-Hydroxy-quinolizidines as Potential Local Anesthetic Agents.
Major Adviser: Prof. T. O. Soine.

PHARMACEUTICAL TECHNOLOGY

1960. OLSON, TRAVIS NEAL THOMAS. B.S. in Pharmacy '55, University of Minnesota.
Major: Pharmaceutical Technology. Minor: Industrial Engineering.
Thesis: Radio Frequency Conductometric Analysis as a Method of Measuring the Release Rate of Delayed Release Dosage Forms.
Major Advisers: Profs. G. P. Hager and R. H. Miller.
1964. OLSEN, JAMES LEROY. B.S. in Pharm. '54, University of Minnesota.
Major: Pharmaceutical Technology. Minor: Industrial Engineering.
Thesis: Segregation Kinetics of Particulate Solids.
Major Adviser: Prof. E. G. Ripple.

1965. FAIMAN, MORRIS DAVID. B.S. in Pharm. '55, University of Manitoba; M.S. '61, University of Minnesota.
Major: Pharmaceutical Technology. Minor: Pharmacology.
Thesis: Some Considerations of Segregation in Systems of Particulate Solids.
Major Adviser: Prof. E. G. Ripple.

PHYSICAL CHEMISTRY

1956. KING, WILLIAM TRAVERS, III. B.S. magna cum laude '52, University of Washington.
Major: Physical Chemistry. Minor: Mathematics.
Thesis: Characteristic Group Vibrations.
Major Adviser: Prof. B. L. Crawford, Jr.
1957. DICKERSON, RICHARD EARL. B.S. '53, Carnegie Institute of Technology.
Major: Physical Chemistry. Minor: Physics.
Thesis: The Molecular Structure of B_9H_{15} .
Major Adviser: Prof. W. N. Lipscomb.
1958. RAO, V. SUBBA. B.Sc. '47, M.Sc. '50, Andhra University; M.S. '55, University of Minnesota.
Major: Physical Chemistry. Minor: Analytical Chemistry.
Thesis: Photochemical Study of Anthracene Derivatives.
Major Adviser: Prof. R. S. Livingston.
1958. SCHERER, JAMES ROMAN. B.S. '53, St. Mary's College of California.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: Infrared Intensities of $B_2^{10}H_6$ and $B_2^{10}D_6$.
Major Adviser: Prof. B. L. Crawford, Jr.
1958. SCHWABACHER, WILLIAM BERNARD. B.S. '47, University of California at Berkeley.
Major: Physical Chemistry. Minor: Mathematics.
Thesis: Nuclear Spin Resonance in Four-Proton Systems.
Major Advisers: Profs. J. E. Wertz and W. N. Lipscomb.
1958. YANAI, HIDEYASU STEVE. B.S. '53, California State Polytechnic College.
Major: Physical Chemistry. Minor: Organic Chemistry.
Thesis: The Structure of Pseudo-Conhydrine.
Major Adviser: Prof. W. N. Lipscomb.
1959. CURTIS, EARL. B.S. in Chem. '54, University of Vermont.
Major: Physical Chemistry. Minor: Mathematics.
Thesis: Comparison of Vibrational Potential Functions.
Major Adviser: Prof. B. L. Crawford, Jr.
1959. GARFIELD, LAWRENCE JAMES. B.S. with distinction '54, University of Minnesota.
Major: Physical Chemistry. Minor: Chemistry.
Thesis: The Approximate Calculation of the Energy Levels of Linear Molecules.
Major Adviser: Prof. W. N. Lipscomb.

1959. JACOBSON, ROBERT ANDREW. B.A. with high honors '54, University of Connecticut.
Major: Physical Chemistry. Minor: Mathematics.
Thesis: The Crystal and Molecular Structure of B_8Cl_8 .
Major Adviser: Prof. W. N. Lipscomb.
1959. MATHEWS, FRANCIS SCOTT. B.S. '55, University of California
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: The Crystal and Molecular Structure of $C_8H_8AgNO_3$.
Major Adviser: Prof. W. N. Lipscomb.
1959. REDDY, JOSINA VAN DER MASS. B.A. '55, Vassar College.
Major: Physical Chemistry. Minor: Mathematics.
Thesis: The Crystal and Molecular Structure of $B_{10}H_{12}(CNCH_3)_2$.
Major Adviser; Prof. W. N. Lipscomb.
1959. RINEHART, ROBERT WILLIAM. B.S. '49, M.S. '50, State University of Iowa.
Major: Physical Chemistry. Minor: Organic Chemistry.
Thesis: Induced Infrared Absorption in Mixed Gases at High Pressure.
Major Adviser: Prof. B. L. Crawford, Jr.
1959. SCHACHTSCHNEIDER, JERRY HERBERT. B.S. '54, University of Wisconsin.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: Simultaneous Transitions and Intermolecular Forces.
Major Adviser: Prof. B. L. Crawford, Jr.
1959. TREFONAS, LOUIS MARCO. B.A. '51, M.S. '54, University of Chicago.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: The Crystal and Molecular Structures of B_2F_4 and $[(CH_3)_2N]_3(BH_2)_3$.
Major Adviser: Prof. W. N. Lipscomb.
1960. REDDY, THOMAS BRADLEY. B.S. '55, Yale University.
Major: Physical Chemistry. Minor: Analytical Chemistry.
Thesis: Electrochemical and Acid-Base Studies in Dimethylsulfoxide as Solvent.
Major Adviser: Prof. I. M. Kolthoff.
1960. SPENCER, CAROL JOYCE. B.S. '55, Carnegie Institute of Technology.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: The Crystal and Molecular Structure of $(PCF_3)_5$.
Major Adviser: Prof. W. N. Lipscomb.
1960. ZUEHLKE, RICHARD WILLIAM. B.S. '55, Lawrence College.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: Sorption and Magnetic Susceptibility Studies on Palladium-Nitric Oxide Systems.
Major Adviser: Prof. L. H. Reyerson.
1961. BRANDTS, JOHN FREDERICK. B.A. summa cum laude '56, Miami University.
Major: Physical Chemistry. Minor: Mathematics.
Thesis: The Reversible Thermal Denaturation of Chymotrypsinogen.
Major Adviser: Prof. R. W. Lumry.

1961. EMERSON, KENNETH. B.A. '53, Harvard University; M.A. '58, University of Oregon.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: The Preparation and Structure of Group V Tricyanides.
Major Adviser: Prof. Doyle Britton.
1961. GOLDEN, DAVID MARK. B.A. '56, Cornell University.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: The Measurement of Absolute Raman Intensities.
Major Adviser: Prof. B. L. Crawford, Jr.
1961. KERN, CHARLES WILLIAM. B.S. '57, Carnegie Institute of Technology.
Major: Physical Chemistry. Minor: Physics.
Thesis: Nuclear Magnetic Shielding in Molecules.
Major Advisers: Profs. W. N. Lipscomb and R. S. Livingston.
1961. NEEDLER, WILLIAM CHARLES. B.S. '54, Butler University.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: Electron Spin Resonance Studies of Thianthrene-Related Free Radicals.
Major Adviser: Prof. J. E. Wertz.
1961. STOCKMAN, DAVID LYLE. B.S. '57, Eastern Illinois University.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: The Reversible Bleaching of Chlorophyll.
Major Adviser: Prof. R. S. Livingston.
1962. BUETTNER, ALBERT VALENTINE. B.S. '55, Fordham University.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: An Experimental Study of the Labile Species of Acridine and Phenazine Molecules.
Major Adviser: Prof. R. S. Livingston.
1962. DICKENS, BRIAN. Graduate '58, Royal Tech. College at Salford; M.S. '60, University of Minnesota.
Major: Physical Chemistry. Minor: Organic Chemistry.
Thesis: Molecular Structures of Cyclo-octate-triene Complexes.
Major Advisers: Profs. W. N. Lipscomb and R. S. Livingston.
1962. LEGARE, RICHARD JEAN. B.S. cum laude '56, Providence College; M.S. '60, University of Minnesota.
Major: Physical Chemistry. Minor: Organic Chemistry.
Thesis: A Study of Three Fast Reactions Using the Temperature-Jump Relaxation Technique with Polarimetric and Spectrophotometric Recording.
Major Adviser: Prof. R. W. Lumry.
1962. ST. LOUIS, ROBERT VINCENT. B.S. '54, University of California (Los Angeles).
Major: Physical Chemistry. Minor: Organic Chemistry.
Thesis: Infrared Spectroscopic Studies of the Nitrogen Oxides and Oxygen at Low Temperatures.
Major Adviser: Prof. B. L. Crawford, Jr.

1962. SAPPENFIELD, DALE SEARS. B.A. with distinction '55, Northwestern University.
Major: Physical Chemistry. Minor: Organic Chemistry.
Thesis: The Electronic Structure of Some Oxygen and Sulfur Compounds.
Major Adviser: Prof. M. M. Kreevoy.
1962. SCHRAEDER, DAVID MARTIN. B.S. '54, Iowa State University.
Major: Physical Chemistry. Minor: Mathematics.
Thesis: The Use of Electrostatic Variational Principles in Quantum Mechanical Energy Level Calculations: The Hydrogen Molecule.
Major Adviser: Prof. Stephen Prager.
1962. STREIB, WILLIAM ELMER. B.S. '53, Jamestown College; M.S. '55, University of North Dakota.
Major: Physical Chemistry. Minor: Organic Chemistry.
Thesis: A Study in Very Low Temperature X-Ray Crystallography.
Major Adviser: Prof. W. N. Lipscomb.
1962. WU, ELLEN C. LEM. B.A. '54, Carleton College.
Major: Physical Chemistry. Minor: Mathematics.
Thesis: Assignments and Force Constants of Diborane and Isotopic Derivatives.
Major Adviser: Prof. B. L. Crawford, Jr.
1963. BRAUN, CHARLES LOUIS. B.S. in Chem. with high honors '59, South Dakota School of Mines and Technology.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: The Dependence of Electronic Energy Transfer Efficiency on Exciting Wavelength.
Major Adviser: Prof. Sanford Lipsky.
1963. JONES, THOMAS HUBBARD. B.A. '58, Augustana College.
Major: Physical Chemistry. Minor: Organic Chemistry.
Thesis: An Experimental Study of the Phosphorescence of Polyatomic Molecules in Viscous Media.
Major Adviser: Prof. R. S. Livingston.
1963. MERKLIN, JOSEPH FREDERICK. B.S. '57, Manhattan College.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: The Radiation Chemistry of Organic Compounds.
Major Adviser: Prof. Sanford Lipsky.
1963. PARISEAU, MARIAN ALICE. B.S. cum laude '59, University of Washington.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: The Empirical Calculation of Anharmonic Force Constants of Polyatomic Molecules.
Major Adviser: Prof. John Overend.
1963. RECK, GENE PAUL. B.S. with honors '59, University of Illinois.
Major: Physical Chemistry. Minor: Physics.
Thesis: The Complex Refractive Index of Monatomic and Diatomic Gases.
Major Adviser: Prof. C. A. Mead.

1964. DEUTSCHE, CRAIG WILLIAM. B.S. summa cum laude '60, Yale University; M.A. '62, Harvard University.
Major: Physical Chemistry. Minor: Mathematics.
Thesis: The Transmission of Light through a Spatially Dispersive Medium.
Major Adviser: Prof. C. A. Mead.
1964. HELMAN, WILLIAM PHILLIP. B.S. in Science '58, M.S. '60, California Institute of Technology.
Major: Physical Chemistry. Minor: Physics.
Thesis: Studies of the Luminescence of Solutions of Benzene and Some Simple Benzene Derivatives.
Major Adviser: Prof. Sanford Lipsky.
1964. KAGEL, RONALD OLIVER. B.S. '58, University of Wisconsin.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: Vibrational Intensity Studies.
Major Adviser: Prof. B. L. Crawford, Jr.
1964. KIRKLIN, PERRY WILLIAM JR. B.S. cum laude '57, Westminster College.
Major: Physical Chemistry. Minor: Organic Chemistry.
Thesis: An Electron Nuclear Double Resonance Study of a Hole Center in Magnesium Oxide.
Major Adviser: Prof. J. E. Wertz.
1964. LUNDEEN, GERALD WAYNE. B.S. '59, University of Wisconsin.
Major: Physical Chemistry. Minor: Organic Chemistry.
Thesis: Experimental Study of Chemiluminescence.
Major Adviser: Prof. R. S. Livingston.
1964. RECK, RUTH ANNETTE. B.A. '54, Mankato State College.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: Theory of Diffusion Controlled Chemical Reactions.
Major Adviser: Prof. R. W. Lumry.
1964. SALZBERG, ALLAN MICHAEL. B.A. '60, Cornell University.
Major: Physical Chemistry. Minor: Mathematics.
Thesis: Statistical Thermodynamics of the One Dimensional Plasma and Related Systems.
Major Adviser: Prof. Stephen Prager.
1964. SCHAEFER, JACOB FRANKLIN. B.S. in Chem. '60, Carnegie Institute of Technology.
Major: Physical Chemistry. Minor: Physics.
Thesis: Spin-Spin Coupling Constants and Correlated Molecular Orbitals in HO, CH₃O, and Alkyl Mercuric Halides.
Major Advisers: Profs. M. M. Kreevoy and J. E. Wertz.
1964. SCHER, HERBERT BENSON. B.Ch.E. '60, Cornell University; M.S. '62, University of Minnesota.
Major: Physical Chemistry. Minor: Organic Chemistry.
Thesis: A Kinetic Study of the Reactions of Iodine in Isooctane with Metallic Mercury and Liquid Sodium Amalgams.
Major Adviser: Prof. M. M. Kreevoy.

1964. WIERS, BRANDON HELMHOLZ. B.A. '57, Calvin College.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: LCAO MO Studies of Permanganate.
Major Adviser: Prof. W. L. Reynolds.
1964. WOODBURY, GEORGE WALLIS, JR. B.S. with high honors '59,
University of Idaho.
Major: Physical Chemistry. Minor: Physics.
Thesis: The Brownian Motion of Systems of Interacting Particles.
Major Adviser: Prof. Stephen Prager.
1965. BASS, JONATHAN LANGER. B.S. '59, University of Rochester.
Major: Physical Chemistry. Minor: Mathematics.
Thesis: Attenuated Total Reflection Spectra of Crystals.
Major Adviser: Prof. B. L. Crawford, Jr.
1965. BILTONEN, RODNEY LINCOLN. B.A. '59, Harvard University.
Major: Physical Chemistry. Minor: Mathematics.
Thesis: Reversible Conformational Isomerization of α -Chymotrypsin
and Various Derivatives.
Major Adviser: Prof. R. W. Lumry.
1965. FEINLEIB, SIDNEY. B.A. '60, M.A. '61, Columbia University.
Major: Physical Chemistry. Minor: Physics.
Thesis: The Dependence of Internal Conversion Efficiency on Exciting
Wavelength.
Major Adviser: Prof. Sanford Lipsky.
1965. NEEDHAM, CHARLES DAVIS. B.S.Ch. '59, Carnegie Institute of
Technology.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: A Normal-Coordinate Treatment of Group Frequencies;
Application to Vinylidene Bromide, Vinylidene Fluoride, and
N-Methylacetamide.
Major Adviser: Prof. John Overend.
1965. WONG, HANS KUOMIN. B.S. '59, North Dakota State University.
Major: Physical Chemistry. Minor: Inorganic Chemistry.
Thesis: Study of a Photochemical Redox Reaction Sensitized by
Chlorophyll.
Major Adviser: Prof. R. S. Livingston.
1966. SULLIVAN, JOHN FRANCIS. B.A. cum laude '55, Carroll College.
Major: Physical Chemistry. Minor: Analytical Chemistry.
Thesis: Studies on Cytochrome c.
Major Adviser: Prof. R. W. Lumry.
1966. WEI, KEI SIN. B.S. '59, Oklahoma State University; M.S. '61,
University of Missouri.
Major: Physical Chemistry. Minor: Chemical Engineering.
Thesis: Reversible Photochemical Dimerization and Isomerization
of Aromatic Hydrocarbons.
Major Adviser: Prof. R. S. Livingston.
1966. YAO, SHANG JEONG. Diploma '55, Taipei Institute of Technology
(China); M.A. '61, University of Oregon.
Major: Physical Chemistry. Minors: Mathematics and Physics.
Thesis: A Study of the Infrared Absorption Band Intensities.
Major Adviser: Prof. John Overend.

1957. BRUSSEL, MORTON KREMEN. B.S. '51, Yale University.
Major: Physics. Minor: Mathematics.
Thesis: The Elastic Scattering of 40 MEV Protons from Isotopes of Fe, Ni, and Cu.
Major Adviser: Prof. J. H. Williams.
1957. GIESE, CLAYTON FREDERICK. B.S. with high distinction '53, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Atomic Masses of the Stable Isotopes of the Elements from Phosphorus through Manganese.
Major Adviser: Prof. A. O. C. Nier.
1957. HILL, HENRY ALLEN. B.S. '53, University of Houston; M.S. '56, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Experimental Determination of the p-y Angular Correlations in the $\text{Si}^{28}(\text{d}, \text{py})\text{Si}^{29}$ Reaction.
Major Adviser: Prof. J. M. Blair.
1957. ZIPOY, DAVID MANDEEN. B.S. with high distinction '54, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Elastic Scattering of Protons from Carbon Thirteen.
Major Adviser: Prof. G. D. Freier.
1958. CHEN, SHEAU-WU. B.S. '48, National University of Chekiang; M.S. '56, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Inelastic Scattering of 40 MEV Protons from Various Elements.
Major Adviser: Prof. N. M. Hintz.
1958. DANIELSON, ROBERT EMIL. B.S. '53, M.S. '55, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Geomagnetic Measurements on Heavy Primary Cosmic Radiation near the Equator.
Major Adviser: Prof. E. P. Ney.
1958. GOODING, JOHN TERENCE. B.Sc. '55, University of Wales.
Major: Physics. Minor: Mathematics.
Thesis: Proton Total Reaction Cross-Sections at 34 ± 2.5 MEV.
Major Adviser: Prof. J. H. Williams.
1958. HOFFMAN, JOHN HAROLD. B.S. summa cum laude '51, St. Mary's College at Winona; M.S. '54, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: A Study of the Abundance and Isotopic Ratio of Helium in the Atmosphere and in Meteorites.
Major Adviser: Prof. A. O. C. Nier.
1958. SWENSON, DONALD ADOLPH. B.S. '53, University of Alabama; M.S. '56, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Proton Proton Scattering at 40 MEV.
Major Adviser: Prof. L. H. Johnston.

1958. TSAI, YUNG-SU. B.S. '54, National Taiwan University; M.S. '56, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Proton Proton Scattering from 28 to 68 MEV at 90 Degrees in the Center of Mass System.
Major Adviser: Prof. L. H. Johnston.
1959. BHANOT, VIDYA BHUSHAN. B.Sc. (honors) '48, M.Sc. '48, Punjab University.
Major: Physics. Minor: Mathematics.
Thesis: The Atomic Masses and the Binding Energies in the Heavy Mass Region.
Major Adviser: Prof. A. O. C. Nier.
1959. GRIFFITHS, RICHARD JOHN. B.Sc. (honors) '55, University of Wales.
Major: Physics. Minor: Mathematics.
Thesis: The Mechanism of the Direct Interaction Process of Nuclear Reactions at Intermediate Energies.
Major Adviser: Prof. R. M. Eisberg.
1959. YOUNG, DONALD EDWARD. B.A. cum laude '46, Ripon College; M.S. '51, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Proton Proton Scattering at 10 and 68 Mev.
Major Adviser: Prof. L. H. Johnston.
1960. ERICKSON, GLEN WALTER. B.S. with high distinction '55, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Formal Techniques in the Lamb Shift Calculation.
Major Adviser: Prof. D. R. Yennie.
1960. GERGEN, JOHN L. B.S. with high distinction '53, M.S. '56, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Atmospheric Infrared Radiation.
Major Adviser: Prof. E. P. Ney.
1960. PETERSON, LAURENCE ELMER. B.S. with distinction '54, University of Minnesota.
Major: Physics. Minor: Electrical Engineering.
Thesis: Primary and Secondary Cosmic Radiation near the Geomagnetic Equator.
Major Adviser: Prof. J. R. Winckler.
1960. ROSEN, MERVINE. B.S. with honors '51, University of Delaware.
Major: Physics. Minor: Mathematics.
Thesis: Semi-classical Approximations in High Energy Scattering Theory.
Major Adviser: Prof. D. R. Yennie.
1960. WERNTZ, CARL WEBER. B.S. with distinction '53, George Washington University; M.S. '55, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Nuclear Three Body Problem with Hard Core Forces.
Major Adviser: Prof. W. B. Cheston.

1961. DONNALLY, BAILEY LEWIS. B.Engr.Ph. '51, M.S. '52, Alabama Polytechnic Institute.
Major: Physics. Minor: Mathematics.
Thesis: A Polarized Proton Source for a Linear Accelerator and Measurement of Polarization in Scattering of Protons on Carbon.
Major Adviser: Prof. L. H. Johnston.
1961. KOBE, DONALD HOLM. B.S. '56, University of Texas; M.S. '59, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Application of Green's Functions to the Quasi-Particle Interactions in a Many Fermion System.
Major Adviser: Prof. W. B. Cheston.
1961. KROMMINGA, ALBION JEROME. B.S. '55, St. Cloud State College.
Major: Physics. Minor: Mathematics.
Thesis: The Many-Boson Problem.
Major Adviser: Prof. A. M. Bolsterli.
1961. LEIGH, JAMES JOSEPH. B.S. summa cum laude '55, College of St. Thomas; M.S. '58, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Experimental Measurement and Stripping Analysis of $\text{Be}^9(\text{Li}^6, \text{oc})\text{B}^{11}$ Angular Distributions.
Major Adviser: Prof. J. M. Blair.
1961. MIN, KWANG-SHIK. B.S. '51, Seoul National University; M.S. '59, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Moderation of Neutrons in Non-Multiplying Infinite Homogeneous Media.
Major Adviser: Prof. E. L. Hill.
1961. SOWLE, DAVID HUGH. B.S. '53, Yale University; M.S. '59, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Magnetic Effects of High Altitude, Large Yield Nuclear Explosions.
Major Adviser: Prof. P. J. Kellogg.
1962. ADAMS, HARRY STANLEY. B.S. '45, M.S. '47, Kansas State College.
Major: Physics. Minor: Mathematics.
Thesis: The Inelastic Proton-Gamma Angular Correlation of C^{12} at 40 Mev.
Major Adviser: Prof. N. M. Hintz.
1962. ARNOLDY, ROGER LEE. B.S. summa cum laude '56, St. Mary's College (Minn.); M.S. '59, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: A Study of the Outer Zone of the Van Allen Trapped Radiation during August and September, 1959.
Major Adviser: Prof. J. R. Winckler.
1962. HOFFMAN, ROBERT ADOLPH. B.S. summa cum laude '56, St. Mary's College (Minn.); M.S. '60, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Experimental Observations of the Earth's Trapped Radiation during August and September, 1959.
Major Adviser: Prof. J. R. Winckler.

1962. JEONG, TUNG HON. B.S. '57, Yale University.
Major: Physics. Minors: Mathematics and Education.
Thesis: Proton-Argon Elastic Scattering at 9.8 Mev.
Major Adviser: Prof. J. H. Williams.
1962. JEZAK, EDWARD VICTOR. B.A. cum laude '57, Harvard University.
Major: Physics. Minor: Mathematics.
Thesis: Ground State of the Triton.
Major Adviser: Prof. W. B. Cheston.
1962. KROENING, JOHN LEO. B.S. '56, M.S. '59, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Two Atmospheric Constituents: Ozone and Small Ions.
Major Adviser: Prof. E. P. Ney.
1962. NESTVOLD, ELWOOD OLAF. B.A. summa cum laude '52, Augsburg College; M.S. '59, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Coherence of Light.
Major Adviser: Prof. E. L. Hill.
1962. OAKES, ROBERT JAMES. B.S. with high distinction '57, M.S. '59, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Sigma-Lambda Conversion and Elastic Lambda-Proton Scattering.
Major Adviser: Prof. S. G. Gasiorowicz.
1962. PONTINEN, RICHARD ERNEST. B.S. magna cum laude '55, Hamline University.
Major: Physics. Minor: Mathematics.
Thesis: Electron Spin Resonance Studies of n Type Germanium.
Major Adviser: Prof. T. M. Sanders.
1962. REAY, NEVILLE WILLIAM. B.A. '57, Occidental College.
Major: Physics. Minor: Mathematics.
Thesis: A Search for Gamma Rays Resulting from Proton Capture in and above the Energy Region of the Photonuclear Giant Resonance.
Major Adviser: Prof. N. M. Hintz.
1962. STOVALL, TANNIE. B.S. '57, Morehouse College; M.S. '61, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Excitation of Collective Nuclear States.
Major Adviser: Prof. N. M. Hintz.
1963. DAMEROW, RICHARD AASEN. B.S. with high distinction '58, M.S. '60, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Atomic Masses of the Stable Isotopes in the Region Ruthenium through Iodine.
Major Adviser: Prof. W. H. Johnson.
1963. HASSOUN, GHAZI QASIM. B.S. '56, American University of Beirut (Lebanon); M.S. '59, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Some Problems in Quantum Field Theory: Coupled Resonances and Angular Momentum of Bremsstrahlung.
Major Adviser: Prof. D. R. Yennie.

