

MASTERS' DEGREES AWARDED, 1951

June

- APGAR, JAMES WILLIAM, B.S., Lafayette College.
Master of Science, Mechanics. Thesis: An Examination of the Acceleration Method for Determining Performance of Track Laying Vehicles.
- BAILOR, RICHARD PAUL, B.A., Temple University.
Master of Arts, History. Thesis: Crime and Punishment in the Delaware River Area, 1740-1790, as Reported in the Philadelphia Newspapers.
- BALL, DONALD LEWIS, B.A., University of Richmond.
Master of Arts, English. Thesis: Eastern Shore of Maryland Literature.
- BENNETT, EDWARD JAMES, B.S., Washington College.
Master of Science, Chemistry. Thesis: Solubility Studies of Some Rare Earth Oxides in Strontium Oxide.
- BIANCHI, CELIA HAYDÉE, Instituto Nacional del Profesorado Secundario (Argentina).
Master of Arts, English.
- BIEBER, EUGENE RALEIGH, B.S., Lebanon Valley College.
Master of Science, Chemistry. Thesis: Preparation of β -Cyano- α -Hydroxycinnamate.
- BLANCHARD, FRANCIS JANSSENS, B.S., Louisiana State University.
Master of Chemical Engineering. Thesis: The Rate of Approach to Equilibrium in Plate-type Fractionating Columns.
- BOYLES, BEATRICE CHRISTIANSEN, B.S., Glassboro State Teachers College.
Master of Science, Education. Thesis: The Story of South America.
- BRESLIN, FRANCIS WILLIAM, B.S., Pennsylvania Military College.
Master of Science, Chemistry. Thesis: Urethanes of Neo-Alcohols.
- BROWN, WILLIAM JOSEPH, B.S., Newark College of Engineering.
Master of Civil Engineering. Thesis: Lateral Buckling Tests of a Built-up I-beam of Aluminum Alloy.
- CHAN, CHUN-KOW, B.S., Chiao University.
Master of Mechanical Engineering. Thesis: An Investigation

of Air Velocity and Surface Roughness on Film Conductance.

CHINN, RALPH McCALLEY, B.S., College of William and Mary.

Master of Science, Psychology. Thesis: Resistance to Extinction as a Joint Function of the Number and Proportion of Reinforcement.

CHUCHANI, GABRIEL DAVARA, B.S., University of Delaware.

Master of Science, Chemistry. Thesis: The Preparation of Trimethylaminomethyl-Silane and Derivatives.

CLEMENTS, FLORENCE CRANSTON, B.S., University of Delaware.

Master of Science, Home Economics. Thesis: A Comparison of the Efficiency of Three Kitchen Arrangements in the School of Home Economics at the University of Delaware.

CORZILIUS, MAX WILLIAM, B.S., Grove City College.

Master of Chemical Engineering. Thesis: The Construction of a Constant Resistance Hot-Wire Anemometer and Its Application to the Measurement of Scale of Turbulence.

CUSTMAN, IRA LOUIS, B.S., Albright College.

Master of Science, Biology. Thesis: Effects of Methyl-bis-(beta-chloroethyl)-Amine Hydrochloride on Hatchability of Haploid and Diploid Eggs and on Development in *Habrobracon juglandis* (Ashmead).

DECOURCY, SAMUEL JOSEPH, JR., B.S., Rhode Island State College.

Master of Science, Biology. Thesis: Some Effects of Ultra-Violet and X-Radiation on *Brucella Abortus*, Strain Orf.

DIAMANT, ELLIS SHEPPARD, B.S., Lebanon Valley College.

Master of Science, Chemistry. Thesis: Preparation of the Dioleate of 3-Butene-1, 2-Diol.

EITZEL, ROBERT JACOB, B.S., Albright College.

Master of Science, Chemistry. Thesis: Depolymerization of Urea-Formaldehyde Resin.

ENSLÉN, GERALD EVERET, B.S., Grove City College.

Master of Chemical Engineering. Thesis: Power Requirements for Stirring Granular Solids.

FABIAN, JOSEPH PETER, B.S., Pennsylvania Military College.

Master of Science, Chemistry. Thesis: The Synthesis of a Serine Dipeptide.

FORD, GEORGE LEWIS, B.S.Ch.E., Drexel Institute of Technology.

Master of Science, Chemistry. Thesis: A Study of α , α' Iminodipropionic Acid and the Peptide, β -Alanyl- α , α' -Iminodipropionic Acid.

FOSTER, RICHARD ROHAN, B.S., The Citadel.

Master of Science, Chemistry. Thesis: A Study of Some Complexes of Titanium.

FRANKENFIELD, CARL CALVIN, B.S., Franklin and Marshall College.

Master of Science, Physics. Thesis: The Design and Construction of an Electrostatic Generator of the Van de Graaf Type.

GEITZ, WILLIAM DANIEL, JR., B.S., Washington College.

Master of Science, Chemistry. Thesis: Acid-Base Indicators in Ethylenediamine.

GELB, LEONARD LOUIS, B.A., University of Pennsylvania.

Master of Science, Chemistry. Thesis: The Condensation of Phthalonitrile with Phenyl Grignard and Phenyllithium.

GUTMAN, ARNOLD AVRAM, B.A., Johns Hopkins University.

Master of Arts, Biology. Thesis: Action of Nitrogen Mustard in Combination with X-rays on Root Growth and Development in *Zea Mays*.

HARMIC, JAY LEON, B.S., Grove City College.

Master of Science, Biology. Thesis: Determination of the Region of Least Variation in Scale Dimensions of *Lepomis Macrochirus Rafinesque*, The Common Bluegill.

HENDERSON, HELEN ARLENE, B.S., Bates College.

Master of Science, Education. Thesis: Simple, Multiple, and Partial Correlation of Intelligence and Mathematics Test Scores.

HOOD, JOHN JOSEPH, B.S., Rhode Island State College.

Master of Science, Plant Pathology. Thesis: Post-Harvest Chemical Treatments for Control of the Brown Rot Disease of Peach.

JACOBS, HARRY LEWIS, B.A., University of Delaware.

Master of Arts, Psychology. Thesis: The Effects of "Social" and "Non-Social" Distracting Stimuli on Stable Patterns of Behavior.

JOHNSON, OTIS HACKETT, JR., B.S., North Carolina State College.

Master of Science, Horticulture. Thesis: The Influence of Soil Moisture on Fruit and Tree Growth of Peaches under different Systems of Soil Management.

KISH, LOUIS ALEXANDER, B.M.E., University of Delaware.

Master of Mechanical Engineering. Thesis: The Earth as a Heat Source for the Heat Pump.

- KOHLLOSS, FREDERICK HENRY, B.S., University of Maryland; L.L.B., George Washington Law School.
Master of Mechanical Engineering. Thesis: Design and Performance of Evaporative Refrigerant Condensers.
- LANDSKROENER, PETER ARMSTRONG, B.S., University of Delaware.
Master of Science, Chemistry. Thesis: A Study of the Kinetics and Reaction Rates of Trimethylsilylosilane with Oxygen.
- LENHART, ARTHUR TENNYSON, JR., B.S., University of Delaware.
Master of Science, Agricultural Economics. Thesis: Month of Calving in Relation to Production, Lactation Curves, Returns, and Patterns of Production.
- LILLER, PAUL RICHARD, B.S., Franklin and Marshall College.
Master of Science, Physics. Thesis: Analysis of Spurious Counts in Geiger-Mueller Counters.
- LYMAN, DONALD JOSEPH, B.S., University of Nevada.
Master of Science, Chemistry. Thesis: Animo Acid Derivatives of Barbituric Acid.
- LYON, FRED HERBERT, B.M.E., Clarkson College of Technology.
Master of Mechanical Engineering. Thesis: An Adaptation of the SR-4 Strain Gage as a Dynamometer in Engine Testing.
- MASON, CHARLES WESLEY, A.B., Wheaton College.
Master of Arts, Philosophy. Thesis: The Limits of Skepticism in David Hume.
- McFARLANE, RUTH ELIZABETH, B.S., New Jersey College for Women.
Master of Science, Chemistry. Thesis: A Study of the Thermal Degradation of Polyvinyl Chloride by Infrared Spectral Analysis.
- MICHEL, CARL JOSEPH, JR., B.S. in M.E., Newark College of Engineering.
Master of Mechanical Engineering. Thesis: A Photoelectric Method for Measuring the Velocity of a Gas.
- PETERSON, CHARLES HENRY, B.Ch.E., Cooper Union School of Engineering.
Master of Chemical Engineering. Thesis: Stability and Burning Velocity of Open Butane-Air Flames at Reduced Pressures.