1963. KAVALOSKI, CHARLES DONALD. B.S. with distinction '59, M.S. '59, M.S. '60, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: (p,d) Nuclear Structure Studies on Medium Mass Nuclei.
Major Adviser: Prof. N. M. Hintz.
1963. RIES, RICHARD RALPH. B.S. maxima cum laude '57, St. Edward's University; M.S. '59, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Atomic Masses of the Stable Isotopes of the Elements from Gallium through Molybdenum.
Major Adviser: Prof. W. H. Johnson.
1964. BRODSKY, STANLEY JEROME. B. of Phys. with high distinction '61, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Radiative Corrections to the Hyperfine Structure in Hydrogen.
Major Adviser: Prof. D. R. Yennie.
1964. CARLSON, RICHARD FREDERICK. B.S. '57, University of Redlands.
Major: Physics. Minor: Mathematics.
Thesis: Proton Disintegration of the Deuteron.
Major Adviser: Prof. J. H. Williams.
1964. KUO, PAO-KUANG. B.S. '57, National Taiwan University.
Major: Physics. Minor: Mathematics.
Thesis: Radiative Corrections to Electron-Induced Processes.
Major Adviser: Prof. D. R. Yennie.
1964. LEWIS, CHARLES WILLIAM. B.A. '59, Reed College; M.S. '61, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Study of Neutrons from the Lithium Bombardment of Several Light Nuclei.
Major Adviser: Prof. J. M. Blair.
1964. STEIN, WAYNE ALFRED. B. of Phys. with distinction '59, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Continuum Electromagnetic Radiation from Solar Flares and Observations of the Solar Corona from the Limb of the Sun to the Zodiacal Light, July 20, 1963.
Major Adviser: Prof. E. P. Ney.
1964. WALKER, JAMES FREDERICK, JR. B. of Phys. with high distinction '59, M.S. '61, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Bound State Techniques for the Investigation of Resonances in Electron Scattering from Atomic Hydrogen.
Major Adviser: Prof. A. M. Bolsterli.
1965. BARNAAL, DENNIS EARL. B.S. with high distinction '58, M.S. '62, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: A Study of Pure and HF-Doped Ice by Pulsed Nuclear Magnetic Resonance.
Major Adviser: Prof. J. E. Wertz.

1965. BENSON, JAY LYNN. B.S. with distinction '56, M.S. '59, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Mass Spectrometric Determination of the Mass of H^1 and the Stable Isotopic Masses and Mass Differences of Chlorine, Barium, Cerium, and Neodymium.
Major Adviser: Prof. W. H. Johnson, Jr.
1965. DAHM, ARNOLD JAY. B.A. '58, Central College; M.S. '60, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Effective Mass of Ions in Liquid Helium II.
Major Adviser: Prof. William Zimmermann, Jr.
1965. GRIMSRUD, DAVID THEODORE. B.A. '60, Concordia College; M.S. '63, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Measurements of the Velocity of Sound in Gaseous Helium Three and Helium Four at Low Temperatures.
Major Adviser: Prof. J. H. Werntz, Jr.
1965. JOHNSON, RICHARD RAY. B.Phys. with distinction '60, M.S. '62, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Properties of Nuclear Level Densities from Inelastic Proton Scattering.
Major Adviser: Prof. N. M. Hintz.
1965. LEVINE, JAMES LEWIS. B.S. '58, Massachusetts Institute of Technology; M.S. '61, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Mobility of Electrons in Dense Helium Gas at Low Temperatures.
Major Advisers: Profs. T. M. Sanders and William Zimmermann, Jr.
1965. PINSONNEAULT, LAWRENCE LEE. B.S. magna cum laude '56, College of St. Thomas; M.S. '61, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: The Elastic Scattering of Lithium by Lithium.
Major Adviser: Prof. J. M. Blair.
1965. SHORT, THOMAS HALE. B.S.Phys. '57, University of Washington.
Major: Physics. Minor: Mathematics.
Thesis: (p,d) Reactions in $1_{p3/2}$ Shell Nuclei at 40 Mev.
Major Adviser: Prof. N. M. Hintz.
1965. WILLIAMS, LAWRENCE ERNEST. B.S. in Phys. '59, Carnegie Institute of Technology; M.S. '62, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: Inelastic Protons from He^4 .
Major Adviser: Prof. J. H. Williams.

1966. HEDIN, ALAN EDGAR. B.S. with high distinction '58, M.S. '61, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: A Determination of the Neutral Composition, Density, and Temperature of the Upper Atmosphere from 120 to 200 Kilometers with Rocket-Borne Mass Spectrometers.
Major Adviser: Prof. A. O. C. Nier.
1966. HOFMANN, DAVID JOHN. B.Phys. with distinction '61, M.S. '63, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: A Measurement of the Spectrums of Low Energy Primary Cosmic Ray Hydrogen and Helium Nuclei at Solar Minimum.
Major Adviser: Prof. J. R. Winckler.
1966. REYNOLDS, GLENN MYRON. B.Phys. '61, M.S. '63, University of Minnesota.
Major: Physics. Minor: Mathematics.
Thesis: (P,T) and (P,D) Reactions in Light Nuclei.
Major Adviser: Prof. N. M. Hintz.

SOCIAL SCIENCES

AGRICULTURAL ECONOMICS

1956. EVANS, HOMER CLARK. B.S. '47, M.S. '48, University of Kentucky.
Major: Agricultural Economics. Minor: Economics.
Thesis: The Nature of Competition among Apple Processors in the
Appalachian Area.
Major Adviser: Prof. O. B. Jesness.
1956. TROTTER, CLARENCE EARL. B.S. '38, Pennsylvania State College.
Major: Agricultural Economics. Minor: Economics.
Thesis: Consumer Preference for Lean and Fat Type Port Cuts, with
Special Emphasis on Price Differentials and Ratio of Sales
Volume.
Major Adviser: Prof. P. M. Raup.
1957. HSIEH, SAM CHUNG. B.S. '43, M.S. '45, National Central University.
Major: Agricultural Economics. Minor: Economics.
Thesis: Rice and Sugarcane Competition on Paddy Land in Central
Taiwan.
Major Adviser: Prof. G. A. Pond.
1957. JUERS, LINLEY EDWARD. B.S. '53, M.S. '54, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Economic Analysis of the Operating Costs of Butter-Powder
Plants with Particular Reference to the Problem of Joint Costs.
Major Adviser: Prof. E. F. Koller.
1957. KNUDTSON, ARVID CORNELIUS. B.S. with distinction '50, M.S. '53,
University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Analysis of Processing Costs in Specialized Butter Plants
Receiving Whole Milk.
Major Adviser: Prof. E. F. Koller.
1957. MOORE, DONALD S. B.S. '38, M.S. '40, Oklahoma Agricultural and
Mechanical College.
Major: Agricultural Economics. Minor: Economics.
Thesis: A Study of the Effect of Individual Motivations and of
Farm Business-Household Relationship upon the Organization and
Operation of 29 Southeastern Minnesota Farms, 1928-1955.
Major Adviser: Prof. G. A. Pond.
1958. AUNE, HENRIK JOAKIM. B.S. with distinction '47, M.S. '53,
University of Minnesota.
Major: Agricultural Economics. Minor: Agricultural Education.
Thesis: An Economic Analysis of Labor Inputs in Dairying as
Affected by Size of Herd and Types of Equipment.
Major Adviser: Prof. G. A. Pond.
1958. BORTFELD, CHARLES FREDERICK. B.S. '37, M.A. '39, University of
Nebraska.
Major: Agricultural Economics. Minor: Economics.
Thesis: Production Alternatives in Response to Price Changes for a
320 Acre Wheat-Beef Farm in South Central Kansas.
Major Adviser: Prof. G. A. Pond.

1958. GHAHRAMAN, FARHAD. B.L. '48, University of Teheran; B.S. '53, University of California.
Major: Agricultural Economics. Minors: Economics and Law.
Thesis: The Right of Use and Economics of Irrigation Water in Iran.
Major Adviser: Prof. P. M. Raup.
1958. JAWANDO, GANIYU ALADE. B.S. '54, Arizona State College; M.S. '55, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: The Role of Agriculture in the Economic Development of Nigeria.
Major Adviser: Prof. P. M. Raup.
1958. PILHOFER, HANS. S.G.L. '50, Höhere Ackerbauschule (Germany); M.S. '52, University of Minnesota.
Major: Agricultural Economics. Minor Economics.
Thesis: The Interrelationship of Farm Mechanization and Organization in Decision Making.
Major Adviser: Prof. S. A. Engene.
1958. ZOLLER, RICHARD BERNARD. B.S. '53, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: The Vertical-Block Budgeting System--A New Farm Planning Technique.
Major Adviser: Prof. G. A. Pond.
1959. ANDREWS, RICHARD A. B.S. with highest distinction '49, University of Maine; M.S. '51, Pennsylvania State College.
Major: Agricultural Economics. Minor: Economics.
Thesis: A Study of the Sweet Corn Industry in the Midwest Farm Economy.
Major Adviser: Prof. S. O. Berg.
1959. LAW, JERRY MCHUGH. B.S. '42, M.S. '48, Louisiana State University.
Major: Agricultural Economics. Minor: Economics.
Thesis: The Development of a Classification of Market Structures for Agriculture.
Major Adviser: Prof. W. W. Cochrane.
1960. BAUMGARTNER, HELMUT WALTER. Dr. Ag. '49, University of Giessen; M.A. '56, McGill University.
Major: Agricultural Economics. Minor: Economics.
Thesis: Factors Associated with Potential Mobility among Farmers.
Major Adviser: Prof. P. M. Raup.
1960. HOEPNER, PAUL HELMUTH. B.S. '55, M.S. '56, Cornell University.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Economic Analysis of Risk and Uncertainty in Dairy and Hog Production.
Major Adviser: Prof. S. A. Engene.
1960. NELSON, RALPH E. B.S. with distinction '49, M.S. '52, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: The Nature of Competition among South Dakota Dairy Manufacturing Plants.
Major Adviser: Prof. E. F. Koller.

1960. SCHMIDT, JOHN RICHARD. B.S. '51, M.S. '53, University of Wisconsin.
Major: Agricultural Economics. Minor: Economics.
Thesis: Farm Organization as Influenced by Forage Acreage.
Major Adviser: Prof. S. A. Engene.
1961. ABEL, MARTIN ERWIN. B.S. '56, Cornell University.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Economic Analysis of Programs for Expanding the Demand for Farm Food Products in the United States.
Major Advisers: Profs. S. O. Berg and W. W. Cochrane.
1961. LIU, WEI-PING. B.S. '48, National Chengchi University; M.S. in Agr. '55, University of Kentucky.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Economic Analysis of Taiwanese Agricultural Development since 1950.
Major Adviser: Prof. S. O. Berg.
1961. TOMEK, WILLIAM GOODRICH. B.Sc. '56, M.A. '57, University of Nebraska.
Major: Agricultural Economics. Minor: Economics.
Thesis: The Theory and Measurement of Long-run Demand (with Special Emphasis on the Demand for Food Products).
Major Adviser: Prof. E. W. Learn.
1962. AMANN, VICTOR FRANCIS. B.S. '56, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Analysis of the Role of Management in Minnesota Farm Supply Cooperatives.
Major Adviser: Prof. E. F. Koller.
1962. BLAICH, OSWALD PAUL. B.S.A. '46, University of Manitoba; M.S. '55, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: Vertical Integration in Theory.
Major Adviser: Prof. E. W. Learn.
1962. DOROW, NORBERT ARTHUR. B.S. in A. H. '48, Iowa State College; M.S. '57, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: Economics of Forage Handling Systems.
Major Adviser: Prof. S. A. Engene.
1962. ERICKSON, DUANE EDWARD. B.S. '53, North Dakota Agricultural College; M.S. '59, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Economic Analysis of the Feeder Cattle Enterprise.
Major Adviser: Prof. T. R. Nodland.
1962. GOODMAN, RICHARD JOHN. B.S. '53, M.S. '58, North Dakota Agricultural College.
Major: Agricultural Economics. Minor: Economics.
Thesis: Organization, Structure and Competitive Behavior of the Twin Cities Milk Market--Producer to Distributor Level.
Major Adviser: Prof. E. F. Koller.

1962. JOHNSON, ROGER GARY. B.S. '56, North Dakota Agricultural College; M.S. '58, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: The Relationship of Characteristics of Farmers to Their Efficiency of Production in the Dairy and Hog Enterprises.
Major Adviser: Prof. S. A. Engene.
1962. OLSON, FRED LEWIS. B.S. '50, Wisconsin State College (River Falls); M.S. '55, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Analysis of the Proportion of Grade A and Grade B Milk Patrons in Minnesota and Northwestern Wisconsin.
Major Adviser: Prof. E. F. Koller.
1962. RIXE, LLOYD CARL. B.S. in Agric. '57, M.S. in Agric. '60, Montana State College.
Major: Agricultural Economics. Minor: Economics.
Thesis: Cost Economics to Size and Resource Use in Red River Valley Farming.
Major Adviser: Prof. H. R. Jensen.
1962. SCHERTZ, LYLE PAUL. B.S. with high honors '53, M.S. '53, University of Illinois.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Economic Analysis of Direct Controls on Marketing in the Feed-Livestock Economy.
Major Adviser: Prof. E. W. Learn.
1962. STALLINGS, DALE GROW. B.S. with high distinction '50, University of Idaho; M.S. '52, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Economic-Engineering Analysis of the Methods and Costs of Packing Plums.
Major Adviser: Prof. E. F. Koller.
1962. THOMPSON, RUSSELL GLENWOOD. B.A.B.A. with high distinction '57, University of Minnesota.
Major: Agricultural Economics. Minor: Statistics.
Thesis: An Approach to Estimating Optimum Sizes of Butter-Powder Plants.
Major Adviser: Prof. E. F. Koller.
1963. BENRUD, CHARLES HARRIS. B.S. with high distinction '48, M.S. '49, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: Economic and Other Factors Associated with Variation in Alfalfa Seed Production in South Dakota.
Major Adviser: Prof. S. A. Engene.
1963. DENNISTOUN, ROLLIN MARSHALL. B.S. '47, M.S. '52, University of Minnesota.
Major: Agricultural Economics. Minor: Agricultural Education.
Thesis: Some Economic Aspects of an Agricultural Machinery Leasing Program.
Major Adviser: Prof. T. R. Nodland.

1963. DIRKS, HARLAN JOHN. B.S. in Agric. '49, M.S. '60, South Dakota State College.
Major: Agricultural Economics. Minor: Economics.
Thesis: Technological and Market Forces Influencing Vertical Integration in the Swine Industry.
Major Adviser: Prof. D. F. Fienup.
1963. HOUCK, JAMES PRESTON, JR. B.S. '57, M.S. '59, Pennsylvania State University.
Major: Agricultural Economics. Minor: Economics.
Thesis: Demand and Price Analysis of the United States' Soybean Market.
Major Adviser: Prof. E. W. Learn.
1963. KAMALI-NAFAR, AHMAD. B.A. '41, Teheran University; M.S. '61, University of Minnesota.
Major: Agricultural Economics. Minor: Sociology.
Thesis: Economic and Social Impact of Credit Institutions on Agricultural Development in Iran.
Major Adviser: Prof. S. O. Berg.
1963. LONG, ROGER BRUCE. B.S. '55, M.F. '59, University of Minnesota.
Major: Agricultural Economics. Minor: Forestry.
Thesis: An Investigation into the Nature of Supplemental Irrigation with an Emphasis on the Economic, Motivational and Physical Factors Involved.
Major Adviser: Prof. P. M. Raup.
1963. NOHRE, CARMEN ORDELL. B.S. with high distinction '50, M.S. '60, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: Optimal Organizations for Farms and Normative Supply Responses for Hogs and Beef in South Central Minnesota.
Major Adviser: Prof. H. R. Jensen.
1963. PARK, JIN HWAN. B.S. '52, M.S. '55, Seoul National University; M.S. '57, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: Economics of Resource Use on Rice Farms in Korea.
Major Adviser: Prof. S. A. Engene.
1963. PAVLICK, ANTHONY LEO. B.S. (Agric.) '49, University of Illinois; M.S. '56, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Analysis of the Effects of Federal Farm Programs on Incomes of Appalachian Farmers.
Major Adviser: Prof. E. W. Learn.
1963. SORENSON, LEONARD ORLO. B.A.B.A. '51, M.S. '53, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Economic Analysis of Government Grain Storage Programs and Their Impact on Grain Market Organization in Kansas.
Major Adviser: Prof. S. O. Berg.

1963. TINSLEY, WILLIAM ALLAN. B.S. (Agric.) with high honors '56, M.S. '60, University of Illinois.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Economic Analysis of the Use of Corn Silage in Beef Cattle Rations.
Major Adviser: Prof. S. A. Engene.
1963. YING, JOHN TSUNG-SHUN. B.A. '55, National Taiwan University; M.A. '58, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: Relationship of Earnings and Efficiency to Acres Per Farm.
Major Adviser: Prof. S. A. Engene.
1964. CHRISTIANSEN, MARTIN KLOCK. B.S. '50, M.S. '56, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Analysis of Labor Costs on Home Delivery Milk Routes in the Twin Cities Market.
Major Adviser: Prof. E. F. Koller.
1964. DAHL, DALE CURTIS. B.S. '57, M.S. '59, South Dakota State College.
Major: Agricultural Economics. Minor: Law.
Thesis: Employment and Income in the Agribusiness Sector of the Minnesota Economy.
Major Adviser: Prof. D. F. Fienup.
1964. RAM, PERETZ. M.A. '54, Hebrew University.
Major: Agricultural Economics. Minor: Economics.
Thesis: A Productivity Analysis of South-Central and Red River Valley Farms in Minnesota 1960.
Major Adviser: Prof. H. R. Jensen.
1965. ANTHONY, WILLIS EUGENE. B.A.B.A. '60, M.S. '62, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: Size Structure and Growth of Livestock Slaughter Firms.
Major Adviser: Prof. D. F. Fienup.
1965. ELEFSON, RICHARD VERN. B.S. in Agric. with distinction '53, University of Missouri.
Major: Agricultural Economics. Minor: Economics.
Thesis: Economics of Agricultural Leasing.
Major Adviser: Prof. P. M. Raup.
1965. EL-YAMANI, ABDEL TAWAB ABDEL AZIA. B.Sc. (Agric.) '58, Cairo University; M.S. '62, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: The Process of Technological Advance in Egyptian Agriculture: Lessons from the United States Experience.
Major Advisers: Profs. S. A. Engene and E. F. Koller.
1965. FULLER, EARL INMAN. B.S. with honors '55, M.S. '57, Michigan State University.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Evaluation of Alternative Labor Data for Use in Farm Planning.
Major Adviser: Prof. H. R. Jensen.

1965. GRUEBELE, JAMES WILLIAM. B.S. '58, North Dakota State University; M.S. '61, Iowa State University.
Major: Agricultural Economics. Minor: Economics.
Thesis: Changing Market Structure of the Minnesota Dairy Manufacturing Industry.
Major Adviser: Prof. E. F. Koller.
1965. LANSFORD, ROBERT RUTLEDGE. B.S. Agric. '61, M.S. '62, New Mexico State University.
Major: Agricultural Economics. Minor: Economics.
Thesis: Personal Attributes of Farmers Related to Earnings.
Major Adviser: Prof. T. R. Nodland.
1965. OYLOE, TURNER LEO. B.S. '54, M.S. '57, South Dakota State College.
Major: Agricultural Economics. Minor: Economics.
Thesis: A Study of Vertical Integration in the Minnesota Turkey Industry.
Major Adviser: Prof. D. F. Fienup.
1965. STEPHENS, WILLIAM PAUL. B.S. Agric. '48, M.S. '49, University of Tennessee.
Major: Agricultural Economics. Minor: Economics.
Thesis: Economic Efficiency in the Shipment of New Mexico Feeder Cattle.
Major Adviser: Prof. S. A. Engene.
1965. TAYLOR, DONALD CLARK. B.S. with distinction '59, Cornell University; M.S. '64, University of Minnesota.
Major: Agricultural Economics. Minor: Economics.
Thesis: Income Improving Adjustments and Normative Supply Responses for Hogs and Beef in Southwestern Minnesota.
Major Adviser: Prof. H. R. Jensen.
1966. CRISWELL, JAMES EARNEST. B.S. in Agric. '47, M.S. in Agric. '48, University of Kentucky.
Major: Agricultural Economics. Minor: Economics.
Thesis: Insurance Strategies of West Kentucky Farmers.
Major Adviser: Prof. H. R. Jensen.
1966. KERCHNER, ORVAL GUY. B.S. with honors '54, M.S. '58, University of Illinois.
Major: Agricultural Economics. Minor: Economics.
Thesis: Economic Comparisons of Flexible and Specialized Plants in the Minnesota Dairy Manufacturing Industry.
Major Adviser: Prof. E. F. Koller.
1966. MANN, JITENDAR SINGH. B.A. '54, M.A. '56, Panjab University (India); M.S. '63, University of Minnesota.
Major: Agricultural Economics. Minor: Statistics.
Thesis: The Contribution of United States Public Law 480 to Indian Economic Development.
Major Adviser: Prof. W. C. Cochran.

1960. TEFFT, STANTON KNIGHT. B.A. with high honor '52, Michigan State University; M.S. '56, University of Wisconsin.
Major: Anthropology. Minor: Sociology.
Thesis: Cultural Adaptation: The Case of the Comanche Indians.
Major Adviser: Prof. E. A. Hoebel.
1962. GARLAND, WILLIAM. B.A. '53, University of Texas.
Major: Anthropology. Minor: Philosophy.
Thesis: The Nature and Determinants of the Political Community:
An Inquiry into the Concepts and Hypotheses of Political
Anthropology.
Major Adviser: Prof. E. A. Hoebel.
1964. ALTSCHULER, MILTON. B.A. '53, M.A. '56, University of California.
Major: Anthropology. Minor: Geography.
Thesis: The Cayapa: A Study in Legal Behavior.
Major Adviser: Prof. E. A. Hoebel.
1965. BEN-DOR, SHMUEL, B.A. '57, Hebrew University (Israel); M.A. '62,
University of Minnesota.
Major: Anthropology. Minors: Education and Sociology.
Thesis: Eskimo and Settlers in a Labrador Community.
Major Adviser: Prof. R. F. Spencer.
1965. KROSKA, RITA CAROLINE ANN. B.S. '45, M.S. '56, Catholic Univer-
sity of America; M.P.H. '61, University of Minnesota.
Major: Anthropology. Minor: Public Health.
Thesis: Comparative Physical Growth Study of Minnesota White and
Indian Children Age Six through Twelve Years: Appraisal of
Leanness-Fatness.
Major Adviser: Prof. L. P. Novak.
1966. BICCHIERI, MARCO GIUSEPPE. B.A. '61, M.A. '64, University of
Minnesota.
Major: Anthropology. Minor: Supporting Program.
Thesis: A Study of the Ecology of Food Gathering Peoples: A Cross-
Cultural Analysis of the Relationship of Environment Technology
and Bio-Cultural Viability.
Major Adviser: Prof. E. A. Hoebel.

BUSINESS ADMINISTRATION

1956. SCHEIB, JOHN CLYDE, JR. B.S.E. '48, State University of Iowa;
M.S. in I.E. '49, Purdue University.
Major: Business Administration. Minor: Industrial Engineering.
Thesis: An Analysis of Provisions for Compensation for Restricted
Time in the Development of Time Standards for Wage Incentives.
Major Adviser: Prof. H. G. Heneman.
1956. SPROUSE, ROBERT THOMAS. B.A. '51, San Diego State College;
M.B.A. '52, University of Minnesota.
Major: Business Administration. Minor: Law
Thesis: The Effect of the Concept of the Corporation on Accounting.
Major Adviser: Prof. C. L. Nelson.