PIERSON, MARTIN TAYLOR, B.S. in C.E., Worcester Polytechnic Institute.

Master of Civil Engineering. Thesis: Reinforced Concrete Column Design.

PIKOOS, ABRAHAM, B.E., Johns Hopkins University.

Master of Civil Engineering. Thesis: Prismatical Haunches in Rigid Frame Analysis.

ROMANO, FRANK PAUL, B.S., Rutgers University.

Master of Science, Chemistry. Thesis: Action of Zinc-Acetyl Chloride on Benzophenone.

ROSS, ROBERT WEBSTER, B.S., Pennsylvania State College.

Master of Chemical Engineering. Thesis: An Investigation of Gas Mixing by Shadowgraph and Sampling Techniques.

RYAN, EDWARD PARSONS, B.S., Ouachita College.

Master of Science, Biology. Thesis: Observations on the Life Histories and Distributions of the Xanthidae of Chesapeake Bay.

RYAN, MARIE THERESE, B.S., St. Francis College.

Master of Science, Biology. Thesis: The Formation of the Embryo of the Horned Passalus Beetle, *Popilius disjunctus* Illiger.

SCOTTON, EDWIN ALTON, JR., B.M.E., University of Delaware.

Master of Mechanical Engineering. Thesis: Development of a Corrosion Test for Bearing Alloys.

STAHL, JOHN EDWARD, A.B., Bucknell University.

Master of Arts, Psychology. Thesis: The Effects of Linear Experience on Later Linear Discrimination in the White Rat.

STEIN, LELAND RUSSELL, B.A., University of California (Berkeley).

Master of Science, Physics. Thesis: The Design and Construction of an All Metal, 90 Sector Mass Spectrometer.

STROHMAN, BERT GATES, B.S., Lebanon Valley College.

Master of Science, Chemistry. Thesis: Studies on the Electro-Optical Kerr Effect.

STURGIS, MARYLEE CAROLYN, B.S., Ursinus College.

Master of Science, Chemistry. Thesis: The Condensation of α -Alkyl- α -Carbomethoxy- γ -Butyrolactones with Diphenylguanidine.

SYMONDS, ALBERT EDWARD, JR., B.S., University of Delaware.

Master of Science, Chemistry. Thesis: Chloronitrosoethane.

- TAYLOR, CHARLES DAVIDSON, B.C.E., Syracuse University.
Master of Civil Engineering. Thesis: The Viscosity of Suspensions of Glass Spheres.
- TRIMBLE, GEORGE ROBERT, JR., B.A., St. John's College.
Master of Arts, Mathematics. Thesis: A Recursion Relation for Computing Least-Square Polynomials over Moving-Arcs.
- VAPAA, GEORGE KALERVO, B.S., University of Delaware.
Master of Science, Education. Thesis: Fund-Raising Activities in a Program of Vocational Agriculture in the High Schools.
- WEAVER, ROBERT GLENN, B.A., Duke University.
Master of Arts, Education. Thesis: A History of Teacher Education in Delaware, 1829-1915.
- WHITMORE, FRANK CHARLES, A.B., Gettysburg College.
Master of Science, Physics. Thesis: The Ten Channel Time Sequential Analyzer: An Instrument for the Investigation of Spurious Counts in the Geiger-Mueller Counter.
- WHITTAKER, VELMA JEAN, A.B., Wheaton College; A.T.C.M., University of Toronto.
Master of Arts, Education. Thesis: An Analysis of the Six Most Used Music Appreciation Textbooks for College Students on the Basis of the Needs of the University of Delaware.
- WILLETTE, ELIZABETH JANE, B.S., Moravian College for Women.
Master of Science, Chemistry. Thesis: Organic Inhibitors of Urease.
- WILSHER, RUDOLPH STANLEY, B.S., University of Pennsylvania.
Master of Science, Chemistry. Thesis: The Oxidation of Some Cyclohexanones with Selenium Dioxide.
- WINTERHALTER, JAMES HAROLD, B.S., Albright College.
Master of Science, Chemistry. Thesis: Solvent Extraction Applied to the Copper Group Ions.
- WISE, LEON MILTON, B.A., Franklin and Marshall College.
Master of Arts, Psychology. Thesis: The Effect of Cumulative Electroshock Convulsions on the Learning of Mazes of Different Degrees of Difficulty.
- WRIGHT, BERNARD STANLYE, B.Ch.E., New York University.
Master of Chemical Engineering. Thesis: A Determination