1957. JAEDICKE, ROBERT K. B.A. cum laude '52, M.B.A. '53, University of Washington.
Major: Business Administration. Minor: Law.
Thesis: The Guaranteed Annual Wage and Accounting for Decision Making.
Major Adviser: Prof. C. L. Nelson.
1957. LUNDY, JAMES LEROY. B.S. in Ind. Eng. '54, Northwestern Technological Institute; M.S. in Ind. Eng. '55, University of Minnesota.
Major: Business Administration. Minor: Industrial Engineering.
Thesis: An Analysis of Work Sampling in the Study of Management Job Activity.
Major Adviser: Prof. H. G. Heneman.
1958. ARCHER, STEPHEN HUNT. B.A. cum laude '49, M.A. '53, University of Minnesota.
Major: Business Administration. Minor: Political Science.
Thesis: An Empirical Test of Guides to the Selection of Industrial Common Stocks for Institutions.
Major Adviser: Prof. B. B. Sutton.
1958. MCCARTHY, EDMUND JEROME. B.S. '50, Northwestern University; M.A. '54, University of Minnesota.
Major: Business Administration. Minor: Industrial Engineering.
Thesis: An Analysis of the Use of Marketing Research in Product Development.
Major Adviser: Prof. R. J. Holloway.
1959. TUTTLE, ROY EDWARD. B.S. '48, M.B.A. '49, University of California.
Major: Business Administration. Minor: Law.
Thesis: Leaseholds--Their Financial Consequences and Disclosure.
Major Adviser: Prof. C. L. Nelson.
1960. HALSTEAD, D. KENT. B.S. in M.E. '53, Northwestern Technological Institute; M.B.A. '57, University of Minnesota.
Major: Business Administration. Minor: Industrial Engineering.
Thesis: The Derivation and Evaluation of an Individual-Stock Formula Investment Plan.
Major Adviser: Prof. B. B. Sutton.
1961. BALYEAT, RALPH EVERETT. B.E.E. '28, The Ohio State University; M.A. '43, University of Toledo.
Major: Business Administration. Minor: Psychology.
Thesis: Perceptions of Industrial Relations Policies and Practices: A Developmental Project Involving a Pilot Study in Selected Firms.
Major Adviser: Prof. H. G. Heneman.
1961. GOLDSTUCKER, JAC LANDMAN. B.S. in Bus. '40, University of Oklahoma; M.B.A. '53, Southern Methodist University.
Major: Business Administration. Minor: Psychology.
Thesis: Dynamics of Wholesale Trading Areas.
Major Adviser: Prof. E. H. Lewis.

1961. MEIER, ROBERT CHARLES. B.S. with distinction '52, Indiana University; M.A. '55, University of Minnesota.
Major: Business Administration. Minor: Industrial Engineering.
Thesis: The Administration of Industrial Operations Research.
Major Adviser: Prof. A. K. Wickesberg.
1961. SRBICH, ALEXANDER LEKA. B.S. cum laude '38, Officers Technical College; M.A. '50, Cologne University; M.B.A. '53, B.S.E. '56, University of Michigan.
Major: Business Administration. Minor: Industrial Engineering.
Thesis: Lumber Manufacturing on Two Continents: with Special Reference to the Organization and Control of Lumber Manufacturing Firms, Scientific Production Management, and Industrial Engineering Techniques.
Major Adviser: Prof. A. K. Wickesberg.
1962. BIRNBERG, JACOB GORDON. B.B.A. with high distinction '56, M.B.A. '58, University of Minnesota.
Major: Business Administration. Minor: Law.
Thesis: The Effect of the Concept of Corpus on Business and Accounting Decisions.
Major Adviser: Prof. C. L. Nelson.
1962. HORWITZ, BERTRAND NATHAN. B.A. '49, M.A. '51, The University of Chicago.
Major: Business Administration. Minor: Economics.
Thesis: Economic Aspects of Soviet Industrial Accounting.
Major Adviser: Prof. C. L. Nelson.
1962. NORGAARD, RICHARD LIMA. B.A. '52, M.B.A. '58, University of Minnesota.
Major: Business Administration. Minor: Economics.
Thesis: Reciprocals: A Study of the Evolution of an Insurance Institution.
Major Adviser: Prof. H. W. Stevenson.
1962. OLSON, ALDEN CONRAD. B.B.A. with distinction '49, M.A. '51, University of Minnesota.
Major: Business Administration. Minor: Economics.
Thesis: An Analysis of the Impact of Valuation Requirements on the Preferred Stock Investment Policies of Life Insurance Companies.
Major Adviser: Prof. H. W. Stevenson.
1962. WORTMAN, MAX SIDONES, JR. B.S.C.E. '56, Iowa State University.
Major: Business Administration. Minor: Psychology.
Thesis: Some Influences of Membership in Employer Bargaining Associations upon Manpower Management Functions in Industrial Organizations in a Local Labor Market.
Major Adviser: Prof. H. G. Heneman.
1963. BURNS, THOMAS JUNIOR. B.B.A. '48, University of Wisconsin; M.B.A. '57, University of Michigan.
Major: Business Administration. Minor: Economics.
Thesis: State University Budgets.
Major Adviser: Prof. C. L. Nelson.

1963. HENDRICKSON, HARVEY S. B.B.A. with high distinction '57, M.B.A. '62, University of Minnesota.
Major: Business Administration. Minor: Economics.
Thesis: Employee Profit Sharing and the Accounting and Economic Implications of the American Motors Corporation--United Automobile Workers Progress Sharing Plan.
Major Adviser: Prof. C. L. Nelson.
1963. JENSEN, HOWARD GORDON. B.B.A. '45, M.A. '49, University of Minnesota.
Major: Business Administration. Minor: History.
Thesis: Some Implications of the Cost Data Requirements of Linear Programming Analysis for Cost Accounting.
Major Adviser: Prof. C. L. Nelson.
1963. NASH, ALLAN NYLIN. B.B.A. '57, M.A. '59, University of Minnesota.
Major: Business Administration. Minor: Psychology.
Thesis: Development and Evaluation of a Strong Vocational Interest Blank Key for Differentiating between Potentially Effective and Less Effective Business Managers.
Major Advisers: Profs. M. D. Dunnette and H. G. Heneman.
1963. PURDY, CHARLES ROLAND. B.S. '48, University of Nebraska; M.A. '60, University of Minnesota.
Major: Business Administration. Minor: Law.
Thesis: The Concept of Capacity and Overhead Costing.
Major Adviser: Prof. R. G. Berryman.
1963. RHODE, JACK F. B.B.A. with honors '53, M.B.A. '54, University of Wisconsin.
Major: Business Administration. Minor: Psychology.
Thesis: A Pilot Study of the Prediction of Salesmen's Success in a Electronics Organization.
Major Adviser: Prof. H. G. Heneman.
1964. ANDERSEN, ANKER VALDEMAR. B.B.A. with distinction '55, M.B.A. '57, University of Minnesota.
Major: Business Administration. Minor: Psychology.
Thesis: Relevant Accounting Data for the Investor in Listed Common Stocks.
Major Adviser: Prof. R. G. Berryman.
1964. ANDERSON, DONALD LLOYD. B.A. cum laude '52, M.A. '54, University of Minnesota.
Major: Business Administration. Minor: History.
Thesis: Depreciation Accounting in the Public Utility Industries: A Reconsideration.
Major Adviser: Prof. R. G. Berryman.
1964. CARDOZO, RICHARD NUNEZ. B.A. '56, Carleton College; M.B.A. with distinction '59, Harvard University.
Major: Business Administration. Minor: Psychology.
Thesis: An Experimental Study of Consumer Effort, Expectation, and Satisfaction.
Major Adviser: Prof. R. J. Holloway.

1964. CARROLL, STEPHEN JOHN, JR. B.S. '57, University of California, Los Angeles; M.A. '59, University of Minnesota.
Major: Business Administration. Minor: Psychology.
Thesis: The Relationship of Various Personal and Biographical Characteristics to Recruiting Decisions at the Entry Level of Management.
Major Adviser: Prof. H. G. Heneman.
1964. GRIMES, ANDREW JAMES. B.S. '60, University of Rhode Island; M.B.A. '62, University of Minnesota.
Major: Business Administration. Minor: Psychology.
Thesis: The Evaluation of Hogs in Selected Meat Packing Companies.
Major Adviser: Prof. R. K. Gaumnitz.
1964. KRUGER, JOHN HENRY, JR. B.Min.E. '55, M.A. '58, University of Minnesota.
Major: Business Administration. Minor: Psychology.
Thesis: A Study of Union Performance of Selected Manpower Management Functions.
Major Adviser: Prof. H. G. Heneman.
1964. MORTON, HERBERT CHARLES. B.A. cum laude '42, M.A. '50, University of Minnesota.
Major: Business Administration. Minor: Journalism.
Thesis: Government and the Worker: The Impact of Federal Activities on Private Employment Public Contract and Private Wages: Experience under the Walsh-Healey Act.
Major Adviser: Prof. H. G. Heneman.
1964. NELSON, ROBERTA JANE. B.B.A. with distinction '39, M.A. '58, University of Minnesota.
Major: Business Administration. Minor: Psychology.
Thesis: Factors Related to Preferences for Contract Agreements Covering Selected Conditions of Employment for a Group of Professional Employees.
Major Adviser: Prof. H. G. Heneman.
1964. NYQUIST, RUSSELL STANFORD. B.S. with distinction '57, M.S.I.E. '59, University of Minnesota.
Major: Business Administration. Minor: Industrial Engineering.
Thesis: The Effects of an Important Technological Change on Production Patterns and Prices.
Major Adviser: Prof. R. K. Gaumnitz.
1964. RUDBERG, LAWRENCE EMIL. B. of Educ. '34, M.A. '50, University of Minnesota.
Major: Business Administration. Minor: Sociology.
Thesis: An Analysis and Appraisal of Unfair Sales Acts.
Major Adviser: Prof. E. H. Lewis.
1964. STRAND, DONALD LEE. B.B.A. '53, M.A. '55, University of Minnesota.
Major: Business Administration. Minor: Psychology.
Thesis: Some Aspects of Risk Management Theory.
Major Adviser: Prof. C. A. Williams.

1964. VERGIN, ROGER CHARLES. B.B.A. '59, M.S. '62, University of Minnesota.
Major: Business Administration. Minor: Industrial Engineering.
Thesis: Scheduling of Aggregate Production, Employment, and Inventory Levels for Manufacturing Firms with Seasonal Demand.
Major Adviser: Prof. R. K. Gaumnitz.
1965. CARLSON, ROBERT E. B.B.A. '58, M.A. '59, University of Minnesota.
Major: Business Administration. Minor: Educational Psychology.
Thesis: An Empirical Evaluation of Selected Hypotheses from A Theory of Work Adjustment.
Major Adviser: Prof. H. G. Heneman.
1965. FELDMAN, LAURENCE PETER. B.S.B.A. '58, M.B.A. '59, Washington University.
Major: Business Administration. Minors: Psychology and Sociology.
Thesis: The Location of Franchised Retail Automobile Dealerships in the Twin Cities Metropolitan Area.
Major Adviser: Prof. R. S. Hancock.
1965. HANSEN, RICHARD WILLIAM. B.B.A. with distinction '58, M.S. '60, University of Minnesota.
Major: Business Administration. Minor: Psychology.
Thesis: The Growth and Development of Cooperative Retail Chains and Their Marketing Significance.
Major Adviser: Prof. E. H. Lewis.
1965. LENBERG, ROBERT ALBIN. B.A. '55, Brigham Young University; M.S. '59, University of Minnesota.
Major: Business Administration. Minors: Economics and Psychology.
Thesis: Marketing in the Powered Pleasure Boat Industry: A Commodity Study.
Major Advisers: Prof. E. H. Lewis.
1965. LUNESKI, CHRIS. B.A. with honors '56, Johns Hopkins University; M.A. '59, University of Minnesota.
Major: Business Administration. Minor: Law.
Thesis: The Theory of the Investment Decision: A Pragmatic View.
Major Adviser: Prof. R. G. Berryman.
1965. VENKATESAN, MEENAKSHISUNDER. B.Com. '59, Bihar University (India); M.S. '62, University of Minnesota.
Major: Business Administration. Minors: Journalism and Sociology.
Thesis: An Experimental Investigation in the Conditions Producing Conformity to and Independence of Group Norms in Consumer Behavior.
Major Adviser: Prof. R. S. Hancock.
1965. ZULAUF, DWIGHT JUDSON. B.S. '49, University of Oregon; M.S. '49, Columbia University.
Major: Business Administration. Minor: Law.
Thesis: Accounting Analysis and the Ability to Pay Wages.
Major Adviser: Prof. R. G. Berryman.

1966. HEMPEL, DONALD JAY. B.A. cum laude '59, M.B.A. '63, University of Minnesota.
Major: Business Administration. Minors: Psychology and Journalism.
Thesis: An Experimental Study of the Effects of Information on Consumer Product Evaluations.
Major Adviser: Prof. R. J. Holloway.

1966. HILLE, STANLEY JAMES. B.B.A. with distinction '59, M.B.A. '62, University of Minnesota.
Major: Business Administration. Minor: Geography.
Thesis: Marketing Research in U.S. Class I Railroads with Special Emphasis on Western Transcontinental Railroads.
Major Adviser: Prof. N. Glaskowsky.

ECONOMICS

1956. CHILDS, FRANK ELMER. B.A. '34, Willamette University; M.B.A. '36, University of Southern California.
Major: Economics. Minor: Mathematics.
Thesis: The Definition and Measurement of Wage Flexibility.
Major Adviser: Prof. Dale Yoder.

1957. ANDERSON, PAUL SEVERT. B.B.A. '46, M.A. '48, University of Minnesota.
Major: Economics. Minor: Mathematics.
Thesis: An Empirical Test of the Acceleration Principle: A Study of the Relationship between Gross Property and Sales.
Major Adviser: Prof. C. L. Nelson.

1957. HARDIN, JOHN OLOF EINAR. B.B.A. '45, University of Commerce and Economics (Gothenburg, Sweden); M.A. '47, University of Minnesota.
Major: Economics. Minor: Psychology.
Thesis: A Study in Production Planning.
Major Adviser: Prof. H. G. Heneman.

1957. HOGGATT, AUSTIN CURWOOD. B.S. '51, Northwestern University; M.A. '54, University of Minnesota.
Major: Economics. Minor: Statistics.
Thesis: Simulation of the Firm.
Major Adviser: Prof. Leonid Hurwicz.

1958. HABERSTROH, CHADWICK JOHN. B.S. magna cum laude '48, University of Minnesota; M.A. '50, Columbia University.
Major: Economics. Minors: Political Science and Psychology.
Thesis: Processes of Internal Control in Firms.
Major Adviser: Prof. Leonid Hurwicz.

1958. SAUERLENDER, OWEN HELWIG. B.S. '46, M.S. '47, Iowa State College.
Major: Economics. Minor: Statistics.
Thesis: Level of Aspiration and Classical Utility Analysis.
Major Adviser: Prof. Leonid Hurwicz.

1959. ALEXIS, MARCUS. B.A. '53, Brooklyn College; M.A. '54, Michigan State University.
Major: Economics. Minor: Business Administration.
Thesis: Racial Differences in Consumption and Automobile Ownership.
Major Adviser: Prof. R. J. Holloway.

1959. MCCARTNEY, KENNETH HALL. B.A. '45, University of Manitoba; M.A. '49, University of Minnesota.
Major: Economics. Minor: History.
Thesis: Government Enterprise: A Study of the Inland Waterways Corporation.
Major Adviser: Prof. J. G. Turnbull.
1959. PEARMAN, JEAN RICHARDSON. B.A. '38, Nebraska State Teachers College; M.A. '45, University of Nebraska.
Major: Economics. Minor: Social Work.
Thesis: A Survey of Economic Security Programs in Michigan.
Major Adviser: Prof. J. G. Turnbull.
1959. QUIRK, JAMES PATRICK. B.B.A. '48, M.A. '49, University of Minnesota.
Major: Economics. Minor: Statistics.
Thesis: Default Risk and the Loan Market.
Major Adviser: Prof. Leonid Hurwicz.
1959. SAPOSNIK, RUBIN. B.S. '50, M.A. '51, University of Chicago.
Major: Economics. Minor: Statistics.
Thesis: Models for the Analysis of Capital Equipment Purchase Policies.
Major Adviser: Prof. Leonid Hurwicz.
1959. SIMLER, NORMAN JAMES. B.S. summa cum laude '49, M.A. '53, Georgetown University.
Major: Economics. Minor: History.
Thesis: The Impact of Unionism on Wage-Income Ratios in the Manufacturing Sector of the Economy.
Major Adviser: Prof. J. G. Turnbull.
1960. HELMBERGER, JOHN DAVID. B.S. '41, M.A. '47, University of Minnesota.
Major: Economics. Minor: History.
Thesis: State and Local Taxation of Banks.
Major Adviser: Prof. W. W. Heller.
1960. MARKS, BERNARD JAY. B.C.S. '41, Drake University; M.S. '49, Iowa State College.
Major: Economics. Minor: Statistics.
Thesis: The Prediction and Analysis of Demand for Replacement Parts.
Major Adviser: Prof. Leonid Hurwicz.
1961. CERNOHOUS, ZDENEK. B.A. '53, St. John's University (Minn.); M.A. '55, University of Minnesota.
Major: Economics. Minor: Political Science.
Thesis: Evaluation of the Bauer-Paish Proposal for the Reduction of Fluctuations in the Incomes of Primary Producers.
Major Adviser: Prof. Edward Coen.
1961. CHAPRA, MOHAMMED UMER. B.Com. '54, M.Com. '56, University of Karachi.
Major: Economics. Minor: Sociology.
Thesis: Inflation and Monetary Policy in Pakistan, 1951-52 to 1959-60.
Major Adviser: Prof. H. M. Smith.

1961. HADY, THOMAS FRANK. B.A. magna cum laude '55, University of Minnesota.
Major: Economics. Minor: Agricultural Economics.
Thesis: An Analysis of the Distribution of the Minnesota Personal Property Tax.
Major Adviser: Prof. O. H. Brownlee.
1961. MCKINNON, RONALD IAN. B.A. (honors) '56, University of Alberta.
Major: Economics. Minor: Statistics.
Thesis: The Employment of Labor and the Cost of Capital in Manufacturing Industries as They are Related to Wage Changes and Technological Progress.
Major Adviser: Prof. O. H. Brownlee.
1961. MERZ, PAUL EDWARD. B.S. '54, Kansas State College; M.A. '55, University of Notre Dame.
Major: Economics. Minor: History.
Thesis: The Income Tax Treatment of Owner-Occupied Housing.
Major Adviser: Prof. O. H. Brownlee.
1962. ANDERSEN, LEONALL C. B.S. '49, Gustavus Adolphus College; M.S. '52, University of Illinois.
Major: Economics. Minor: Business Administration.
Thesis: A Measurement and Comparison of the Incidence of Monetary and Fiscal Measures on the Structure of Equilibrium Output and Price for Selected Industries.
Major Adviser: Prof. O. H. Brownlee.
1962. ECKLUND, GEORGE N. B.A. '45, Drake University; M.A. '51, University of Minnesota.
Major: Economics. Minor: Political Science.
Thesis: Taxation in Communist China, 1950-59.
Major Adviser: Prof. Martin Bronfenbrenner.
1962. HADAR, JOSEF. B.A. '57, State College of Washington.
Major: Economics. Minor: Political Science.
Thesis: Stock-Flow Analysis Applied to Consumer Behavior.
Major Adviser: Prof. O. H. Brownlee.
1962. MCFADDEN, DANIEL LITTLE. B.S. with high distinction '57, University of Minnesota.
Major: Economics. Minor: Mathematics.
Thesis: Factor Substitution in the Economic Analysis of Production.
Major Adviser: Prof. Leonid Hurwicz.
1962. SCHWINDEN, JAMES. B.S. '52, M.A. '62, University of Minnesota.
Major: Economics. Minor: Political Science.
Thesis: Real Property Assessment--Policy and Practice in Minnesota.
Major Adviser: Prof. F. M. Boddy.
1962. WILLIAMS, JAMES RALLA. B.A. cum laude '57, M.A. '60, University of Minnesota.
Major: Economics. Minor: History.
Thesis: An Estimation of the Parameters in the Regression of Observed Consumption on Observed Income When Both Are Assumed to Include Random Variables.
Major Adviser: Prof. Edward Coen.

1963. DEWALD, WILLIAM GUENTHER. B.S. '50, Northwestern University; M.A. '56, University of Minnesota.
Major: Economics. Minor: Statistics.
Thesis: Monetary Control and the Distribution of Money.
Major Adviser: Prof. O. H. Brownlee.
1963. JOHNSON, JAMES ARTHUR. B.A. cum laude '58, M.A. '60, University of Minnesota.
Major: Economics. Minors: Business Administration and Political Science.
Thesis: The Welfare Effects of the Minnesota Prohibition on the Sale of Colored Margarine.
Major Adviser: Prof. O. H. Brownlee.
1963. KASPER, HIRSCHL. B.A. '56, Boston University; M.A. '59, University of Minnesota.
Major: Economics. Minor: Political Science.
Thesis: The Relation between the Duration of Unemployment and the Change in Asking Wage.
Major Adviser: Prof. J. G. Turnbull.
1963. KRAUTHAMER, SIGMUND. B.S. in B.A. '49, Ohio State University.
Major: Economics. Minor: Statistics.
Thesis: The Firm's Demand for Productive Assets.
Major Adviser: Prof. O. H. Brownlee.
1963. SAFFRAN, BERNARD. B.A. magna cum laude '56, City College of New York.
Major: Economics. Minor: Statistics.
Thesis: Estimation of Some Structural Parameters in Friedman-Type Consumption Functions.
Major Adviser: Prof. O. H. Brownlee.
1963. VERGIN, HEINZ. Graduate '58, Free University of Berlin; M.A. '60, University of Minnesota.
Major: Economics. Minor: Political Science.
Thesis: Determinants of Money Wage Changes in German Industry: An Analysis of German Wage Behavior from 1953 to 1960.
Major Adviser: Prof. J. G. Turnbull.
1963. WINKELMANN, DONALD LEE. B.S.B.A. with distinction '53, M.A. '58, University of Nebraska.
Major: Economics. Minor: Statistics.
Thesis: Some Factors Affecting the Agricultural Labor Supply in Minnesota.
Major Adviser: Prof. O. H. Brownlee.
1964. DUNCOMBE, BRUCE FLAGG. B.A. '59, Amherst College.
Major: Economics. Minor: History.
Thesis: Interregional Multipliers.
Major Adviser: Prof. J. M. Henderson.
1964. GIDWANI, SUSHILA JASHANSING. B.Sc.(honors) '51, University of Bombay; M.B.A. '60, University of Minnesota.
Major: Economics. Minor: Business Administration.
Thesis: Economic Causes and Effects of Technological Growth: A Case Study of the Petroleum Refining Industry of the United States of America.
Major Adviser: Prof. F. M. Boddy.

1964. HANRAHAN, GEORGE DONALD. B.S. '54, Marquette University; M.A. '58, University of Minnesota.
Major: Economics. Minor: Statistics.
Thesis: Three Econometric Monetary Models of the United States, 1952-1960.
Major Adviser: Prof. O. H. Brownlee.
1965. CAMACHO, ANTONIO. Licenciado '53, Diploma '56, University of Madrid.
Major: Economics. Minor: Statistics.
Thesis: Alternative Concepts of Informational Efficiency in Resource Allocation Mechanisms.
Major Adviser: Prof. Leonid Hurwicz.
1965. DARDIS, RACHEL. Diploma '49, St. Mary's College (Ireland); M.S. '63, University of Minnesota.
Major: Economics. Minor: Agricultural Economics.
Thesis: The Welfare Cost of Agricultural Protection.
Major Adviser: Prof. Edward Coen.
1965. EATON, PAUL WENTLAND. B.A. '49, M.A. '54, University of Minnesota.
Major: Economics. Minor: Mathematics.
Thesis: On the Intersection of Edgeworth and Equilibrium Sets.
Major Adviser: Prof. Leonid Hurwicz.
1965. FAN, LIANG-SHING. B.A. '58, National Taiwan University; M.A. '60, University of Minnesota.
Major: Economics. Minor: Agricultural Economics.
Thesis: A Study in the Maturity Structure of Interest Rates.
Major Adviser: Prof. J. H. Kareken.
1965. KANEMITSU, HIDEO. B. of Econ. '56, M. of Econ. '58, University of Tokyo.
Major: Economics. Minor: Mathematics.
Thesis: The K-Process--A Study of Informational Efficiency in Decentralized Resource Allocation Processes.
Major Adviser: Prof. Leonid Hurwicz.
1965. KATZNER, DONALD WAHL. B.A. '59, Oberlin College; M.A. '62, University of Minnesota.
Major: Economics. Minor: Mathematics.
Thesis: Integrability and Non-Integrability in Demand Theory.
Major Adviser: Prof. Leonid Hurwicz.
1965. KHANG, CHULSOON. B.A. '59, Michigan State University; M.A. '62, University of Minnesota.
Major: Economics. Minor: Statistics.
Thesis: A Neoclassical Growth Model of a Resource-Poor Open Economy.
Major Adviser: Prof. J. S. Chipman.
1965. NEWCOMB, RICHARD THOMAS. B.A. '49, St. John's College (Calif.); M.B.A. '53, Stanford University.
Major: Economics. Minor: Business Administration.
Thesis: The Impact of Technical Change on the Iron Ore Industry.
Major Adviser: Prof. J. M. Henderson.

1965. OLSON, JAMES RODNEY GILBERT. G.G.A. '48, M.A. '49, University of Minnesota.
Major: Economics. Minor: Political Science.
Thesis: An Economic Analysis of the Northwestern Flour Milling Industry with Special Reference to Taxation and Location.
Major Adviser: Prof. W. W. Heller.
1965. UPPAL, JOGINDAR SINGH. B.A. '50, M.A. '52, Panjab University (India); M.A. '61, University of Minnesota.
Major: Economics. Minor: Agricultural Economics.
Thesis: Disguised Agricultural Unemployment in an Underdeveloped Economy--Its Nature and Measurement.
Major Advisers: Profs. Martin Bronfenbrenner and Leonid Hurwicz.
1965. YEH, YEONG-HER. B.A. '55, National Taiwan University; M.A. '59, University of Minnesota.
Major: Economics. Minor: Agricultural Economics.
Thesis: Economies of Scale, Market Size and Degree of Concentration in a Hypothetical Common Market for the ECAFE Region.
Major Adviser: Prof. Edward Coen.
1966. AYYANNA, RAMINENI. B.Sc. '50, Andhra Christian College; M.Sc. '53, Banaras Hindu University (India); M.A. '57, University of Minnesota.
Major: Economics. Minor: Statistics.
Thesis: A Comparative Analysis of the Kaldor Indian Tax Reforms and the Shoup Mission Japanese Tax Reforms.
Major Adviser: Prof. O. H. Brownlee.
1966. EL-HODIRI, MOHAMED ALI A. B.Com. '58, University of Cairo; M.A. '61, University of Minnesota.
Major: Economics. Minor: Statistics.
Thesis: Optimality Criteria of Economic Growth as Examples of Optimal Resource Allocation over Time.
Major Adviser: Prof. Leonid Hurwicz.
1966. FELLER, IRWIN. B.B.A. magna cum laude '59, City College of New York.
Major: Economics. Minor: History.
Thesis: Regional Variations in the Diffusion of Innovations: The Case of the Draper Loom.
Major Adviser: Prof. Jacob Schmookler.
1966. KADIYALA, KOTESWARA RAO. B.Sc. (honors) '57, Andhra University; M.Stat. '62, Indian Statistical Institute (India).
Major: Economics. Minor: Mathematics.
Thesis: Regression Analysis with Autocorrelated Disturbances.
Major Adviser: Prof. J. S. Chipman.
1966. KERAN, MICHAEL WILLIAM. B.B.A. '55, M.A. '58, University of Minnesota.
Major: Economics. Minor: History.
Thesis: Monetary Policy and the Business Cycle in Post-War Japan.
Major Adviser: Prof. J. H. Kareken.
1966. KUARK, YOON TAI. B.B.A. '59, M.A. '60, University of Minnesota.
Major: Economics. Minors: Political Science and Statistics.
Thesis: A Comparative Study of Economic Development in North and South Korea during the Post-Korean War Period.
Major Advisers: Profs. M. S. Bronfenbrenner and Edward Coen.

1966. MEER, MELVYN LEONARD. B.A. '60, Brooklyn College.
Major: Economics. Minor: Supporting Program.
Thesis: Securities, Intermediaries and Consumer Theory.
Major Adviser: Prof. O. H. Brownlee.
1966. MELANDER, EUGENE REUBEN. B.B.A. with distinction '53, M.A. '60,
University of Minnesota.
Major: Economics. Minor: Statistics.
Thesis: Longer-Term Household Saving: Some Models and Their Empirical
Evaluation.
Major Adviser: Prof. E. S. Maynes.
1966. ROSSE, JAMES NELSON. B.S. in Econ. with high distinction '61,
M.A. '63, University of Minnesota.
Major: Economics. Minor: Mathematics.
Thesis: Daily Newspapers, Monopolistic Competition and Economies of
Scale.
Major Adviser: Prof. H. D. Mohring.

GEOGRAPHY

1957. LAYCOCK, ARLEIGH HOWARD. B.A. '49, University of Toronto.
Major: Geography. Minor: Economics.
Thesis: A Physiographic Classification of Soils for Land Use
Planning on the Eastern Slopes of the Canadian Rockies.
Major Adviser: Prof. J. R. Borchert.
1957. SALISBURY, NEIL ELLIOT. B.A. '52, University of Minnesota.
Major: Geography. Minor: Geology.
Thesis: A Generic Classification of Landforms of Minnesota.
Major Adviser: Prof. J. R. Borchert.
1958. HOAG, LEVERETT PADDOCK. B.S. '37, Moorhead State Teachers
College; M.A. '53, University of Minnesota.
Major: Geography. Minor: Agricultural Economics.
Thesis: A Critical Study of Methods for Delimiting Multiple-
Component Regions.
Major Adviser: Prof. J. R. Borchert.
1958. WEBB, JOHN WINTER. M.A. (ord.) '50, M.A. (honors) '52,
University of St. Andrews.
Major: Geography. Minor: History.
Thesis: An Urban Geography of the Minnesota Iron Ranges.
Major Adviser: Prof. J. O. M. Broek.
1960. MOMSEN, RICHARD PAUL, JR. B.A. '50, Dartmouth College; M.A.
'52, University of Minnesota.
Major: Geography. Minor: Area Studies: Northwest Europe.
Thesis: Routes over the Serra do Mar: An Historical Geography
of Transportation in the Rio de Janeiro-Sao Paulo Area, Brazil.
Major Adviser: Prof. J. O. M. Broek.
1960. SMITH, HENRY DIXON. B.S. '48, M.A. '49, University of Minnesota.
Major: Geography. Minor: Sociology.
Thesis: An Analysis of the Water Resources of Three River Basins in
Western Minnesota with Special Reference to the Amount of Water
Available for Irrigation.
Major Adviser: Prof. J. R. Borchert.

1960. STEINHAUSER, FREDRIC R. B.S. with highest honors '49, Mankato State College; M.A. '51, University of Chicago.
Major: Geography. Minor: Education.
Thesis: A Geographic Study of the Southeast Minneapolis Planning Area.
Major Adviser: Prof. J. O. M. Broek.
1960. WARD, MARION WYBOURN. B.Sc. '55, M.Sc. '56, University of New Zealand.
Major: Geography. Minor: Area Studies: East and South Asia.
Thesis: The Trade of the Ports of Malaya.
Major Adviser: Prof. J. O. M. Broek.
1961. CHARDON, ROLAND EMANUEL PAUL. B.A. cum laude '51, University of Minnesota; M.S. '54, Florida State University.
Major: Geography. Minor: Anthropology.
Thesis: Some Geographic Aspects of Plantation Agriculture in Yucatan.
Major Adviser: Prof. J. O. M. Broek.
1962. KRESS, WARREN DONALD. B.A. '46, University of Minnesota.
Major: Geography. Minor: Agricultural Economics.
Thesis: The Geography of Electric Power in Minnesota.
Major Adviser: Prof. J. R. Borchert.
1962. LUCAS, ROBERT CHARLES. B.S. with high distinction '57, M.A. '59, University of Minnesota.
Major: Geography. Minor: Agricultural Economics.
Thesis: The Quetico-Superior Area: Recreational Use in Relation to Capacity.
Major Adviser: Prof. J. R. Borchert.
1962. SMITH, EVERETT GORSUCH, JR. B.A. '53, M.A. '56, University of Illinois.
Major: Geography. Minor: Sociology.
Thesis: Road Functions in a Changing Rural Environment.
Major Adviser: Prof. J. R. Borchert.
1963. HARDWICK, WALTER GORDON. B.A. '54, M.A. '58, University of British Columbia.
Major: Geography. Minor: Business Administration.
Thesis: The Forestry Industry of Coastal British Columbia: A Geographic Study of Place and Circulation.
Major Adviser: Prof. E. C. Mather.
1964. CROWLEY, JOHN MAX. B.S. (Agric.) with honors '57, University of Idaho; M.S. '60, University of Minnesota.
Major: Geography. Minor: Botany.
Thesis: Ranches in the Sky: A Geography of Livestock Ranching in the Mountain Parks of Colorado.
Major Adviser: Prof. E. C. Mather.
1964. MEEKS, HAROLD AUSTIN. B.A. '56, Middlebury College; M.A. '58, University of Minnesota.
Major: Geography. Minor: Geology.
Thesis: Marginal Agriculture in Michigan's Copper Country.
Major Adviser: Prof. E. C. Mather.

1966. FITZGERALD, DENIS PATRICK. B.A. (honors) '58, University of Bristol (England); M.A. '59, University of Nebraska.
Major: Geography. Minor: Sociology.
Thesis: Pioneer Settlement in Northern Saskatchewan.
Major Adviser: Prof. E. C. Mather.
1966. KAUPS, MATTI ENN. B.A. '59, University of California (Los Angeles); M.S. '60, University of Wisconsin.
Major: Geography. Minor: Anthropology.
Thesis: "Suuri Laansi"--or the Finnish Discovery of America.
Major Adviser: Prof. E. C. Mather.

HISTORY

1956. AL-ABBAS, YASIEEN ABDUL KAREEM. Graduate '41, Baghdad Higher Teachers Training College; M.A. '53, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: Turkey in the World Conflict, 1939-1942.
Major Advisers: Profs. H. C. Deutsch and G. W. Anderson.
1956. HEALY, GEORGE ROBERT. B.A. '48, Oberlin College; M.A. '50, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: Mechanistic Science and the French Jesuits: A Study of the Responses of the Journal de Trevoux (1701-1762) to Descartes and Newton.
Major Adviser: Prof. J. B. Wolf.
1956. HOLLAND, CULLEN JOE. B.A. '37, M.A. '47, University of Oklahoma.
Major: History. Minor: Journalism.
Thesis: The Cherokee Indian Newspapers, 1828-1906: The Tribal Voice of a People in Transition.
Major Adviser: Prof. E. S. Osgood.
1956. JOHNSON, ROBERT CARL. B.A. magna cum laude '47, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The Public Career of Lionel Cranfield, Earl of Middlesex (1575-1645).
Major Adviser: Prof. D. H. Willson.
1956. THROCKMORTON, ARTHUR LORESTON. B.A. '40, York College; M.A. '47, University of North Carolina.
Major: History. Minor: Political Science.
Thesis: The Frontier Merchant in the Early Development of Oregon, 1839-1869.
Major Adviser: Prof. E. S. Osgood.
1956. TRAPHAGEN, JEANNE CAROL. B.S. with high distinction '44, M.A. '49, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The Inter-American Diplomacy of Frank B. Kellogg.
Major Adviser: Prof. W. D. Beatty.

1957. BARKER, THOMAS MACK. B.A. magna cum laude '51, Carleton College; M.A. '52, Harvard University.
Major: History. Minor: Geography.
Thesis: The Historical Development of the Carinthian Slovene Minority (The Klagenfurt Basin Question).
Major Adviser: Prof. H. C. Deutsch.
1957. BROEKER, GALEN. B.A. '50, University of Wyoming; M.A. '51, University of Oregon.
Major: History. Minor: Political Science.
Thesis: The Problem of Law and Order in Ireland, 1812-1836.
Major Adviser: Prof. A. L. Burt.
1957. COCHRANE, WILLIAM GHORMLEY. B.E. '38, St. Cloud State Teachers College; M.A. '41, University of North Dakota.
Major: History. Minor: Political Science.
Thesis: Freedom without Equality: A Study of Northern Opinion and the Negro Issue, 1861-1870.
Major Adviser: Prof. E. S. Osgood.
1957. DALTON, ROY CLINTON. B.A. '49, Bethel College; M.A. '50, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The History of the Jesuits' Estates, 1760-1888.
Major Adviser: Prof. A. L. Burt.
1957. DOWIE, JAMES IVERNE. B.A. '36, Augustana College; M.A. '39, University of Chicago.
Major: History. Minor: English.
Thesis: Luther Academy, 1883 to 1903; A Facet of Swedish Pioneer Life in Nebraska.
Major Adviser: Prof. C. A. Chambers.
1957. FRITZ, HENRY EUGENE. B.S. with honors '50, M.A. '51, Bradley University.
Major: History. Minor: Speech.
Thesis: The Humanitarian Background of Indian Reform, 1860-1890.
Major Adviser: Prof. E. S. Osgood.
1957. HATHEWAY, GLOVER GILLETTE. B.A. '51, Yale University.
Major: History. Minor: Political Science.
Thesis: The Neutral Indian Barrier State: A Project in British North American Policy, 1745-1815.
Major Adviser: Prof. A. L. Burt.
1957. JOST, ROBERT RUSSELL. B.A. summa cum laude '48, Sioux Falls College; M.A. '50, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: An Entrepreneurial Study of a Frontier Financier, 1856-1863.
Major Adviser: Prof. Herbert Heaton.
1957. LUTZ, HOWARD TENBROECK. B.A. '45, Haverford College; M.A. '49, University of Minnesota.
Major: History. Minor: Area Studies: Scandinavia.
Thesis: The Protestant Reformation in Finland to 1539.
Major Adviser: Prof. L. D. Steefel.

1957. MARSH, RICHARD RUSSELL. B.A. '41, M.A. '46, University of Illinois.
Major: History. Minor: English.
Thesis: The American Influence in German Liberalism before 1848.
Major Adviser: Prof. L. D. Steefel.
1957. MCRANDLE, JAMES HARRINGTON. B.A. with honors '49, Montana State University; M.A. '50, University of Michigan.
Major: History. Minor: English.
Thesis: The Cities of Destruction--A Study of the Nature and Structure of the National Socialist Ideology and Its Influence on the German War Effort, 1939 to 1945.
Major Adviser: Prof. H. C. Deutsch.
1957. MURPHY, ORVILLE THEODORE, JR. B.A. '50, University of Louisville; M.A. '51, University of Minnesota.
Major: History. Minors: English and French.
Thesis: French Contemporary Opinion of the American Revolutionary Army.
Major Adviser: Prof. J. B. Wolf.
1957. SPENCE, MARY LEE. B.A. with high honors '47, M.A. '48, University of Texas.
Major: History. Minor: Political Science.
Thesis: British Interests and Attitudes Regarding the Republic of Texas and Its Annexation by the United States.
Major Adviser: Prof. E. S. Osgood.
1957. UPTON, LESLIE FRANCIS STOKES. B.A. '54, University of Oxford.
Major: History. Minor: Political Science.
Thesis: William Smith, Chief Justice of New York and Quebec, 1728-1793.
Major Adviser: Prof. A. L. Burt.
1958. JOHNSON, ROBERT BROWN. B.A. '38, Virginia Union University; M.A. '39, University of Michigan.
Major: History. Minor: Political Science.
Thesis: Government Regulation of Business Enterprise in Virginia, 1750-1820.
Major Adviser: Prof. Herbert Heaton.
1958. LAMBI, IVO NIKOLAI. B.A. '52, M.A. '55, University of Toronto.
Major: History. Minor: Political Science.
Thesis: Free Trade and Protection in Germany, 1868-1879.
Major Adviser: Prof. L. D. Steefel.
1958. MOEN, NORMAN WILLIS. B.S. '41, M.A. '47, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The Government of Scotland, 1603-1625.
Major Adviser: Prof. D. H. Willson.
1958. MOOTE, ALANSON LLOYD. B.A. '54, University of Toronto; M.A. '56, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The Parlement of Paris, the French Crown, and Royal Absolutism during the Fronde, 1643-1652.
Major Adviser: Prof. J. B. Wolf.

1958. REINMUTH, HOWARD STUART, JR. B.A. summa cum laude '51, M.A. '54, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: Lord William Howard, 1563-1640--A Great Border Magnate.
Major Adviser: Prof. D. H. Willson.
1958. ROTHROCK, GEORGE A., JR. B.A. '54, University of Delaware; M.A. '56, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The French Crown and the Estates General of 1614.
Major Adviser: Prof. J. B. Wolf.
1958. YUZYK, PAUL. B.A. '45, M.A. '48, University of Saskatchewan.
Major: History. Minor: Russian Literature.
Thesis: The Ukrainian Greek-Orthodox Church of Canada, 1918-1951.
Major Adviser: Prof. Herbert Heaton.
1959. AMSPOKER, GERTRUDE JOANNE. B.A. '42, Reed College; M.A. '46, Radcliffe College.
Major: History. Minor: Political Science.
Thesis: The Development of Procedure in the House of Commons in the Early Stuart Period (1603-1629).
Major Adviser: Prof. D. H. Willson.
1959. ANDERSON, CLIFFORD BENNETT. B.A. '52, Augustana College (Sioux Falls); M.A. '55, University of South Dakota.
Major: History. Minor: Economics.
Thesis: Parliament and Foreign Affairs, 1604-1629.
Major Adviser: Prof. D. H. Willson.
1959. BOHNSTEDT, JOHN WOLFGANG. B.A. with high honor '50, Michigan State College; M.A. '52, University of Minnesota.
Major: History. Minor: Philosophy.
Thesis: The Turkish Menace in German Public Opinion, 1522-1542.
Major Adviser: Prof. J. B. Wolf.
1959. BOSKIN, JOSEPH. B.S. '51, State University of New York; M.A. '52, New York University.
Major: History. Minor: Political Science.
Thesis: Politics of an Opposition Party: The Republican Party in the New Deal Period, 1936, 1940.
Major Adviser: Prof. C. A. Chambers.
1959. COAKLEY, THOMAS MALCOLM. B.A. '51, Miami University; M.A. '53, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The Political Position and Domestic Policy of Robert Cecil, First Earl of Salisbury, 1603-1612.
Major Adviser: Prof. D. H. Willson.
1959. COOK, JOHN QUENTIN. B.A. summa cum laude '52, Hamline University; M.A. '53, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The Image of Russia in Western European Thought in the Seventeenth Century.
Major Adviser: Prof. J. B. Wolf.

1959. GOLDSTEIN, ROBERT ARNOLD. B.A. '52, University of Washington; M.A. '54, Stanford University.
Major: History. Minor: Geography.
Thesis: French-Iroquois Diplomatic and Military Relations, 1609-1701.
Major Adviser: Prof. W. D. Beatty.
1959. KILDAHL, PHILLIP ANDREW. B.A. '35, Augsburg College; M.A. '40, University of Minnesota.
Major: History. Minor: English.
Thesis: British and American Reactions to Layard's Discoveries in Assyria (1845-1860).
Major Adviser: Prof. T. B. Jones.
1959. ONION, CHARLES CLARY. B.S. '36, University of Minnesota; M.A. '48, University of Colorado.
Major: History. Minor: Music.
Thesis: The Social Status of Musicians in Seventeenth Century France.
Major Adviser: Prof. J. B. Wolf.
1959. OWENS, KENNETH NELSON. B.A. summa cum laude '55, Lewis and Clark College.
Major: History. Minor: Political Science.
Thesis: Frontier Governors: A Study of the Territorial Executives in the History of Washington, Idaho, Montana, Wyoming and Dakota Territories.
Major Advisers: Profs. D. W. Noble and E. S. Osgood.
1959. SCHNEIDER, ROBERT W. B.A. '55, College of Wooster; M.A. '56, Western Reserve University.
Major: History. Minor: Political Science.
Thesis: Man and the Progressive Novelists.
Major Adviser: Prof. D. W. Noble.
1959. WHITNER, ROBERT LEE. B.A. '41, Central Washington College of Education; M.A. '48, State College of Washington.
Major: History. Minor: Political Science.
Thesis: The Methodist Episcopal Church and Grant's Peace Policy: A Study of the Methodist Agencies, 1870-1882.
Major Advisers: Profs. W. D. Beatty and E. S. Osgood.
1960. LAWRENCE, ALAN HARVEY. B.A. '54, University of Cambridge.
Major: History. Minor: Political Science.
Thesis: The Influence of British Ideas in the British North American Revolution.
Major Adviser: Prof. A. L. Burt.
1960. RANUM, OREST ALLEN. B.A. '55, Macalester College; M.A. '57, University of Minnesota.
Major: History. Minor: French.
Thesis: The Creatures of Richelieu: A Study of the Secretaries of State and Superintendents of Finance in the Ministry of Richelieu, 1635-1642.
Major Adviser: Prof. J. B. Wolf.

1960. SCHOFIELD, HAROLD ALLEN. B.A. cum laude '53, University of Minnesota; M.A. '56, University of Connecticut.
Major: History. Minor: Geography.
Thesis: The Government-Inspired Press during the Liberal Empire, 1860-1870.
Major Adviser: Prof. John Bowditch.
1961. HAUGLAND, JOHN CLARENCE. B.S. '54, Wisconsin State College (Superior); M.A. '58, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: Alexander Ramsey and the Republican Party, 1855-1875: A Study in Personal Politics.
Major Adviser: Prof. R. C. Loehr.
1961. HEININGER, JOSEPH FRANCIS. B.A. '44, M.A. '48, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: Prussian Foreign Policy during the New Era, 1858-1862.
Major Adviser: Prof. H. C. Deutsch.
1961. IMHOLTE, JOHN QUINN. B.A. '52, Washington and Lee University; M.A. '57, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The First Minnesota Infantry Regiment, 1861-1864.
Major Adviser: Prof. D. W. Noble.
1961. LINDER, DORIS HELEN. B.A. '46, M.A. '49, Stanford University.
Major: History. Minor: Area Studies: Scandinavia.
Thesis: The Reaction of Norway to American Foreign Policy, 1918-1939.
Major Adviser: Prof. W. D. Beatty.
1961. MCAREE, JAMES GREGORY. B.A. magna cum laude '49, M.A. '50, University of Southern California.
Major: History. Minor: Political Science.
Thesis: The Passage of the Government of India Bill of 1858.
Major Advisers: Profs. D. H. Willson and L. A. Mills.
1962. ALLEN, WILLIAM SHERIDAN. B.A. '55, University of Michigan; M.A. '56, University of Connecticut.
Major: History. Minor: Political Science.
Thesis: The Nazi Seizure of Thalburg Power in a Single German Town, 1930 to 1935.
Major Adviser: Prof. H. C. Deutsch.
1962. AMES, WILLIAM EUGENE. B.S. '48, South Dakota State College of Agriculture and Mechanic Arts; M.S. '52, Iowa State College.
Major: History. Minor: Journalism.
Thesis: A History of the National Intelligencer, 1800-1869.
Major Adviser: Prof. P. D. Jordan.
1962. BLUM, GEORGE PAUL. B.A. summa cum laude '56, Hamline University; M.A. '58, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: German Social Democracy in the Reichstag, 1890-1914.
Major Adviser: Prof. H. C. Deutsch.

1962. HILLER, HARLEY EDWARD. B.A. magna cum laude '49, Westmar College; M.A. '51, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The Development of an Inter-American Peace System.
Major Adviser: Prof. W. D. Beatty.
1962. HORWARD, DONALD DAVID. B.A. '55, Waynesburg College; M.A. '56, Ohio State University.
Major: History. Minor: Political Science.
Thesis: The French Invasion of Portugal, 1810-1811.
Major Adviser: Prof. H. C. Deutsch.
1962. KAY, MARVIN LAWRENCE MICHAEL. B.A. '50, Maryville College.
Major: History. Minor: Political Science.
Thesis: The Institutional Background to the Regulation in Colonial North Carolina.
Major Adviser: Prof. W. D. Beatty.
1962. MONTGOMERY, DAVID. B.A. with honors '50, Swarthmore College; M.A. '60, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: Labor and the Radical Republicans: A Study of the Revival of the American Labor Movement 1864-1868.
Major Adviser: Prof. D. W. Noble.
1962. VOIGHT, ROBERT CHARLES. B.S. '47, Wisconsin State College (Oshkosh); M.A. '47, Colorado State College of Education.
Major: History. Minor: Political Science.
Thesis: Defender of the Common Law: Aaron Goodrich, Chief Justice of Minnesota Territory.
Major Adviser: Prof. P. D. Jordan.
1963. BARCROFT, JOHN HILL. B.A. '59, Brown University; M.A. '60, University of Minnesota.
Major: History. Minor: English.
Thesis: Buckingham and the Central Administration, 1616-1628.
Major Adviser: Prof. D. H. Willson.
1963. BARSNESS, RICHARD WEBSTER. B.S. with high distinction '57, M.A. '58, M.A. in P.A. '60, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The Maritime Development of San Pedro Bay, California, 1821-1921.
Major Adviser: Prof. Herbert Heaton.
1963. BICHA, KAREL DENIS. B.S. (Educ.) with honors '58, University of Wisconsin.
Major: History. Minor: Economics.
Thesis: Canadian Immigration Policy and the American Farmer.
Major Adviser: Prof. R. C. Loehr.
1963. CORDIER, SHERWOOD STANLEY. B.A. '50, Juniata College; M.A. '51, Yale University.
Major: History. Minor: Political Science.
Thesis: Erwin Rommell as Commander: The Decisive Years, 1940-1942.
Major Adviser: Prof. H. C. Deutsch.

1963. ENTNER, MARVIN LEE. B.A. cum laude '55, M.A. '58, University of Minnesota.
Major: History. Minor: Geography.
Thesis: Russia and Persia, 1890-1912.
Major Advisers: Profs. G. W. Anderson and H. C. Deutsch.
1963. LEBRUN, RICHARD ALLEN. B.A. '53, St. John's University (Minnesota); M.A. '57, University of Minnesota.
Major: History. Minor: Geography.
Thesis: Joseph de Maistre: The Relationship between His Political Thought and His Religious Thought.
Major Adviser: Prof. J. B. Wolf.
1963. PLACE, FRANK RICHARD. B.A. '52, Miami University; M.A. '56, Ohio State University.
Major: History. Minor: Political Science.
Thesis: French Policy and the Turkish War, 1679-1688.
Major Adviser: Prof. J. B. Wolf.
1964. CARLSON, DONALD ARTHUR. B.A. cum laude '58, M.A. '60, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: Great Britain and the Abolition of the Slave Trade to Latin America.
Major Adviser: Prof. J. L. Altholz.
1964. CHRISTIANSON, JOHN ROBERT. B.A. with honors '56, Mankato State College; M.A. '59, University of Minnesota.
Major: History. Minors: Art and Geography.
Thesis: Cloister and Observatory: Herrevad Abbey and Tycho Brahe's Uraniborg.
Major Adviser: Prof. J. B. Wolf.
1964. FORDE, NELS WALTER. B.A. magna cum laude '50, Luther College. M.A. '58, University of Minnesota.
Major: History. Minor: Classics.
Thesis: The Sumerian Dam-Kár-E-Ne of the Third Ur Dynasty.
Major Adviser: Prof. T. B. Jones.
1964. GRUENFELDER, JOHN KELLY. B.A. with honors '54, Mankato State College; M.A. '60, University of Minnesota.
Major: History. Minor: Geography.
Thesis: The Use of the Royal Prerogative in Summoning and Dissolving Parliament 1603-1642.
Major Adviser: Prof. D. H. Willson.
1964. HENDRICKSON, EMBERT JULIUS. B.S. '50, St. Cloud State College; M.A. '54, University of North Dakota.
Major: History. Minor: Education.
Thesis: The New Venezuelan Controversy: The Relations of the United States and Venezuela, 1904 to 1914.
Major Adviser: Prof. W. D. Beatty.
1964. TOEWS, JOHN ARON. B.A. with great distinction '47, University of Saskatchewan; M.A. '57, University of Manitoba.
Major: History. Minor: Philosophy.
Thesis: Sebastian Franck: Friend and Critic of Early Anabaptism.
Major Adviser: Prof. R. E. Giesey.

1964. WIBERG, CHARLES ELDEN. B.S. with high distinction '57, University of Minnesota.
Major: History. Minor: English.
Thesis: A History of the University of Minnesota Chapter of the American Association of University Professors.
Major Adviser: Prof. C. A. Chambers.
1964. WOOTTEN, WILLIAM WORRELL. B.A. '50, University of Chicago; M.A. '54, State University of Iowa.
Major: History. Minor: Art.
Thesis: A Study of Henry I, King of England, 1068-1107.
Major Adviser: Prof. R. S. Hoyt.
1965. BERDAHL, ROBERT MAX. B.A. cum laude '59, Augustana College; M.A. '61, University of Illinois.
Major: History. Minor: Political Science.
Thesis: The Transformation of the Prussian Conservative Party 1866-1876.
Major Adviser: Prof. O. P. Pflanze.
1965. COY, RICHARD DWIGHT. B.A. '55, St. John's University; M.A. '60, University of Minnesota.
Major: History. Minor: Geography.
Thesis: Cushman K. Davis and American Foreign Policy 1887-1900.
Major Adviser: Prof. R. C. Loehr.
1965. GAROSI, FRANK JOSEPH. B.A. '58, University of Delaware.
Major: History. Minor: Political Science.
Thesis: The Ecclesiastical Policy of the Grand Duke Leopold of Tuscany 1765-1790.
Major Adviser: Prof. W. E. Wright.
1965. GEIGER, REED GLENN. B.A. '54, College of Wooster; M.A. '57, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The Anzin Company: The History of a French Coal Mining Firm, 1800-1833.
Major Adviser: Prof. W. E. Wright.
1965. KRUEGER, THOMAS A. B.A. '59, Antioch College; M.A. '60, University of Wyoming.
Major: History. Minor: Political Science.
Thesis: The Southern Conference for Human Welfare, 1938-48.
Major Adviser: Prof. C. A. Chambers.
1965. KUHN, GARY GLEN. B.A. magna cum laude '59, M.A. '61, University of Minnesota.
Major: History. Minor: Area Studies: Latin America.
Thesis: The History of Aeronautics in Latin America.
Major Adviser: Prof. W. D. Beatty.
1965. MAHONEY, MARGARET HELENE. B.A. '53, College of Great Falls; M.A. '55, University of Minnesota.
Major: History. Minor: Classical Civilization.
Thesis: A Study in Sumerian Administrative History of the Third Ur Dynasty.
Major Adviser: Prof. T. B. Jones.

1965. MATTSSON-BOZE, MARTIN HOWARD. B.A. '58, M.A. '59, Northwestern University.
Major: History. Minor: Philosophy.
Thesis: James McHenry, Secretary of War, 1796-1800.
Major Adviser: Prof. P. L. Murphy.
1965. O'CONNOR, JOHN THOMAS. B.A. '59, Manhattan College; M.A. '61, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: William Egon von Furstenberg and French Diplomacy in the Rhineland Prior to the Outbreak of the War of the League of Augsburg in 1688.
Major Adviser: Prof. J. B. Wolf.
1965. SAADALLAH, BELKACEM. B.A. '59, Cairo University; M.A. '62, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The Rise of Algerian Nationalism: 1900-1930.
Major Adviser: Prof. H. C. Deutsch.
1965. SCHLOSSBERG, HERBERT. B.A. '59, Bethel College; M.A. '61, University of Missouri.
Major: History. Minor: Philosophy
Thesis: Pierre Bayle and the Politics of the Huguenot Diaspora.
Major Adviser: Prof. J. B. Wolf.
1965. STEBBINS, ROBERT ERNEST. B.A. '53, Bowling Green State University; M.A. '60, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: French Reactions to Darwin, 1859-1882.
Major Adviser: Prof. J. L. Altholz.
1965. STEIN, HARRY HART. B.A. '59, Antioch College; M.A. '62, University of Nebraska.
Major: History. Minor: Political Science.
Thesis: Lincoln Steffens: An Intellectual Portrait.
Major Adviser: Prof. N. R. Amundson.
1965. VEXLER, ROBERT IRWIN. B.A. '59, Cornell University; M.A. '61, University of Rochester.
Major: History. Minor: English.
Thesis: The Intellectual Origins of the French Labor Movement 1852-1870.
Major Adviser: Prof. J. L. Altholz.
1966. CURRY, EARL RAY. B.S. '60, Iowa State University; M.A. '62, University of Minnesota.
Major: History. Minor: Political Science.
Thesis: The United States and the Dominican Republic, 1924-1933: Dilemma in the Caribbean.
Major Adviser: Prof. W. D. Beatty.
1966. MELKA, ROBERT LEWIS. B.S.F.S. cum laude '55, M.A. '58, Georgetown University.
Major: History. Minor: Political Science.
Thesis: The Axis and the Arab Middle East: 1930-1945.
Major Adviser: Prof. H. C. Deutsch.

1964. SEIDLER, LOTTE. B.A. '51, Gothenburg University (Sweden);
M.A. '52, University of Minnesota.
Major: International Relations.
Thesis: Seven Papers Cover the 1960 United Nations General Assembly:
A Study of News Selection, Emphasis, and Treatment.
Major Adviser: Prof. R. B. Nixon.
1965. HABIBY, RAYMOND NAJIB. B.A. '41, American University of Beirut
(Lebanon); Diploma '46, Government Law School (Palestine);
M.A.P.A. '63, University of Minnesota.
Major: International Relations.
Thesis: Problems of Loyalty of United Nations Personnel.
Major Adviser: Prof. C. H. McLaughlin.
1965. HUSAIN, ASAD. B.A.(honors) '51, M.A. '53, Patna University
(India); M.A. '56, University of Minnesota.
Major: International Relations.
Thesis: British India's Relations with the Kingdom of Nepal from
1857 to 1947.
Major Adviser: Prof. C. H. McLaughlin.

JOURNALISM

1958. EDELSTEIN, ALEX. B.A. '46, San Francisco State College; M.A.
'48, Stanford University.
Major: Journalism. Minor: History.
Thesis: The Marshall Plan Information Program in Western Europe
as an Instrument of United States Foreign Policy, 1948-1952.
Major Adviser: Prof. R. D. Casey.
1959. HASKINS, JACK BURTON. B.A. in J. cum laude '49, University of
Georgia; M.A. '51, Emory University.
Major: Journalism. Minor: Educational Psychology.
Thesis: A Content-Oriented Method for Systematic Controlled
Expansion of a Magazine Audience.
Major Adviser: Prof. R. L. Jones.
1960. GARDNER, MARY ADELAIDE. B.A. '42, M.A. '53, Ohio State
University.
Major: Journalism. Minor: Political Science.
Thesis: The Inter-American Press Association and Its Fight for
Freedom of the Press.
Major Adviser: Prof. R. B. Nixon.
1961. GILLMOR, DONALD MYLES. B.A. '49, University of Manitoba; M.A.
'50, University of Minnesota.
Major: Journalism. Minor: Political Science.
Thesis: Trial by Newspaper: The Constitutional Conflict between Free
Press and Fair Trial in English and American Law.
Major Adviser: Prof. J. E. Gerald.

1961. HACHTEN, WILLIAM ANDREWS. B.A. '47, Stanford University; M.S. '52, University of California (Los Angeles).
Major: Journalism. Minor: Political Science.
Thesis: The Metropolitan Sunday Newspaper in the United States: A Study of Trends in Content and Practices.
Major Adviser: Prof. R. B. Nixon.
1961. MUSGRAVE, ARTHUR BENSON. B.S. '51, M.S. '51, Boston University.
Major: Journalism. Minor: Political Science.
Thesis: The Excessive-Time Problem in College Student Journalism.
Major Adviser: Prof. R. B. Nixon.
1963. CLARKE, PETER. B.A. '59, University of Washington; M.A. '61, University of Minnesota.
Major: Journalism. Minor: Psychology.
Thesis: An Experiment to Increase the Audience for Educational Television.
Major Adviser: Prof. R. E. Carter, Jr.
1963. RAO, Y.V. LAKSHMANA. B.A.(honors) '46, M.A. '49, University of Madras.
Major: Journalism. Minor: Political Science.
Thesis: Communication and Development: A Study of Two Indian Villages.
Major Adviser: Prof. R. B. Nixon.
1963. TROLD AHL, VERLING CHARLES. B.A. summa cum laude '58, University of Minnesota.
Major: Journalism. Minor: Psychology.
Thesis: Mediated Communication and Personal Influence: A Field Experiment.
Major Adviser: Prof. R. E. Carter, Jr.
1965. EPP, FRANK HENRY. B.A. '56, Bethel College; M.A. '60, University of Minnesota.
Major: Journalism. Minor: History.
Thesis: An Analysis of Germanism and National Socialism in the Immigrant Newspaper of a Canadian Minority Group, the Mennonites, in the 1930s.
Major Adviser: Prof. R. E. Carter, Jr.
1965. GRAY, RICHARD GEORGE. B.A. magna cum laude '54, Whitworth College; M.A. '56, University of Minnesota.
Major: Journalism. Minor: Political Science.
Thesis: Freedom of Access to Government Information (A Study of the Federal Executive).
Major Adviser: Prof. J. E. Gerald.
1965. LINDSAY, ROBERT GEORGE. B.A. '53, M.A. '54, University of Wisconsin.
Major: Journalism. Minor: Political Science.
Thesis: Earth Satellite Communications: Issues and Portents.
Major Adviser: Prof. M. V. Charnley.
1966. GREY, DAVID LENNOX. B.A. '57, University of Michigan; M.A. '60, Stanford University.
Major: Journalism. Minor: Political Science.
Thesis: Public Communication of U.S. Appellate Court Decisions.
Major Adviser: Prof. J. E. Gerald.

1966. HURSH, GERALD DOUGLAS. B.A. cum laude '59, University of Minnesota.
Major: Journalism. Minor: Sociology.
Thesis: A Study of the Communication Behavior of Members of Voluntary Associations.
Major Adviser: Prof. R. E. Carter, Jr.
1966. PETERSON, PAUL VANARD. B.A. '48, University of Colorado; M.A. '54, University of Minnesota.
Major: Journalism. Minor: History.
Thesis: The Omaha Daily World and World-Herald 1885-1964.
Major Adviser: Prof. E. Emery.
1966. SCANNELL, DONALD FIESELER. B.A. '48, M.A. '51, State University of Iowa.
Major: Journalism. Minor: Education.
Thesis: Mass Media Use, Information, and Opinions Concerning Higher Education.
Major Adviser: Prof. R. E. Carter, Jr.

POLITICAL SCIENCE

1956. BOND, JOHN AVERY. B.S. '42, Trinity College; M.A. '48, University of Chicago.
Major: Political Science. Minor: History.
Thesis: Legislative Reapportionment in Minnesota.
Major Adviser: Prof. L. M. Short.
1956. HOHENSTEIN, WALTER VICK. B.A. with special honor '50, Winona State Teachers College; M.A. '51, University of Minnesota.
Major: Political Science. Minor: Psychology.
Thesis: National Influence and Control over State and Local Personnel Practices in the United States.
Major Adviser: Prof. William Anderson.
1956. KOSAKI, RICHARD H. B.A. with honors '49, University of Hawaii; M.A. '52, University of Minnesota.
Major: Political Science. Minor: Sociology.
Thesis: Majority Rule and the Theory of Democracy.
Major Adviser: Prof. M. Q. Sibley.
1956. MONAT, WILLIAM ROBERT. B.A. magna cum laude '49, University of Minnesota.
Major: Political Science. Minor: Sociology.
Thesis: Merit System Administration in Minnesota State Government: An Inquiry into Staff-line Relationships.
Major Adviser: Prof. L. M. Short.
1956. REICHERT, WILLIAM O. B.A. '49, Transylvania College; M.A. '51, University of Kentucky.
Major: Political Science. Minor: History.
Thesis: The Conservative Mind of William Hurrell Mallock.
Major Adviser: Prof. M. Q. Sibley.

1957. ERIKSEN, JOHN GEORGE. B.S. '42, M.A. '50, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: The Political Role of Church Leadership in Developing Resistance Attitudes toward the Rise and Initial Consolidation of Power of the National Socialist Party, 1930-1933.
Major Adviser: Prof. Werner Levi.
1957. FLINN, THOMAS AUGUSTINE. B.A. '47, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: The Policy Process: The Minnesota Governor and Legislature in 1955.
Major Adviser: Prof. M. Q. Sibley.
1957. FLOM, FLOYD ORVILLE. B.A. '42, Hamline University; M.A. in P.A. '51, University of Minnesota.
Major: Political Science. Minor: Economics.
Thesis: The Legislative Process: A Case Study of the Passage of the Minnesota Youth Conservation Act with Emphasis on the Role of the Individual.
Major Adviser: Prof. L. M. Short.
1957. GILKEY, ROYAL CLARENCE. B.A. with distinction '41, Cornell University; M.A. '47, Columbia University.
Major: Political Science. Minor: History.
Thesis: Mr. Justice Frankfurter and Civil Liberties as Manifested in, and Suggested by, the Compulsory Flag Salute Controversy: A Study of Fifteen Years of Supreme Court Opinions, 1939-1953.
Major Adviser: Prof. William Anderson.
1957. HAGARD, LUTHER GUY, JR. B.A. '43, M.A. '47, Southern Methodist University.
Major: Political Science. Minor: History.
Thesis: The Quest for Constitutional Equality among the States in the United States.
Major Adviser: Prof. William Anderson.
1957. MOUSTAFA, EZZ-EL-DIN ALI. Graduate '46, Royal Police Academy and Faculty of Law (Egypt); M.A. '54, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: British Participation in European Organizations, 1945-1956.
Major Adviser: Prof. Werner Levi.
1957. PETERSON, WALFRED HUGO. B.A. magna cum laude '47, M.A. '49, University of Minnesota.
Major: Political Science. Minor: Economics.
Thesis: The Foreign Policy and Foreign Policy Theory of the American Socialist Party, 1901-1920.
Major Adviser: Prof. A. N. Christensen.
1957. WOODRUFF, LLOYD WILBUR. B.A. '43, University of South Dakota; M.S. '47, University of Denver.
Major: Political Science. Minor: Economics.
Thesis: The Wisconsin County Boards of Supervisors--A Study of Their Organizational and Operational Characteristics.
Major Adviser: Prof. William Anderson.

1958. BERG, ROBERT LOUIS. B.A. '36, University of Redlands; M.A. '48, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: Presidential Power and the Royal Prerogative.
Major Adviser: Prof. H. W. Chase.
1958. DOW, JAMES ELSTONE. B.A. '51, M.A. '54, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: Benelux: An Experiment in the Compatibility of Sovereignty with International Cooperation.
Major Adviser: Prof. L. A. Mills.
1958. HENDERSON, BANCROFT CLINTON. B.A. '50, Oberlin College.
Major: Political Science. Minor: Economics.
Thesis: The Democratic National Committee.
Major Adviser: Prof. A. N. Christensen.
1958. RONNING, C. NEALE. B.A. '50, University of Minnesota; M.A. '51, University of California.
Major: Political Science. Minor: Area Studies: Latin America.
Thesis: The Legal Status of the Institution of Diplomatic Asylum in Latin America as Determined by Practice and Conventions.
Major Adviser: Prof. C. H. McLaughlin.
1958. WORTMAN, JOHN AUGUST. B.A. summa cum laude '51, Macalester College.
Major: Political Science. Minor: History.
Thesis: The Minor Parties in the Soviet Zone of Germany: The Communist Preparation and Use of "Transmission Belts" to the East German Middle Class.
Major Adviser: Prof. J. E. Turner.
1959. ALBINSKI, HENRY STEPHEN. B.A. with highest honors '53, M.A. '55, University of California at Los Angeles.
Major: Political Science. Minor: History.
Thesis: Australia's Search for Regional Security in South-East Asia.
Major Adviser: Prof. L. A. Mills.
1959. AMLUND, CURTIS ARTHUR. B.A. magna cum laude '52, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: The Theory and Practice of Federalism in the Governmental Organization of the Confederate States of America.
Major Advisers: Profs. A. N. Christensen and R. C. Loehr.
1959. HEBAL, JOHN JAMES. Ph.B. '47, University of Wisconsin; M.A. '48, University of Alabama.
Major: Political Science. Minor: Sociology.
Thesis: Field Administration of the Bureau of Indian Affairs in Minnesota and Wisconsin.
Major Adviser: Prof. L. M. Short.
1959. WESTON, WARREN. B.A. '41, University of Georgia; M.A. '48, University of Denver.
Major: Political Science. Minor: History.
Thesis: A Comparison of Methods of Filling Vacancies in the U.S. Senate and the U.S. House of Representatives, 1912-1954.
Major Adviser: Prof. A. N. Christensen.

1960. ANDRESEN, KARL ADOLF. B.A. '49, Luther College; M.A. '50, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: The Theory of State Interposition to Control Federal Action: A Study of the Kentucky and Virginia Resolutions of 1798, of Calhoun's Doctrine of Nullification, and the Contemporary Interposition Resolutions of Some Southern States.
Major Adviser: Prof. H. W. Chase.
1960. CALDWELL, WILLIAM S. B.A. magna cum laude '43, M.A. '54, University of Minnesota.
Major: Political Science. Minor: Journalism.
Thesis: The Organization and Operations of American Information and Propaganda Activities in Early Postwar Italy.
Major Adviser: Prof. C. H. McLaughlin.
1960. CORNOG, GEOFFREY YATES. B.A. '52, Antioch College; M.A. in P.A. '54, University of Minnesota.
Major: Political Science. Minor: Business Administration.
Thesis: Relations between Biographical Characteristics and Personnel Resignation among Employees of the State of Minnesota.
Major Adviser: Prof. L. M. Short.
1960. FRANCISCO, GREGORIO ADRIANO, JR. B.A. magna cum laude '53, University of the Philippines; M.A.P.A. '55, University of Minnesota.
Major: Political Science. Minor: Psychology.
Thesis: Higher Civil Servants in the Philippines (A Study of the Backgrounds, Career Patterns, and Attitudes of Filipino Higher Officials).
Major Adviser: Prof. L. M. Short.
1960. HERMANN, KLAUS JACOB. B.A. '54, M.A. in P.A. '58, University of Minnesota.
Major: Political Science. Minor: Economics.
Thesis: Politics of Administrative Reorganization in Minnesota State Government, 1949-1959.
Major Adviser: Prof. L. M. Short.
1960. KALLEBERG, ARTHUR LENNART. B.A. cum laude '52, M.A. '57, University of Minnesota.
Major: Political Science. Minor: Sociology.
Thesis: An Analysis of the Nature and Validity of the Idea of a Science of Politics in Recent Political Theory.
Major Adviser: Prof. M. Q. Sibley.
1960. MACNIVEN, HUGH GORDON. B.A. '44, University of Western Ontario; M.A. '48, Stanford University.
Major: Political Science. Minor: Journalism.
Thesis: The Legislative Assemblies of the Canadian Provinces.
Major Adviser: Prof. L. M. Short.
1960. MCENROE, THOMAS HOWARD. B.A. '51, M.A. '52, University of California (Los Angeles).
Major: Political Science. Minor: American Studies.
Thesis: The Industrial Workers of the World: Theories, Organizational Problems, and Appeals, as Revealed Principally in the Industrial Worker.
Major Adviser: Prof. M. Q. Sibley.

1960. MESTENHAUSER, JOSEF. B.A. '50, Eastern Washington College of Education; M.A. '52, University of Minnesota.
Major: Political Science. Minor: Area Studies: Northwest Europe.
Thesis: Ideologies in Conflict in Indonesia, 1945-1955.
Major Advisers: Profs. C. H. McLaughlin and J. O. M. Broek.
1960. SINGH, SURENDER. B.A. '56, Macalester College; M.A. in P.A. '57, University of Minnesota.
Major: Political Science. Minor: Journalism.
Thesis: The Union Public Service Commission of India.
Major Adviser: Prof. L. M. Short.
1961. APPLETON, SHELDON LEE. B.A. cum laude '54, M.A. '56, New York University.
Major: Political Science. Minor: Area Studies: East and South Asia.
Thesis: The Question of Representation of China in the United Nations.
Major Adviser: Prof. Werner Levi.
1961. DAVIS, JAMES WILLIS. B.A. '41, Valley City Teachers' College; M.A. '49, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: The Presidential Primary, 1928-1960.
Major Adviser: Prof. C. H. McLaughlin.
1961. VILLANUEVA, ALFREDO B. B.A. cum laude '53, University of Manila; M.P.A. '56, University of the Philippines.
Major: Political Science. Minor: History.
Thesis: Concepts of Local Autonomy in the Philippines.
Major Adviser: Prof. L. M. Short.
1962. AKENSON, CURTIS BURDETTE. B.S. '42, M.A. '49, University of Minnesota.
Major: Political Science. Minor: Education.
Thesis: Selected Facets of Community Influence on Political Power in the Redevelopment of the Minneapolis Lower Loop.
Major Adviser: Prof. G. A. Warp.
1962. ANDERSON, RAYMOND V. B.S. '46, Moorhead State Teachers College; M.A. '49, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: Adoption and Operation of Initiative and Referendum in North Dakota.
Major Adviser: Prof. G. A. Warp.
1962. BAIRD, DUNCAN HALL. B.A. '39, Yale University; LL.B. '42, University of Michigan; M.A. '59, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: Judicial Control of Administrative Action in Minnesota: An Analysis with Proposals for a Uniform Form of Review.
Major Adviser: Prof. H. W. Chase.
1962. BARK, DONG SUH. M.A. '56, Seoul National University; M.A. in P.A. '59, University of Minnesota.
Major: Political Science. Minors: Business Administration and Psychology.
Thesis: Public Personnel Administration in Korea: A Mixed Heritage in Contemporary Practice.
Major Adviser: Prof. G. A. Warp.

1962. EMENHISER, JEDON ALLEN. B.A. cum laude '55, University of Redlands.
Major: Political Science. Minor: American Studies.
Thesis: Armed Politics: An Analysis and Comparison of Six Cases in the United States.
Major Adviser: Prof. M. Q. Sibley.
1962. HATHAWAY, WILLIAM LAWRENCE. B.A. '41, The University of Kansas City.
Major: Political Science. Minor: Sociology.
Thesis: Interest in Politicals: Measured by the Readership of News about Politics in a Metropolitan Daily Newspaper, 1950-1959.
Major Adviser: Prof. H. W. Chase.
1962. KATIN, ERNEST. B.A. '52, M.A. '54, LL.B. '58, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: The Legal Status of the Continental Shelf as Determined by the Conventions Adopted at the 1958 United Nations Conference on the Law of the Sea: An Analytical Study of an Instance of International Law Making.
Major Adviser: Prof. C. H. McLaughlin.
1962. PETERSON, ARTHUR LAVERNE. B.A. '47, Yale University; M.S.P.A. '49, University of Southern California.
Major: Political Science. Minor: Public Administration.
Thesis: McCarthyism: Its Ideology and Foundations.
Major Adviser: Prof. M. Q. Sibley.
1962. SIEGELMAN, PHILIP. B.A. '52, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: Colonial Development and the Chettyar: A Study in the Ecology of Modern Burma, 1850-1941.
Major Adviser: Prof. Werner Levi.
1963. BANOVTZ, JAMES MICHAEL. B.A. cum laude '59, M.A. in P.A. '61, University of Minnesota.
Major: Political Science. Minor: Economics.
Thesis: Governmental Cost Burdens and Service Benefits in Metropolitan Areas.
Major Adviser: Prof. G. A. Warp.
1963. HOFFMANN, PAUL JOSEPH. B.A. '50, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: Party Responsibility and Political Experience: An Inquiry into the Attitudes of American Political Leaders.
Major Adviser: Prof. L. M. Short.
1963. KUBANIS, IVAN JOSEPH. B.A. summa cum laude '47, University of Minnesota.
Major: Political Science. Minor: Psychology.
Thesis: Attitudes toward Procedural Rights: Some Psychological and Sociological Correlates.
Major Adviser: Prof. L. M. Short.

1963. MASSMANN, SYLVESTER HENRY. B.A. '51, St. John's University (Minnesota); M.A. '54, the Catholic University of America.
Major: Political Science. Minor: Philosophy.
Thesis: Approaches to Freedom in the Twentieth Century.
Major Adviser: Prof. B. E. Lippincott.
1963. NYOMARKAY, JOSEPH L. B.A. cum laude '53, M.A. '54, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: Factionalism in the National Socialist German Workers Party, 1925-1934.
Major Adviser: Prof. J. E. Turner.
1963. RUE, JOHN EMERY. B.A. magna cum laude '44, M.A. '53, University of Minnesota.
Major: Political Science. Minors: Area Studies: Far East and Sociology.
Thesis: Anti-Stalinist Bias in the Thought of Mao Tse-tung: A Study of the Origins of Maoism.
Major Adviser: Prof. J. E. Turner.
1964. BONN, FRANKLIN GEORGE, JR. B.A. summa cum laude '54, M.A. '57, University of Minnesota.
Major: Political Science. Minor: Philosophy.
Thesis: The Idea of Political Party in the Thought of Thomas Jefferson and James Madison.
Major Adviser: Prof. M. Q. Sibley.
1964. HUYEN, JOANNES NGUYEN KHAC. B.A. '57, Ohio Wesleyan University; M.A. '59, Western Reserve University.
Major: Political Science. Minor: History.
Thesis: The Juridical Status and Functions of Consuls in Recent International Law and Practice.
Major Adviser: Prof. C. H. McLaughlin.
1964. LALL, BETTY GOETZ. B.A. magna cum laude '47, M.A. '49, University of Minnesota.
Major: Political Science. Minors: Social Work and Sociology.
Thesis: The Foreign Policy Program of the League of Women Voters of the United States: Methods of Influencing Government Action, Effects on Public Opinion and Evaluation of Results.
Major Adviser: Prof. C. H. McLaughlin.
1964. RAFAT, AMIR. Diploma '56, University of Geneva (Switzerland); M.A. '58, University of Nebraska.
Major: Political Science. Minor: French.
Thesis: Expropriation of the Private Property of Aliens in Recent International Law: Iran, Egypt, Indonesia, and Cuba.
Major Adviser: Prof. C. H. McLaughlin.
1964. SIMON, SHELDON WEISS. B.A. summa cum laude '58, University of Minnesota; M.P.A. '60, Princeton University.
Major: Political Science. Minor: History.
Thesis: The International Labor Organization and Foreign Policies: An Interlevel Analysis Focusing on the Relation between International Consensus Formation and National Political Development.
Major Adviser: Prof. C. H. McLaughlin.

1964. TUTTLE, DANIEL WEBSTER, JR. B.A. '45, Illinois College; M.A. in P.A. '47, University of Minnesota.
Major: Political Science. Minor: Economics.
Thesis: National Political Convention Delegates, 1944-1952: Their Characteristics, Qualifications, and Opinions.
Major Adviser: Prof. C. H. Backstrom.
1964. WILSON, CLIFTON ELWOOD. B.S. with honors '50, M.A. '53, University of Utah.
Major: Political Science. Minor: Journalism.
Thesis: Diplomatic Privileges and Immunities in Recent International Practice.
Major Adviser: Prof. C. H. McLaughlin.
1964. YU, HOON. Diploma '54, Diploma '57, Seoul National University (Korea); M.A. in P.A. '59, University of Minnesota.
Major: Political Science. Minor: Economics.
Thesis: The Budgetary Process in Korea.
Major Adviser: Prof. G. A. Warp.
1965. CHENOWETH, MAURICE GENE. B.A. '54, Earlham College; M.A. '58, University of Minnesota.
Major: Political Science. Minor: American Studies.
Thesis: The Politics of Four Types of Christian Chiliasts.
Major Adviser: Prof. M. Q. Sibley.
1965. CHO, SUK CHOON. LL.B. '55, Chungang University; LL.M. '57, Seoul National University (Korea); M.A. in P.A. '60, University of Minnesota.
Major: Political Science. Minor: Business Administration.
Thesis: Administrative Decentralization in the Government of the Republic of Korea.
Major Adviser: Prof. G. A. Warp.
1965. CHRISTENSON, RONALD SIDNEY. B.S. magna cum laude '59, Wisconsin State College (Eau Claire); M.A. '61, University of Minnesota.
Major: Political Science. Minor: Philosophy.
Thesis: The Tension between Freedom of Conscience and Civic Religion with Special Reference to American Political Thought.
Major Adviser: Prof. M. Q. Sibley.
1965. DOHM, RICHARD RYLAND. B.A. '52, M.A. '61, University of Minnesota.
Major: Political Science. Minors: Architecture and Sociology.
Thesis: Politics and Pollution: Defeat of the 1961 Proposal for a Metropolitan Sanitary District in the Minneapolis-St. Paul Area.
Major Adviser: Prof. G. A. Warp.
1965. GIESKE, MILLARD LOUIS. B.A. magna cum laude '53, Hamline University; M.A. '57, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: The Politics of Knute Nelson 1912-1920.
Major Advisers: Profs. R. C. Loehr and M. Q. Sibley.

1965. LAZAR, JOSEPH. B.A. '39, J.D. '40, University of Chicago.
Major: Political Science. Minor: Industrial Relations.
Thesis: The Status of the Leasehold in International Law.
Major Adviser: Prof. C. H. McLaughlin.
1965. LINSE, EUGENE WILLIAM, JR. B.A. '44, Concordia Seminary;
M.A. '50, Northwestern University.
Major: Political Science. Minor: History.
Thesis: Due Process in Practice: A Study of Police Procedures in
Minneapolis.
Major Adviser: Prof. Samuel Krislov.
1965. NAIDU, MUMULLA VENKAT RAO. B.A. '50, M.A. '52, LL.B '56,
LL.M. '59, Osmania University (India).
Major: Political Science. Minor: History.
Thesis: The United Nations Force: Legal Theory and Political
Practice.
Major Adviser: Prof. C. H. McLaughlin.
1965. PAK, HIHUN. B.A. '57, Gustavus Adolphus College; M.A. '60
University of Minnesota.
Major: Political Science. Minor: Philosophy.
Thesis: Relativism in Contemporary Political Theory: Kelsen, Popper,
Weldon, Brecht.
Major Adviser: Prof. B. E. Lippincott.
1965. ROSHOLT, ROBERT LEROY. B.A. magna cum laude '51, Luther College;
M.A. in P.A. '52, University of Minnesota.
Major: Political Science. Minor: Economics.
Thesis: Organizing the United States Civilian Space Effort: A Study
of the National Aeronautics and Space Administration with Special
Emphasis on Structural Change and Program Coordination.
Major Adviser: Prof. L. M. Short.
1965. SARGENT, LYMAN TOWER. B.A. '61, Macalester College; M.A. '62,
University of Minnesota.
Major: Political Science. Minor: History.
Thesis: The Relationship between Political Philosophy and Political
Ideology: A Study of Etienne Cabet and His Communitarian
Experiments.
Major Adviser: Prof. M. Q. Sibley.
1965. STARON, STANISLOW JAN. M.A.(ord.) '48, M.A.(honors) '49,
Diploma '50, University of St. Andrews (Scotland).
Major: Political Science. Minor: Economics.
Thesis: Man and the State in the Philosophy of Jacques Maritain.
Major Adviser: Prof. M. Q. Sibley.
1966. FOTHERGILL, GARLAND WAYNE. B.A. with honors '36, University of
Texas; M.S. '48, University of Wisconsin.
Major: Political Science. Minor: Sociology.
Thesis: Stalinist Communism and Fascism: A Study in the Ambivalences
of New Republic Liberalism.
Major Adviser: Prof. M. Q. Sibley.

1966. HELBERG, LOREN ANTON. B.A. '39, Cornell College; M.A. '49, University of Minnesota.
Major: Political Science. Minor: Economics.
Thesis: A Method of Analyzing the Budgetary Process Based on a Study of a Small State Agency.
Major Adviser: Prof. G. A. Warp.
1966. LAMMERS, WILLIAM WEBSTER. B.A. magna cum laude '59, M.A. '60, University of Minnesota.
Major: Political Science. Minor: History.
Thesis: The Politics of Economic Decline in Northeastern Minnesota.
Major Adviser: Prof. F. J. Sorauf.
1966. SCHOCHET, GORDON JOEL. B.A. '58, M.A. '61, Johns Hopkins University.
Major: Political Science. Minor: History.
Thesis: The Patriarchal Content of Stuart Political Thought: The Relation between the Family and Political Obligation in Seventeenth Century England.
Major Adviser: Prof. B. E. Lippincott.

SOCIAL SCIENCE

1957. HALLMAN, GEORGE HARLAN. B.S. '34, M.A. '46, University of Minnesota.
Major: Social Science. Minor: Education.
Thesis: The Content and the Interrelations of the Social Sciences in General Education Programs in Selected Colleges in the South.
Major Adviser: Prof. H. T. Morse.

SOCIAL WORK

1956. TORGERSON, FERNANDO GORDON. B.A. '39, Minot State Teachers College; M.S. '49, Columbia University.
Major: Social Work. Minor: Sociology.
Thesis: A Historical Study of the Beginnings of Individualized Social Services in the United States Army.
Major Adviser: Prof. L. B. Scott.
1957. LUNDBERG, HORACE W. B.S. '36, M.S. '47, Utah State Agricultural College; M.S.W. '52, University of California.
Major: Social Work. Minor: Education.
Thesis: Some Distinctive Characteristics of Students Entering Graduate Social Work Education.
Major Adviser: Prof. J. C. Kidneigh.
1957. OREN, ANNE WINSLOW. B.A. '31, University of Minnesota; M.A. '42, University of Chicago.
Major: Social Work. Minor: Sociology.
Thesis: The Construction of an Instrument for the Measurement of Social Worker Attitudes Associated with Aptitude for Interpersonal Relationships.
Major Adviser: Prof. J. C. Kidneigh.

1958. HAYES, DOROTHY DELILAH. B.A. '24, Oberlin College; M.A. '40, University of Minnesota.
Major: Social Work. Minor: Political Science.
Thesis: Predicting the 1953 Social Adjustment of 63 Males and Females Known to the Juvenile Court as Incurable in 1941-42: A Problem in Prediction.
Major Adviser: Prof. E. D. Monachesi.
1958. TAKAGI, CALVIN YUKIO. B.A. cum laude '50, M.S.W. '52, University of Minnesota.
Major: Social Work. Minor: Sociology.
Thesis: Some Critical Behaviors Required in Casework Practice: An Exploration into the Use of the Critical Incident Technique for Identifying Critical Casework Behaviors.
Major Adviser: Prof. L. N. Scott.
1959. BOEHM, BERNICE. B.A. '30, University of Wisconsin; M.A. '37, University of Chicago.
Major: Social Work. Minor: Sociology.
Thesis: Deterrents to the Adoption of Children in Foster Care.
Major Adviser: Prof. J. C. Kidneigh.
1959. MAIER, HENRY WILLIAM. B.A. '47, Oberlin College; M.S.W. '49, Western Reserve University.
Major: Social Work. Minor: Child Welfare.
Thesis: Three Current Child Development Theories Applied to Child Caring Tasks.
Major Adviser: Prof. Gisela Konopka.
1960. FRANCEL, EDWARD WILLIAM. B.S. '37, M.A. '38, University of Minnesota.
Major: Social Work. Minor: Sociology.
Thesis: Factors Associated with the Successful Outcome of Professional Training for Social Work.
Major Adviser: Prof. J. C. Kidneigh.
1960. WELTON, GEORGE CLYDE. B.A. magna cum laude '48, Hamline University; M.S.W. '50, University of Minnesota.
Major: Social Work. Minor: Sociology.
Thesis: An Application of the Thurstone Scaling Technique to an Area of Social Work Practice.
Major Adviser: Prof. J. C. Kidneigh.
1961. CRANE, JOHN ASHLEY. B.A. '45, University of Manitoba; M.S.W. '50, McGill University.
Major: Social Work. Minor: Sociology.
Thesis: The Reliability of Casework Diagnostic Judgments in Marital Problem Cases at Intake in a Family Agency.
Major Adviser: Prof. L. N. Scott.
1961. HALL, WILLIAM THOMAS. B.A. '51, M.S.W. '53, University of Denver.
Major: Social Work. Minor: Public Health.
Thesis: Family Disorganization as Associated with Severity of Handicap (by Cerebral Palsy) of a Minor Child.
Major Adviser: Prof. L. N. Scott.

1961. KAPLAN, DAVID MEYER. B.S. in S.S. '39, City College of New York; M.S. '47, Columbia University.
Major: Social Work. Minor: Public Health.
Thesis: Predicting Outcome from Situational Stress on the Basis of Individual Problem-Solving Patterns.
Major Adviser: Prof. L. N. Scott.
1962. MEISELS, JOSEPH FREDERICK. B.A. '42, University of Nebraska; M.S. '45, University of Pittsburgh.
Major: Social Work. Minor: Sociology.
Thesis: Self-Conception, Job-Perception and Job-Satisfaction of Social Workers.
Major Adviser: Prof. L. N. Scott.
1962. POOR, J. LUCILLE. B.S. in Ed. '30, University of North Dakota; M.A. '47, University of Minnesota.
Major: Social Work. Minor: Sociology.
Thesis: Historical Growth and Development of Attitudes, Care and Treatment in the Minnesota Mental Hospital Program.
Major Adviser: Prof. J. C. Kidneigh.
1962. STEEN, PAUL TURE. B.A. '33, Gustavus Adolphus College; M.A. in P.A. '47, M.A. '49, University of Minnesota.
Major: Social Work. Minor: Political Science.
Thesis: A Study of Fairness in Juvenile Probation Services.
Major Adviser: Prof. J. C. Kidneigh.
1963. EICHENBERGER, JOHN FREDERICK. B.Sc. cum laude '52, University of Pittsburgh; M.Sc.(Soc.Admin.) '54, Western Reserve University.
Major: Social Work. Minor: Public Health.
Thesis: An Epidemiological Study of Juvenile Delinquency in Minnesota.
Major Adviser: Prof. J. C. Kidneigh.
1963. SCHNEIDERMAN, LEONARD. B.A. '50, New York University; M.S. '51, Columbia University.
Major: Social Work. Minors: Education and Sociology.
Thesis: The Culture of Poverty--A Study of the Value Orientation Preferences of the Chronoically Impoverished.
Major Adviser: Prof. J. C. Kidneigh.
1964. MACDONALD, ROBERT WESLEY. B.A. '48, University of Manitoba; B.S.W. '49, M.S.W. '56, University of British Columbia.
Major: Social Work. Minor: Sociology.
Thesis: Intergenerational Family Helping Patterns.
Major Adviser: Prof. J. C. Kidneigh.
1965. BOUNOUS, RONALD CHESTER. B.A. cum laude '58, M.S.W. '58, University of Minnesota.
Major: Social Work. Minor: Sociology.
Thesis: A Study of Client and Worker Perceptions in the Initial Phase of Casework Marital Counseling.
Major Adviser: Prof. E. W. Francel.

1966. HESS, DOLPH. B.S.S.S. '50, City College of New York; M.S.W. '55, University of North Carolina.
Major: Social Work. Minor: Sociology.
Thesis: Prediction of Success in Casework Practice from Performance in the Graduate Program.
Major Adviser: Prof. L. N. Scott.
1966. WALZ, THOMAS HAROLD. B.A. magna cum laude '54, St. John's University (Minnesota); M.S.W. '58, St. Louis University.
Major: Social Work. Minor: Public Health.
Thesis: Adaptation of the North American Model of Social Work Education to Honduras--A Study of Attitude Change in Honduran Social Workers Resulting from Their Professional Education.
Major Adviser: Prof. E. W. Francel.

SOCIOLOGY

1956. KANUN, CLARA. B.A. '50, M.A. '52, University of Minnesota.
Major: Sociology. Minor: Psychology.
Thesis: Predicting Delinquency from the MMPI Using Items Instead of Clinical Scales.
Major Adviser: Prof. E. D. Monachesi.
1956. MCGEE, REECE JEROME. B.A. '52, M.A. '53, University of Minnesota.
Major: Sociology. Minor: Anthropology.
Thesis: A Study in Ambience: The Numerical Analysis of Interaction Groupings in a Large Scale Organization.
Major Adviser: Prof. Theodore Caplow.
1956. PRELL, ARTHUR ELY. B.A. '48, University of Redlands; M.A. '49, Washington University.
Major: Sociology. Minor: Anthropology.
Thesis: The Effectiveness of a Penal Treatment Program and Its Relation to Parole Behavior.
Major Adviser: Prof. G. B. Vold.
1956. QUACKENBUSH, ORVILLE FRANCIS. B.A. '33, M.A. '38, University of Minnesota.
Major: Sociology. Minor: Anthropology.
Thesis: The Development of the Correctional, Reformatory, and Penal Institutions of Minnesota: A Sociological Interpretation.
Major Adviser: Prof. G. B. Vold.
1956. SAGI, PHILIP CARL. Ph.B. '49, M.S. '51, University of Wisconsin.
Major: Sociology. Minor: Statistics.
Thesis: Mathematical Models for the Analysis of Fertility Data.
Major Advisers: Profs. E. D. Monachesi and R. G. Francis.
1957. HAAS, JOHN EUGÈNE. B.A. cum laude '50, Upland College; M.A. '53, University of California at Los Angeles.
Major: Sociology. Minor: Anthropology.
Thesis: Role Consensus and Disharmony in Hospital Work Groups.
Major Adviser: Prof. R. G. Francis.

1958. ATELSEK, FRANK JOSEPH. Ph.B. '50, Marquette University; M.A. '51, University of Minnesota.
Major: Sociology. Minor: Psychology.
Thesis: Characteristics of Older Job Seekers: An Analysis in Terms of Their Unemployment Histories.
Major Adviser: Profs. A. M. Rose and R. G. Francis.
1958. CLELAND, COURTNEY BLAIR. B.A. magna cum laude '42, Carleton College.
Major: Sociology. Minor: Psychology.
Thesis: Institution in Process: A Case Study in the Dynamics of Rural Health Organization.
Major Adviser: Prof. M. J. Taves.
1958. DEININGER, MARIAN MACNEIL. B.A. magna cum laude '49, M.A. '52, University of Minnesota.
Major: Sociology. Minor: Anthropology.
Thesis: Some Differential Characteristics of Minnesota's Major Ethnic Groups in Selected Rural Townships.
Major Adviser: Prof. Lowry Nelson.
1958. LEVENTMAN, JUDITH RITA KRAMER. B.A. magna cum laude '53, Barnard College; M.A. '54, University of Minnesota.
Major: Sociology. Minor: English.
Thesis: Fathers and Sons: Conflict Resolutions of Third Generation American Jews.
Major Adviser: Prof. D. A. Martindale.
1958. LEVENTMAN, SEYMOUR. B.A. '51, State College of Washington; M.A. '53, Indiana University.
Major: Sociology. Minor: Philosophy.
Thesis: Class and Ethnic Tensions: The Stratification of a Minority Group.
Major Adviser: Prof. D. A. Martindale.
1958. SHAW, DAVID MORRIS. B.A. '53, University of Redlands; M.S. '55, University of Minnesota.
Major: Sociology. Minor: Psychology.
Thesis: Some Effects of Size of Share in Task on Motivation in Work Groups.
Major Adviser: Prof. H. W. Riecken.
1958. STUB, HOLGER RICHARD. B.A. '48, M.A. '50, University of Minnesota.
Major: Sociology. Minor: History.
Thesis: Attitudes toward Formal Structure in Two Public Bureaucracies.
Major Adviser: Prof. A. M. Rose.
1958. TORSTENSON, JOEL SYDNEY. B.A. '38, Augsburg College; M.A. '40, University of Minnesota.
Major: Sociology. Minor: History.
Thesis: The Development of an Institution: A Case History of the Midland Cooperatives Incorporated.
Major Adviser: Prof. Lowry Nelson.

1959. COLLER, RICHARD WALTER. B.A. '48, University of Minnesota; M.A. '52, University of Hawaii.
Major: Sociology. Minor: Anthropology.
Thesis: Geographic Mobility of Selected Rural Minnesota Male High School Graduates.
Major Adviser: Prof. M. J. Taves.
1959. FORMAN, ROBERT EDGAR. B.A. cum laude '48, M.A. '49, University of Minnesota.
Major: Sociology. Minor: Psychology.
Thesis: The Ideology of Mobility: Some Attitudinal Aspects of Migration.
Major Adviser: Prof. R. G. Francis.
1959. GERSTL, JOEL EMERY. B.A. '54, M.A. '55, Columbia College.
Major: Sociology. Minors: Anthropology and Philosophy.
Thesis: Career Commitment and Style of Life in Three Middle Class Occupations.
Major Adviser: Prof. Theodore Caplow.
1959. HELLING, GEORGE CLIFFORD. B.A. summa cum laude '48, Hamline University; M.A. '51, University of Minnesota:-
Major: Sociology. Minor: Political Science.
Thesis: A Study of Turkish Values by Means of Nationality Stereotypes.
Major Adviser: Prof. A. M. Rose.
1959. KHAN, B.M. ABDUL MAJEED. B.A. '56, Hamline University; M.A. '57, University of Minnesota.
Major: Sociology. Minor: Anthropology.
Thesis: Occupational Aspiration and Social Mobility of Selected Rural Male High School Graduates.
Major Adviser: Prof. M. J. Taves.
1959. NEUWIRTH, GERTRUD ROSA-MARIA. Graduate '53, University of Graz.
Major: Sociology. Minor: Economics.
Thesis: Friendship Patterns and Organizational Participation: A Study in Ambience.
Major Adviser: Prof. Theodore Caplow.
1959. WARSHAY, LEON HAROLD. B.A. '49, Brooklyn College; M.A. '51, University of Chicago.
Major: Sociology. Minors: Psychology and Anthropology.
Thesis: Breadth of Perspective, Culture Contact, and Self.
Major Adviser: Prof. A. M. Rose.
1960. CORWIN, RONALD GARY. B.A. '54, Iowa State Teachers College; M.A. '58, University of Minnesota.
Major: Sociology. Minors: Anthropology and History and Philosophy of Education.
Thesis: Role Conception and Mobility Aspiration: A Study in the Formation and Transformation of Bureaucratic, Professional and Humanitarian Nursing Identities.
Major Adviser: Prof. R. G. Francis.

1960. GOLDSTEIN, LOUIS. B.S.S. '39, City College of New York; M.A. '44, New York University.
Major: Sociology. Minor: Social Work.
Thesis: The Social Agency Executive--A Study of Organizational Isolation.
Major Adviser: Prof. A. M. Rose.
1960. KROHN, ROGER GEORGE. B.A. '53, St. Olaf College; M.A. '57, University of Minnesota.
Major: Sociology. Minor: Anthropology.
Thesis: Science and Social Change: Effects of New Institutional Locals on the Traditional Structure of Science.
Major Adviser: Prof. D. A. Martindale.
1960. LOVALD, KEITH ARTHUR. B.S. '51, University of Wisconsin; M.A. '55, University of Minnesota.
Major: Sociology. Minor: Philosophy.
Thesis: From Hobohemia to Skid Row: The Changing Community of the Homeless Man.
Major Adviser: Prof. D. A. Martindale.
1960. MANDEL, NATHAN GARY. B.S. '34, M.A. '38, University of Minnesota.
Major: Sociology. Minor: Psychology.
Thesis: An Evaluation of the Sociological, Psychological, and Physiological Post-Treatment Adjustment of Mental Patients Treated with Regressive Electric Shock Therapy.
Major Adviser: Prof. E. D. Monachesi.
1960. WELLER, LEONARD. B.A. '55, City College of New York.
Major: Sociology. Minors: Anthropology and Political Science.
Thesis: The Nature of Prejudice: A Theoretical Evaluation and an Empirical Appraisal.
Major Adviser: Prof. D. A. Martindale.
1961. JOHNSON, CLARENCE DALE. B.A. cum laude '50, M.A. '52, University of Minnesota.
Major: Sociology. Minor: Statistics.
Thesis: Priest, Prophet, and Professional Man: A Study of Religious Leadership in a Small Community.
Major Adviser: Prof. D. A. Martindale.
1961. KLIETSCH, RONALD GEORGE. B.A. '56, M.A. '58, University of Minnesota.
Major: Sociology. Minor: Anthropology.
Thesis: Decision-making in Dairy Farming: A Sociological Analysis.
Major Adviser: Prof. M. J. Taves.
1961. KROEGER, VIRGIL JOHN. B.S. '40, South Dakota State College of Agriculture and Mechanic Arts; M.A. '52, University of Minnesota.
Major: Sociology. Minor: Economics.
Thesis: A Study in the Classification of Delinquent Behavior.
Major Adviser: Prof. E. D. Monachesi.
1961. LITMAN, THEODOR JAMES. B.A. cum laude '54, M.A. '56, University of Minnesota.
Major: Sociology. Minor: Political Science.
Thesis: The Influence of Concept of Self and Life Orientation Factors upon the Rehabilitation of Orthopedic Patients.
Major Adviser: Prof. A. M. Rose.

1961. SIMIRENKO, ALEX. B.A. '57, M.A. '58, University of Minnesota.
Major: Sociology. Minor: History.
Thesis: Pilgrims, Colonists, and Frontiersmen: An Ethnic Community
in Transition.
Major Adviser: Prof. D. A. Martindale.
1961. WALLACE, SAMUEL EUGENE. B.A. '56, William Jewell College;
M.A. '58, University of Minnesota.
Major: Sociology. Minors: Philosophy and Anthropology.
Thesis: Patterns of Interaction--The Significance of Numbers on
Togetherness.
Major Adviser: Prof. R. L. Hill.
1962. ADAMS, MARY. B.A. cum laude '46, State University of South
Dakota; B.S. '49, Johns Hopkins University; M.A. '52, Columbia
University.
Major: Sociology. Minor: Education.
Thesis: Functionalism versus Social Behaviorism in the Current
Sociology of Illness: A Test of the Empirical Adequacy of Theory.
Major Adviser: Prof. D. A. Martindale.
1962. CARO, FRANCIS GEORGE. B.S. '58, Marquette University.
Major: Sociology. Minor: Psychology.
Thesis: A Social Class Comparison of Attitudes of Male High School
Students towards College and Dominant Occupational Goals.
Major Adviser: Prof. A. M. Rose.
1962. HANSEN, DONALD A. B.A. '55, M.A. '58, University of Minnesota.
Major: Sociology. Minor: Journalism.
Thesis: The Impact of Middle-Class Delinquency on the Family: An
Exploratory Study.
Major Adviser: Prof. R. G. Francis.
1962. RODGERS, ROY HERMAN. B.A. with honors '51, Wheaton College;
M.A. '57, University of North Carolina.
Major: Sociology. Minor: Child Psychology.
Thesis: Improvements in the Construction and Analysis of Family Life
Cycle Categories.
Major Adviser: Prof. R. G. Francis.
1962. RYBNICEK, EDWARD H. B.A. '49, Denison University; M.A. '57,
University of Minnesota.
Major: Sociology. Minor: Anthropology.
Thesis: The Changing Church in the Changing City.
Major Advisers: Profs. R. G. Francis and John Sirjamaki.
1963. ALDOUS, JOAN. B.S. with high honors '48, Kansas State University;
M.A. '49, University of Texas.
Major: Sociology. Minors: Child Psychology and Educational
Psychology.
Thesis: Family Continuity Patterns over Three Generations: Content,
Degree of Transmission, and Consequences.
Major Adviser: Prof. R. L. Hill.
1963. BULTENA, GORDON LOUIS. B.A. with high honors '57, Iowa State
Teachers College; M.A. '59, University of Minnesota.
Major: Sociology. Minor: Anthropology.
Thesis: A Symbolic Interactionist Study of Some Teen-age Camp Groups.
Major Adviser: Prof. M. J. Taves.

1963. HALL, PETER MANDEL. B.A. '57, M.S.W. '59, University of California.
Major: Sociology. Minor: Social Work.
Thesis: The Self-Conception of Juvenile Delinquents: A Symbolic Interactionist Approach.
Major Adviser: Prof. A. M. Rose.
1963. MOURATIDES, NICOS N. B.A. '49, Cornell College; M.A. '51, University of Minnesota.
Major: Sociology. Minor: Political Science.
Thesis: Psychiatrists in the Mental Hospital: A Study in Role Tensions and Conflict.
Major Advisers: Profs. D. A. Martindale and E. D. Monachesi.
1963. NANDY, SANTOSH KUMAR. B.A. (honors) '53, M.A. '56, University of Calcutta (India); M.A. '61, University of Minnesota.
Major: Sociology. Minors: Anthropology and Political Science.
Thesis: The Traditional and the Modern in the Idea of Social Change in Post-Independence India.
Major Advisers: Profs. D. A. Martindale and E. D. Monachesi.
1963. THORESEN, WALTER PAUL. B.A. '41, Carroll College; M.Ph.(Educ.) '46, University of Wisconsin.
Major: Sociology. Minor: Education.
Thesis: Conflicting Social Norms as They Affect Attitudes.
Major Adviser: Prof. E. D. Monachesi.
1964. ALTHOUSE, RONALD CLEMENT. B.A. '60, Pennsylvania State University; M.A. '61, University of Minnesota.
Major: Sociology. Minor: History.
Thesis: The Intellectual Career of F. Stuart Chapin: An Examination of the Development and Contribution of a Pluralistic Behaviorist.
Major Adviser: Prof. D. A. Martindale.
1964. BODERMAN, ALVIN. B.A. '50, M.A. '54, University of Minnesota.
Major: Sociology. Minor: Philosophy.
Thesis: Feelings of Powerlessness and Political and Religious Extremism.
Major Adviser: Prof. D. A. Martindale.
1964. BURCH, WILLIAM RICHARD, JR. B.S. '55, M.S. '57, University of Oregon.
Major: Sociology. Minor: Speech and Theatre Arts.
Thesis: Nature as Symbol and Expression in American Social Life: A Sociological Exploration.
Major Adviser: Prof. G. P. Stone.
1964. GUSTAFSON, PAUL MOODY. B.S. '46, Northwestern University.
Major: Sociology. Minor: Psychology.
Thesis: Structural Elements and Organizational Behavior: A Study of Ten Protestant Denominations in Minnesota.
Major Adviser: Prof. R. G. Francis.
1964. HERNANDEZ, JOSEPH WILLIAM. B.A. '58, M.A. '60, Fordham University.
Major: Sociology. Minor: Area Studies: Latin America.
Thesis: The Sociological Implications of Return Migration in Puerto Rico: An Exploratory Study.
Major Adviser: Prof. R. G. Francis.

1964. IVERSON, NOEL. B.A. '58, M.A. '62, University of Minnesota.
Major: Sociology. Minor: Anthropology.
Thesis: Germania, U.S.A.: The Dynamics of Change of an Ethnic
Community into a Status Community.
Major Adviser: Prof. D. A. Martindale.
1964. JACOBSON, PERRY EUGENE, JR. B.A. '59, Hamline University;
M.S. '61, Iowa State University.
Major: Sociology. Minor: Biostatistics.
Thesis: The Dynamics of Inter-Faith Marriages.
Major Adviser: Prof. D. A. Martindale.
1964. MUNDI, JOSEPH PHILIP. M.A. '49, St. Louis University.
Major: Sociology. Minor: Psychology.
Thesis: Variations in the Opinions, Practices and Attitudes of
Selected Samples of Minnesota Catholic College Students toward
Catholicism in America.
Major Advisers: Profs. E. D. Monachesi and A. M. Rose.
1964. NELSON, GLENN IRVING. B.A. '55, St. Olaf College; M.A. '60,
University of Minnesota.
Major: Sociology. Minor: Psychology.
Thesis: Social Change, Reference Groups and the Self Concept: A Study
of Change in Rural Churches.
Major Adviser: Prof. A. M. Rose.
1964. PHILBROOK, THOMAS VERE. B.A. '58, M.A. '60, University of
Minnesota.
Major: Sociology. Minor: Statistics.
Thesis: Industrialization in the Small Community: A Study of Three
Newfoundland Communities.
Major Adviser: Prof. D. A. Martindale.
1964. ROBINSON, IRA EDWIN. B.A. cum laude '49, Davis and Elkins
College; M.A. '52, Ohio University.
Major: Sociology. Minor: Psychology.
Thesis: Basic and Improving Inventions in Industry: A Study of the
Research Scientists of Minneapolis-Honeywell.
Major Adviser: Prof. D. A. Martindale.
1964. ROSS, JACK COLE. B.S. '49, University of California; M.S. '54,
George Williams College.
Major: Sociology. Minor: Political Science.
Thesis: Traditionalism and Charisma in a Religious Group: Membership
Careers and Role Contingencies of Quakers.
Major Adviser: Prof. D. A. Martindale.
1964. SMITH, THOMAS EWIN. B.A. '57, M.A. '61, University of Alabama;
M.S. in Educ. '58, Hunter College of the City of New York.
Major: Sociology. Minor: Psychology.
Thesis: Social Class and Adolescents' Attitudes toward Adopting or
Rejecting Their Fathers' Frames of Reference.
Major Adviser: Prof. R. L. Hill, Jr.

1964. STEBBINS, ROBERT ALAN. B.A. '61, Macalester College; M.A. '62, University of Minnesota.
Major: Sociology. Minor: Psychology.
Thesis: The Jazz Community: The Sociology of a Musical Sub-Culture.
Major Adviser: Prof. D. A. Martindale.
1965. CARROLL, THOMAS EDWARD. B.A. with honors '56, Indiana University; M.A. '58, University of Minnesota.
Major: Sociology. Minor: Political Science.
Thesis: How the Punishment Fits the Crime: The Criteria of Sentencing Used by Criminal Court Judges, Dade County, Florida.
Major Adviser: Prof. D. A. Martindale.
1965. MCCARTNEY, JAMES LEE. B.A. '58, M.A. '60, University of Nebraska.
Major: Sociology. Minor: Psychology.
Thesis: The Support of Sociological Research: Trends and Consequences.
Major Adviser: Prof. E. D. Monachesi.
1966. KANG, TAI SHICK. B.A. '57, Seoul National University (Korea); M.B.A. '62, University of Minnesota.
Major: Sociology. Minor: Business Administration.
Thesis: Identity and Assimilation: The Study of a Foreign Student Colony.
Major Adviser: Prof. D. A. Martindale.
1966. VANDERNOOT, THEODORE JOHN. B.A. '52, Duke University; M.A. '54, University of Minnesota.
Major: Sociology. Minor: Economics.
Thesis: The Simulation and Extrapolation of Population Change: A Case Study, the Population of the Upper Midwest.
Major Adviser: Prof. R. G. Francis.

INTERDISCIPLINARY STUDIES

AMERICAN STUDIES

1956. BAHLKE, HAROLD OTTO. B.Ed. '37, Eau Claire State Teachers College; M.A. '47, University of Minnesota.
Major: American Studies.
Thesis: Rotary and American Culture--A Historical Study of Ideology.
Major Adviser: Prof. C. A. Chambers.
1956. CLEAVER, CHARLES GRINNELL. B.A. '47, Yale University; M.A. '50, University of Minnesota.
Major: American Studies.
Thesis: Frank Kellogg: Attitudes and Assumptions Influencing His Foreign Policy Decisions.
Major Adviser: Prof. C. A. Chambers.
1956. HANSEN, CHADWICK CLARKE. B.A. '48, Yale University; M.A. '51, University of Minnesota.
Major: American Studies.
Thesis: The Ages of Jazz: A Study of Jazz in Its Cultural Context.
Major Advisers: Profs. Tremaine McDowell and Johannes Riedel.
1956. HARRIS, MARK. B.A. '50, M.A. '51, University of Denver.
Major: American Studies.
Thesis: Randolph Bourne: A Study in Immiscibility.
Major Adviser: Prof. M. Q. Sibley.
1956. WALKER, DON DEVERE. B.A. with high honors '40, M.A. '47, University of Utah.
Major: American Studies.
Thesis: The Popular Science Monthly, 1872-1878: A Study in the Dissemination of Scientific Ideas in America.
Major Adviser: Prof. Theodore Hornberger.
1957. DRINNON, RICHARD. B.A. summa cum laude '50, Willamette University; M.A. '51, University of Minnesota.
Major: American Studies.
Thesis: Emma Goldman: A Study in American Radicalism.
Major Adviser: Prof. M. Q. Sibley.
1957. GAITHER, JAMES MANN. B.A. '47, M.A. '48, University of Chicago.
Major: American Studies.
Thesis: A Return to the Village: A Study of Santa Fe and Taos, New Mexico, as Cultural Centers, 1900-1934.
Major Adviser: Prof. R. F. Spencer.
1957. HAGE, GEORGE SIGURD. B.A. magna cum laude '38, M.A. '50, University of Minnesota.
Major: American Studies.
Thesis: Anti-Intellectualism in Newspaper Comment on the Elections of 1828 and 1952.
Major Adviser: Prof. R. L. Jones.
1957. JOHNSON, MANLY. B.A. '46, University of Michigan; M.A. '50, Johns Hopkins University.
Major: American Studies.
Thesis: The Visual and Visionary in the Work of James Fenimore Cooper.
Major Adviser: Prof. Bernard Bowron.

1957. MARKS, BARRY ALAN. B.A. '48, Dartmouth College; M.A. '49, University of Minnesota.
Major: American Studies.
Thesis: The Idea of Propaganda in America.
Major Adviser: Prof. Bernard Bowron.
1957. RAFF, WILLIS HAROLD. B.A. cum laude '48, Hamline University; M.A. '50, University of Minnesota.
Major: American Studies.
Thesis: Coercion and Freedom in a War Situation; A Critical Analysis of Minnesota Culture during World War One.
Major Advisers: Profs. M. Q. Sibley and M. C. Turpie.
1957. WEBER, BROM. B.S. in S.S. '38, College of the City of New York; M.A. '55, University of Wyoming.
Major: American Studies.
Thesis: A Study of the Conspiracy between Elbert Hubbard and His Times.
Major Adviser: Prof. Bernard Bowron.
1958. FISHER, MARVIN MARK. B.A. '50, M.A. '52, Wayne University.
Major: American Studies.
Thesis: From Wilderness to Workshop: The Response of Foreign Observers to American Industrialization, 1830-1860.
Major Advisers: Profs. Leo Marx and A. F. Tyler.
1958. LINCOLN, SISTER MARY EDMUND. B.S. '46, M.A. '50, College of St. Catherine; M.A. '55, University of Minnesota.
Major: American Studies.
Thesis: Cultural Significance of the Minneapolis Public Library in Its Origins and Development: A Study in the Relations of the Public Library and American Society.
Major Adviser: Prof. M. C. Turpie.
1959. ERLER, BROTHER HERMAN RAPHAEL. B.A. '38, St. Mary's College (Minnesota); M.A. '42, Loyola University (Illinois).
Major: American Studies.
Thesis: A Critical Analysis of the New History.
Major Adviser: Prof. C. A. Chambers.
1959. HERRESHOFF, DAVID SPRAGUE. B.A. '52, University of Akron; M.A. '57, University of Minnesota.
Major: American Studies.
Thesis: Americanizers of Marx.
Major Adviser: Prof. M. Q. Sibley.
1959. HOVE, JOHN. B.S. '37, Valley City State Teachers College; M.S. '46, University of North Dakota.
Major: American Studies.
Thesis: Rationale for an Industrial Society.
Major Adviser: Prof. E. R. Bowron.
1959. PICKETT, CALDER M. B.S. '44, Utah State Agricultural College; M.S.J. '48, Northwestern University.
Major: American Studies.
Thesis: Six New York Newspapers and Their Response to Technology in the Nineteenth Century.
Major Adviser: Prof. Edwin Emery.

1959. WHITE, ROBERT LEE. B.A. '50, University of Louisville; M.A. '55, University of Minnesota.
Major: American Studies.
Thesis: Some Passionate Pilgrims: The Image of Italy in American Romanticism.
Major Adviser: Prof. G. R. Stange.
1960. ANDERSEN, STANLEY PETER. B.S. '43, Utah State Agricultural College; M.S. '48, Northwestern University.
Major: American Studies.
Thesis: American Icon--Response to the Skyscraper: 1875-1934.
Major Advisers: Profs. Bernard Bowron and Donald Torbert.
1960. BLUESTEIN, EUGENE. B.A. '50, Brooklyn College; M.A. '53, University of Minnesota.
Major: American Studies.
Thesis: The Background and Sources of an American Folksong Tradition.
Major Adviser: Prof. J. J. Kwiat.
1960. MONDALE, CLARENCE COWAN. B.A. '47, Macalester College; M.A. '54, University of Minnesota.
Major: American Studies.
Thesis: Gentlemen of Letters in a Democracy: Phi Beta Kappa Orations, 1788-1865.
Major Adviser: Prof. C. H. Foster.
1960. VAN-DIEM, LE. B.A. '55, Washington State University; M.A. '56, University of Minnesota.
Major: American Studies.
Thesis: Puritan Idealism and the Transcendental Movement.
Major Adviser: Prof. J. C. Levenson.
1961. ERNO, RICHARD BRUCE. B.A. '50, Michigan State College; M.A. '51, University of Denver.
Major: American Studies.
Thesis: Dominant Images of the Negro in the Ante-Bellum South.
Major Adviser: Prof. J. J. Kwiat.
1961. GUTTMANN, ALLEN. B.A. '53, University of Florida; M.A. '56, Columbia University.
Major: American Studies.
Thesis: The Wound in the Heart: American Responses to and Interpretation of the Spanish Civil War.
Major Adviser: Prof. M. Q. Sibley.
1961. KANE, PATRICIA LANEGRAN. B.A. '47, Macalester College; M.A. '50, University of Minnesota.
Major: American Studies.
Thesis: Legal Fictions: The Lawyer in the American Novel.
Major Adviser: Prof. J. C. Levenson.
1961. MENKE, WAYNE GRAHAM. B.A. '50, Chico State College; M.A. '59, University of Minnesota.
Major: American Studies.
Thesis: The Doctor: Change and Conflict in American Medical Practice.
Major Adviser: Prof. M. Q. Sibley.

1961. ROCK, VIRGINIA JEANNE. B.A. '44, M.A. '47, University of Michigan.
Major: American Studies.
Thesis: The Making and Meaning of I'll Take My Stand: A Study in Utopian-Conservatism, 1925-1939.
Major Adviser: Prof. M. Q. Sibley.
1961. ROSENFELD, WILLIAM. B.A. '51, Utica College; M.A. '54, University of Minnesota.
Major: American Studies. Minor: English.
Thesis: The Divided Burden: Common Elements in the Search for a Religious Synthesis in the Works of Theodore Parker, Horace Bushnell, Nathaniel Hawthorne, and Herman Melville.
Major Adviser: Prof. C. H. Foster.
1961. STENERSON, DOUGLAS C. B.A. magna cum laude '42, I.A. '43, Harvard University; M.A. '47, University of Minnesota.
Major: American Studies.
Thesis: A Genetic History of the Prejudices of H. L. Mencken, 1880-1926.
Major Adviser: Prof. Bernard Bowron.
1961. TAYLOR, RACHEL JEAN. B.S. summa cum laude '31, Radford College; M.A. '42, University of Washington.
Major: American Studies.
Thesis: The "Return to Religion" in America after the Second World War: A Study of Religion in American Culture 1945-1955.
Major Adviser: Prof. M. Q. Sibley.
1962. ALBRECHT, ROBERT CHARLES. B.A. '55, University of Illinois; M.A. '57, University of Michigan.
Major: American Studies.
Thesis: The New England Transcendentalists' Response to the Civil War.
Major Adviser: Prof. C. H. Foster.
1962. GURIAN, JAY PAUL. B.A. '51, Syracuse University; M.A. '58, University of Hawaii.
Major: American Studies.
Thesis: Two Western Mining Communities: A Study of Their Actual Development and Their Mythology.
Major Adviser: Prof. Bernard Bowron.
1962. KNAPP, JOSEPH GEORGE. B.A. '48, St. Louis University; M.A. '53, Marquette University.
Major: American Studies.
Thesis: Tortured Torturer of Reluctant Rhymes: Melville's Clarel, An Interpretation of Post-Civil War America.
Major Adviser: Prof. D. W. Noble.
1962. SMITH, DAVID EDWIN. B.A. '48, Middlebury College; M.A. '57, University of Minnesota.
Major: American Studies.
Thesis: John Bunyan in America: A Critical Inquiry.
Major Adviser: Prof. Bernard Bowron.

1962. THOMPSON, NEIL BAIRD. B.S. '48, M.S. '50, Kansas State College.
Major: American Studies.
Thesis: The Impact of Industrialism on the Public High School in the United States, 1890-1950.
Major Adviser: Prof. Bernard Bowron.
1962. TRACHTENBERG, ALAN ZELICK. B.A. cum laude '54, Temple University; M.A. '56, University of Connecticut.
Major: American Studies.
Thesis: Brooklyn Bridge, Fact and Symbol (1869-1930): A Study of an American Monument.
Major Advisers: Profs. Bernard Bowron and D. T. Tselos.
1963. BENSON, NORMAN ARTHUR. B. A. with distinction '53, San Jose State College; M.A. '55, San Francisco State College.
Major: American Studies.
Thesis: The Itinerant Dancing and Music Masters of Eighteenth Century America.
Major Advisers: Profs. Johannes Riedel and M. C. Turpie.
1963. HAUSDORFF, DON MARK. B.A. '49, University of Colorado; M.A. '56, Columbia University.
Major: American Studies.
Thesis: Depression Laughter: Magazine Humor and American Society, 1929-33.
Major Adviser: Prof. Brom Weber.
1963. HOOPLE, ROBIN PEARSALL. B.A. '53, M.A. '54, Syracuse University.
Major: American Studies.
Thesis: Leaves of Grass (1860) as Opinion: A Study of Whitman's Understanding of the Major Problems of 1860 American Culture as Reflected in the Third Edition of Leaves of Grass.
Major Adviser: Prof. M. C. Turpie.
1963. MERIDETH, ROBERT DEAN. B.A. with honors '57, University of Illinois; M.A. '58, Oklahoma State University.
Major: American Studies.
Thesis: Edward Beecher, the Deacon of the Civil War Generation: A Biographical Study of the Conflict between Orthodox Theology and Radical Politics.
Major Adviser: Prof. C. H. Foster.
1964. LYON, RICHARD COLTON. B.A. with honors '51, University of Texas; B.A. '53, University of Cambridge; M.A. '58, University of Connecticut.
Major: American Studies.
Thesis: Charles Francis Adams, Jr., and the Age of Steam.
Major Adviser: Prof. J. C. Levenson.
1964. NICHOLL, GRIER. B.A. '51, Wesleyan University; M.A. '56, Teachers College, Columbia University.
Major: American Studies.
Thesis: The Christian Social Novel in America, 1865-1918.
Major Adviser: Prof. M. C. Turpie.

1964. RIDER, DANIEL EDGAR. B.A. cum laude '49, New York State College for Teachers; M.A. '57, University of Minnesota.
Major: American Studies.
Thesis: The Musical Thought and Activities of the New England Transcendentalists.
Major Advisers: Profs. Johannes Riedel and M. C. Turpie.
1964. SKIDMORE, MAX JOSEPH. B.S. '56, B.S. in Educ. '56, Southwest Missouri State College; M.Ed. '56, University of Missouri.
Major: American Studies.
Thesis: Reconciliation by Rhetoric: An Examination of the Conflict between Practice and Ideology in the United States as Illustrated by the Reaction to Social Security.
Major Adviser: Prof. M. Q. Sibley.
1964. VAN ZANDT, ROLAND. B.A. '40, Rutgers University.
Major: American Studies.
Thesis: Catskill Mountain Classic.
Major Adviser: Prof. M. Q. Sibley.
1964. WEBER, DANIEL BARR. B.A. '51, M.A. '56, Western Michigan University.
Major: American Studies.
Thesis: John Muir: The Function of Wilderness in an Industrial Society.
Major Adviser: Prof. Bernard Bowron.
1965. BERGER, ARTHUR ASA. B.A. '54, University of Massachusetts; M.A. '56, State University of Iowa.
Major: American Studies.
Thesis: Li'l Abner: An American Satire.
Major Adviser: Prof. M. Q. Sibley.
1965. BURNS, REX SEHLER. B.A. '58, Stanford University; M.A. '63, University of Minnesota.
Major: American Studies.
Thesis: Middle Class Success and the Industrial Revolution, 1825-1830.
Major Advisers: Profs. David Cooperman and J. J. Kwiat.
1965. DOWELL, PETER WINTHROP. B.A. '58, Princeton University; M.A. '61, University of Minnesota.
Major: American Studies.
Thesis: Van Wyck Brooks and the Mind of His Generation.
Major Adviser: Prof. J. C. Levenson.
1965. FLINT, ALLEN DENIS. B.A. '55, M.A. '56, University of Minnesota.
Major: American Studies.
Thesis: Hawthorne's Political and Social Themes.
Major Adviser: Prof. M. C. Turpie.
1965. MEYER, KENNETH JOHN. B.A. '53, Lawrence College; M.A. '56, University of Minnesota.
Major: American Studies.
Thesis: Social Class and Family Structure: Attitudes Revealed by the Earliest American Novels, 1789-1815.
Major Adviser: Prof. M. C. Turpie.

1965. POTTER, HUGH M., III. B.A. '54, Union College; M.A. '58, University of North Carolina.
Major: American Studies.
Thesis: The "Romantic Nationalists" of the 1920's.
Major Adviser: Prof. C. A. Chambers.
1966. BARSNESS, JOHN ALTON. B.A. '50, William Jewell College; M.A. '51, Montana State University.
Major: American Studies.
Thesis: The Breaking of the Myth: A Study of Cultural Implications in the Development of the Western Novel in the Twentieth Century.
Major Adviser: Prof. D. W. Noble.
1966. ERISMAN, FRED RAYMOND. B.A. '58, Rice University; M.A. '60, Duke University.
Major: American Studies.
Thesis: There Was a Child Who Went Forth: A Study of St. Nicholas Magazine and Selected Children's Authors, 1890-1915.
Major Adviser: Prof. M. Q. Sibley.
1966. LEWIS, EARL EDWARD. B.S. with honors '52, Wisconsin State College (LaCrosse); M.A. '54, State University of Iowa.
Major: American Studies.
Thesis: The Theology and Politics of Jonathan Mayhew.
Major Adviser: Prof. P. L. Murphy.

BIOCHEMISTRY

1961. LEWBART, MARVIN LOUIS. B.Sc. '51, M.Sc. '53, Philadelphia College of Pharmacy and Science; M.D. '57, Jefferson Medical College.
Major: Biochemistry. Minor: Organic Chemistry.
Thesis: Formation and Reactions of Steroidal Glyoxals: I. Reactions of α -Ketolic Steroids with Methanolic Cupric Acetate; II. The Mechanism of the Porter-Silver Reaction.
Major Adviser: Dr. V. R. Mattox.
1964. NIEHAUS, WALTER GERHARD, JR. B.S. '62, University of Minnesota.
Major: Biochemistry. Minor: Organic Chemistry.
Thesis: Characterization of Nuclei from Regenerating Rat Liver on the Basis of Incorporation of Radioisotope In Vivo.
Major Adviser: Dr. C. P. Barnum, Jr.
1965. BOND, ANDREW BUCK. B.S. '48, M.S. '54, Tennessee State University.
Major: Biochemistry. Minor: Microbiology.
Thesis: The Sugars and the Alpha-1,4-Glucosidases of Germinating Corn.
Major Adviser: Prof. R. L. Glass.
1965. CHOI, YONG SUNG. M.D. '61, Seoul National University (Korea); M.S. '64, University of Minnesota.
Major: Biochemistry. Minor: Microbiology.
Thesis: Magnesium Binding Studies of Ribosomes.
Major Adviser: Dr. C. W. Carr.

1965. COST, HELEN MARIE BAKOS. B.A. '57, Lake Erie College.
Major: Biochemistry. Minor: Zoology.
Thesis: Studies on the Incorporation of Radioactive Phosphate into Ribonucleic Acid and Other Cell Components during the Formation of Bacteriochlorophyll in Rhodospirillum rubrum.
Major Adviser: Prof. A. W. Frenkel.
1965. LEE, SU RAE. B.S. '55, Seoul National University (Korea);
M.S. '58, University of Minnesota.
Major: Biochemistry. Minor: Organic Chemistry.
Thesis: Purification and Properties of Enzymes Which Attack Guar Gum.
Major Adviser: Prof. Samuel Kirkwood.
1965. MOBBERLEY, MARY LOUISE. B.A. summa cum laude '56, Macalester College.
Major: Biochemistry. Minor: Organic Chemistry.
Thesis: Evidence for the Existence of Multiple Pools of Late Cholesterol Intermediates in the Rat.
Major Adviser: Dr. Ivan Frantz.
1965. PIERRE, KENNETH JONAS. B.Sc. '60, M.S. '62, University of British Columbia.
Major: Biochemistry. Minor: Organic Chemistry.
Thesis: Constitution of the Hemicellulose of Fescue Grass (Festuca arundinacea Shreb).
Major Adviser: Prof. Samuel Kirkwood.
1965. SCALLEN, TERENCE JOSEPH. B.S. cum laude '57, College of St. Thomas; M.D. '61, University of Minnesota.
Major: Biochemistry. Minor: Organic Chemistry.
Thesis: Chemical Synthesis of Cholesta-5,7,24-Trien-33-OL and Demonstration of Its Conversion to Cholesterol in the Rat.
Major Adviser: Dr. Ivan Frantz.
1965. SIMON, GERALD RALPH. B.S. '55, M.S. '63, University of Minnesota.
Major: Biochemistry. Minor: Organic Chemistry.
Thesis: Conversion of Aspartic Acid to Glutamic Acid in Guinea Pig Cerebral Cortex Slices 'In Vitro'.
Major Adviser: Dr. C. P. Barnum, Jr.
1966. GOUGH, PATRICIA MARIE. B.S. '58, University of Wisconsin; M.S. '61, University of Minnesota.
Major: Biochemistry. Minor: Microbiology.
Thesis: Further Studies of a Mercaptoethanol-Sensitive Brucella Agglutinin in Bovine Milk.
Major Adviser: Prof. Robert Jenness.
1966. HORISBERGER, MARC. Diploma '62, University of Neuchatel (Switzerland).
Major: Biochemistry. Minor: Organic Chemistry.
Thesis: I. Synthesis of Glycosyl-Glyceritols. II. Study of Pseudonigeran.
Major Adviser: Prof. Samuel Kirkwood.

1966. JOHNSON, ARTHUR RINALDO. D.D.S. '56, University of Minnesota.
Major: Biochemistry. Minor: Dentistry.
Thesis: The Relationship of Calcium and Strontium in the Mineralized Tissues of the Rat: Replacement and Exchange of These Elements In Vivo and In Vitro.
Major Adviser: Dr. W. D. Armstrong.
1966. JOHNSON, JOE, JR. B.S. '58, Tennessee State University; M.S. '63, University of Minnesota.
Major: Biochemistry. Minor: Organic Chemistry.
Thesis: The Purification and Specificity of an Endo-B-D-(1-3)-Glucanase from Rhizopus arrhizus.
Major Adviser: Prof. Samuel Kirkwood.
1966. JORGENSEN, SALLY ELIZABETH. B.A. '59, Wellesley College.
Major: Biochemistry. Minor: Microbiology.
Thesis: Separation and Characterization of a New Deoxyribonuclease of Escherichia coli.
Major Adviser: Dr. J. F. Koerner.
1966. TARJAN, ENDRE MIHALY. Diploma '56, Eötvös Loránd University (Hungary).
Major: Biochemistry. Minor: Zoology.
Thesis: Regulation of Oxygen Utilization in Isolated Mitochondria.
Major Adviser: Prof. R. W. Von Korff.

BIOPHYSICS

1956. LOKEN, MERLE KENNETH. B.S. '48, M.S. '49, Massachusetts Institute of Technology.
Major: Biophysics.
Thesis: The Effects of Roentgen Rays on Several Biological Systems with Special Reference to Their Modification by Hematoporphyrin.
Major Adviser: Prof. K. W. Stenstrom.
1962. CHAPMAN, KENT MAURICE. B.A. cum laude '49, M.S. '53, University of Minnesota.
Major: Biophysics.
Thesis: Transfer Characteristics of Stretch Receptors in the Left Atrium of the Dog Heart.
Major Adviser: Prof. O. H. Schmitt.
1963. RAUTAHARJU, PENTTI MATTI. M.D. '59, University of Helsinki (Finland).
Major: Biophysics.
Thesis: Quantitative Spatial Vector Analysis of Electrocardiographic Data by Electronic Computer Means.
Major Adviser: Prof. O. H. Schmitt.

GENETICS

1962. KASHA, KENNETH JOHN. B.Sc. '57, M.Sc. '58, University of Alberta.
Major: Genetics. Minor: Agricultural Biochemistry.
Thesis: Intercrosses among Stocks of Chromosomal Interchanges Involving the Same Two Chromosomes in Barley.
Major Adviser: Prof. C. R. Burnham.

1962. ROBINSON, LAREN R. B.S. '57, M.S. '58, Brigham Young University.
Major: Genetics. Minor: Plant Pathology.
Thesis: Combining Ability for Seedling Vigor and the Isolation of
Seedling Pathogens in Bromus inermis.
Major Advisers: Profs. R. R. Willcoxson and H. L. Thomas.
1963. BRIGGS, ROBERT WILBUR. B.S. '56, M.S. '58, University of
Illinois.
Major: Genetics. Minor: Botany.
Thesis: Effects of Recurrent Selection on a Synthetic Population of
Corn (Zea mays).
Major Adviser: Prof. E. H. Rinke.
1963. CHAUDHRI, MUHAMMAD YOUSAF. B.Sc. (Agric.) '49, M.Sc. (Agric.)
'58, University of Punjab (India).
Major: Genetics. Minor: Plant Pathology.
Thesis: Genetic Variance for Yield and Its Components in a Synthetic
Population of Corn (Zea mays).
Major Advisers: Profs. W. M. Myers and J. C. Sentz.
1963. LEISLE, DAVID. B.S.A. with distinction '56, M.S. '58, University
of Saskatchewan.
Major: Genetics. Minor: Plant Pathology.
Thesis: The Inheritance of Seedling Stem Rust Reaction to Races 56
and 15B in a Frontana X Kenya 58-Newthatch Derivative and Its
Parents.
Major Adviser: Prof. E. R. Ausemus.
1963. MCKENZIE, HUGH. B.S. (Agric.) with distinction '49, M.S. '50,
University of Saskatchewan.
Major: Genetics. Minor: Plant Pathology.
Thesis: Inheritance of Characters, Especially Mode of Reaction to
Sawfly and Bunt, in Spring Wheat Crosses.
Major Adviser: Prof. E. R. Ausemus.
1963. REID, DAVID ALEXANDER. B.S. in Agric. '36, Kansas State Univer-
sity; M.S. '38, University of Minnesota.
Major: Genetics. Minor: Plant Pathology.
Thesis: Inheritance of Growth Habit and Its Relationship to Winter
Hardiness and Other Characters in Spring X Winter Barley Crosses.
Major Adviser: Prof. J. W. Lambert.
1963. VIOLIC, ALEJANDRO. B.S. '50, Catholic University of Chile.
Major: Genetics. Minor: Plant Pathology.
Thesis: Inheritance and Linkage Relations of Genes for Serpentine
Character in Zea mays as Determined by Chromosomal Translocations.
Major Adviser: Prof. E. H. Rinke.
1964. JOHNSON, FREEMAN KEITH. B.A. '56, Brigham Young University;
M.S. '61, University of Minnesota.
Major: Genetics. Minor: Botany.
Thesis: The Use of Chromosomal Interchanges to Locate Genes for Certain
Quality and Agronomic Characters in Barley (Hordeum vulgare L.).
Major Adviser: Prof. C. R. Burnham.

1964. KAO, FA-TEN. B.S. '55, National Taiwan University.
Major: Genetics. Minor: Botany.
Thesis: Effects of Recurrent Irradiation in Diploid, Tetraploid,
and Hexaploid Triticum Species.
Major Adviser: Prof. R. S. Caldecott.
1964. KASIM, MAHMOOD HAJ. B.Sc. in Agric. '56, Agricultural College
of Iraq; M.S. '60, University of Minnesota.
Major: Genetics. Minor: Plant Pathology.
Thesis: The Analyses of Yield and Its Components and Seed Quality
Characteristics in Diallel Crosses among Ten Varieties of Flax.
Major Adviser: Prof. W. M. Myers.
1964. KOBLE, ADAM FRANCIS. B.S. '57, M.S. '59, North Dakota State
University.
Major: Genetics. Minor: Botany.
Thesis: Comparative S₁ Line and Top-Cross Performance of Corn (Zea
mays).
Major Adviser: Prof. E. H. Rinke.
1964. LAIBLE, CHARLES ARTHUR. B.S. '58, M.S. '59, University of
Illinois.
Major: Genetics. Minor: Soil Science.
Thesis: Inheritance of Ear Number in Four Zea mays Genotypes.
Major Adviser: Prof. E. H. Rinke.
1964. LIM, JOHNG KI. B.S. '58, M.S. '60, University of Minnesota.
Major: Genetics. Minor: Botany.
Thesis: Association Tests between Chromosomal Translocations of
Maize and the Multiple-Ear Character.
Major Adviser: Prof. E. H. Rinke.
1964. MOYER, SAMUEL EDWARD. B.S. '56, Pennsylvania State University;
M.S. '59, University of New Hampshire.
Major: Genetics. Minor: Zoology.
Thesis: Selection for Modification of Recombination Frequency of
Linked Genes.
Major Adviser: Prof. R. E. Comstock.
1964. STAFFORD, ROY ELMER. B.S. in Agric. with honors '53, Kansas State
College.
Major: Genetics. Minor: Agricultural Plant Physiology.
Thesis: Inheritance and Association of Several Characters in Flax
Populations Treated with MCPA.
Major Adviser: Prof. W. M. Myers.
1964. TROYER, ALVAH FORREST. B.S. '54, Purdue University; M.S. '56,
University of Illinois.
Major: Genetics. Minor: Botany.
Thesis: The Inheritance of Long First Internode in Corn.
Major Adviser: Prof. W. M. Myers.
1965. ALI, SYED MAHBOOB. B.Sc. (Agric.) '49, Osmania University (India);
M.S. '64, University of Minnesota.
Major: Genetics. Minor: Plant Pathology.
Thesis: Recurrent Selection for General Combining Ability Based on
Inbred Lines Performance Per-Se in Corn (Zea mays).
Major Adviser: Prof. E. H. Rinke.

1965. BHARDWAJ, BHUP DEV. B.Sc. in Agric. (honors) '53, University of Delhi; M.S. '60, Indian Agricultural Research Institute.
Major: Genetics. Minor: Horticulture.
Thesis: A Study of Combining Ability in Alfalfa for Resistance to Bacterial Wilt (Corynebacterium insidiosum 'McCull', H. L. Jens).
Major Advisers: Profs. W. M. Myers and L. J. Elling.
1965. COOPER, HAROLD EUGENE. B.S. '59, M.S.E. '61, Arkansas State Teachers College.
Major: Genetics. Minor: Anthropology.
Thesis: Hereditary Factors in the Stein-Leventhal Syndrome.
Major Adviser: Prof. S. C. Reed.
1965. JACKSON, BEN RAY. B.S. '49, M.S. '54, Oklahoma State University.
Major: Genetics. Minor: Botany.
Thesis: Quantitative Inheritance in Crosses among Four Tetraploid Wheats.
Major Adviser: Prof. L. A. Snyder.
1965. KENASCHUK, EDWARD OREST. B.S. in Agric. '55, M.S. '57, University of Saskatchewan.
Major: Genetics. Minor: Plant Pathology.
Thesis: Study of Yield and the Components of Yield in the F₂ and F₃ Generations of Crosses Involving Four Soybean Lines.
Major Advisers: Profs. J. W. Lambert and L. A. Snyder.
1965. KREHBIEL, EDWARD LEE. B.S. '58, California Institute of Technology; M.A. '62, Long Beach State College.
Major: Genetics. Minor: Biostatistics.
Thesis: An Estimation of the Cumulative Mutation Rates for Sex-Linked Recessive Lethals in Man Which Produce Fetal Deaths.
Major Adviser: Prof. S. C. Reed.
1965. MUKHERJEE, DEBABRATA. B.Sc. (Agric.) '49, University of Dacca; Diploma '56, Indian Agricultural Research Institute.
Major: Genetics. Minor: Plant Pathology.
Thesis: The Inheritance of Resistance to Bacterial Blight Soybeans.
Major Adviser: Prof. L. A. Snyder.
1965. SINGH, MADHO. B.Sc. (Agric.) '54, University of Rajputana; M.Sc. (Agric.) '56, Agra University (India).
Major: Genetics. Minor: Animal Husbandry.
Thesis: Correlated Response in Weaning Weight to Selection for Post Weaning Growth in Mice.
Major Adviser: Prof. R. E. Comstock.
1966. STROHM, JERRY LEE. B.S.Ag. '59, University of Illinois.
Major: Genetics. Minor: Botany.
Thesis: The Inheritance of Height, Maturity, Seed Weight, and Yield and Their Associations in Four Soybean Crosses.
Major Adviser: Prof. J. W. Lambert.
- 1966 YUNGBLUTH, THOMAS ALAN. B.S. with high honors '56, University of Illinois.
Major: Genetics. Minor: Botany.
Thesis: A Study of the Possible Role of Recombination within the Self-Incompatibility Locus Resulting in Pseudo-Self-Compatibility in Trifolium repens L.
Major Adviser: Prof. H. L. Thomas.

1959. KUANG, HUAN PAO. B.A. '41, National Central University (China);
M.A. '50, University of Minnesota.
Major: Statistics. Minor: Educational Psychology.
Thesis: The Theory of the Metric Function and Its Application.
Major Adviser: Prof. P. O. Johnson.
1959. RAO, MALEMPATI MADHUSUDANA. B.A. '49, Andhra University; M.A. '52,
M.Sc. '55, University of Madras.
Major: Statistics. Minor: Mathematics.
Thesis: Properties of Maximum Likelihood Estimators in Non-Stable
Stochastic Difference Equations.
Major Advisers: Profs. Leonid Hurwicz and I. R. Savage.
1961. GOVINDARAJULU, ZAKKULA. B.A. (honors) '52, M.A. '53, University
of Madras.
Major: Statistics. Minor: Mathematics.
Thesis: Central Limit Theorems and Asymptotic Efficiency for One-
Sample Non-Parametric Procedures.
Major Adviser: Prof. I. R. Savage.
1961. MEYER, DONALD LEE. B.S. '54, M.A. '58, University of Minnesota.
Major: Statistics. Minor: Educational Psychology.
Thesis: Response Surface Designs with Integer-Valued Factors.
Major Adviser: Prof. Leonid Hurwicz.
1963. ALAM, JHURSHEED. B.S. '41, M.S. '43, Patna University (India).
Major: Statistics. Minor: Mathematics.
Thesis: A Two-Stage Sampling Procedure for Estimating a Common Mean.
Major Adviser: Prof. Milton Sobel.
1963. ANTELMAN, GORDON RANDOLPH. B.S. in Econ. with high distinction '52,
M.A. '58, University of Minnesota.
Major: Statistics. Minor: Mathematics.
Thesis: Bayes Decision Theory: Insensitivity to Non-Optimal Design.
Major Adviser: Prof. I. R. Savage.
1963. KRISHNAIAH, PARUCHURI RAMA. B.Sc. (honors) '54, University of
Madras; M.A. '57, University of Minnesota.
Major: Statistics. Minor: Mathematics.
Thesis: Simultaneous Tests and the Efficiency of Generalized Balanced
Incomplete Block Designs.
Major Adviser: Prof. Leonid Hurwicz.
1963. RIZVI, MOHAMMAD HASEEB. B.S. '54, M.S. '57, University of
Lucknow (India).
Major: Statistics. Minor: Mathematics.
Thesis: Ranking and Selection Problems of Normal Populations Using
the Absolute Values of Their Means: Fixed Sample Size Case.
Major Adviser: Prof. Milton Sobel.
1963. YEN, ELIZABETH YU-YIN HSI. B.A. '52, National Taiwan University;
M.A. '56, University of Minnesota.
Major: Statistics. Minor: Mathematics.
Thesis: On Two-Stage Non-Parametric Estimation.
Major Adviser: Prof. I. R. Savage.

1964. HORA, RAJINDER BIR. B.A. '47, M.A. '50, Punjab University (India).
Major: Statistics. Minor: Mathematics.
Thesis: Fiducial Probability Theory for Distributions with a Group Structure.
Major Adviser: Prof. R. J. Buehler.
1964. MACEACHERN, DONALD GREGORY. B.A. with great distinction '48, B.Ed. with distinction '51, University of Saskatchewan; M.A. '59, University of Minnesota.
Major: Statistics. Minor: Educational Psychology.
Thesis: Confidence Intervals from the Bayesian Viewpoint.
Major Adviser: Prof. R. J. Buehler.
1964. THORNBY, JOHN INGRAM. B.A. '49, M.A. '51, University of Minnesota.
Major: Statistics. Minor: Economics.
Thesis: A Study of Two Ranking Criteria for Selecting a Subset Containing the Best of k Bivariate Normal Populations.
Major Adviser: Prof. Milton Sobel.
1965. MILTON, ROY CHARLES. B.A. magna cum laude '55, M.A. '63, University of Minnesota.
Major: Statistics. Minor: Mathematics.
Thesis: Exact Properties of Rank Order Procedures under Normal Shift Alternatives.
Major Adviser: Prof. Milton Sobel.
1965. SAXENA, KRISHNA MURARI LAL. B.Sc. '51, M.Sc. '53, University of Lucknow (India).
Major: Statistics. Minor: Mathematics.
Thesis: Some Nonparametric Bayesian Estimation Problems.
Major Adviser: Prof. Milton Sobel.
1966. KUMAR, SATINDAR. B.A. '52, M.A. '56, Punjab University (India).
Major: Statistics. Minor: Mathematics.
Thesis: A Generalization of the Group Testing Problem.
Major Adviser: Prof. Milton Sobel.
1966. MAHAMUNULU, DESU MANAVALA. B.A. '50, Andhra University; M.A. '53, University of Madras (India).
Major: Statistics. Minor: Mathematics.
Thesis: On a Generalized Goal in Fixed-Sample Ranking and Selection Problems.
Major Adviser: Prof. Milton Sobel
1966. WOODWORTH, GEORGE GORDON. B.A. '62, Carleton College.
Major: Statistics. Minor: Mathematics.
Thesis: On the Asymptotic Theory of Tests of Independence Based on Bivariate Layer Ranks.
Major Adviser: Prof. Milton Sobel.

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