of Normal Burning Velocities and Flame Temperatures of Laminar Flames by the Powder Method.

September

ADAMS, BENJAMIN FRANKLIN, JR., B.S., Virginia Polytechnic Institute.

Master of Chemical Engineering. Thesis: Fundamental Factors Affecting the Rate of Gravity Flow of Catalyst Pellets.

ANGLIN, ALBERT RICHARD, B.A., University of Delaware.

Master of Arts, Biology. Thesis: An Investigation on Fibrinolytic Activity of *Streptococcus pyogenes* in Relation to Bovine Plasma Fibrin.

BACON, EDWIN FREAS, B.A., Bucknell University.

Master of Education.

BANT, WILLIAM PEARSON, B.A., University of Delaware.

Master of Arts, Education. Thesis: To Determine the Expressed and Measured Vocational Interests of Some Negro Students in New Castle County.

BARTELS, GEORGE WILLIAM, JR., B.S., Lebanon Valley College.

Master of Science, Chemistry. Thesis: Rate of Reaction of Partially Hydrolyzed Polyvinyl Acetate with Hexamethylene Diisocyanate in the Film State.

BARTHOLOMAEI, NATHANIEL TRUE, B.S., University of Maine.

Master of Mechanical Engineering. Thesis: Static Coefficient as Related to Surface Roughness and Surface "Lay" of the Material.

BENNETT, CRAWFORD STEWART, B.S., Salisbury State Teachers College.

Master of Education.

BONNEY, CATHARINE YERKES, B.S., Albright College.

Master of Science, Education. Thesis: A Survey of Methods for Making Mathematics Functional for Students of the Eighth Grade.

BRINKMAN, STIRLING McCULLOUGH, B.A., University of Delaware.

Master of Arts, Education. Thesis: A Comparative Analysis of the Duties and Responsibilities of Teaching Principals, Supervising Principals, and Superintendents in Delaware Schools.

CHEN, CHUNG CHENG, B.S., St. John's University.

Master of Science, Chemistry. Thesis: A Vat Dye Derived from 2-Aminophenanthraquinone.

COLE, WILLIAM LESLIE, B.S., University of Delaware.

Master of Science, Education. Thesis: A Comparative Analysis of the Scholastic Achievement of Athletes and Non-athletes in Ten Delaware High Schools.

COOK, HAROLD ALFRED, JR., A.B., King's College.

Master of Education.

DEAN, DORIS ELIZABETH, B.S., University of Delaware.

Master of Science, Home Economics. Thesis: The Factors Influencing the Election of Homemaking by Students in the Newark High School with Implications for Curriculum Development.

DRINKWATER, WILLIAM WAYNE, B.S., Mississippi State College.

Master of Mechanical Engineering. Thesis: The Design of an All-weather Room.

EMERSON, EDWARD DONALD, B.S., Harvard University.

Master of Mechanical Engineering. Thesis: Survey of Production Control and Related Operations of the Greenfield Tap and Die Corporation, Greenfield, Massachusetts.

FERRI, JOHN PETER, JR., B.S., St. Joseph's College.

Master of Science, Chemistry. Thesis: Chromatographic Analysis of Human Hair Keratin from Different Regions of the Body.

FORSS, VINCENT ALEXANDER, B.S., Lafayette College.

Master of Civil Engineering. Thesis: Model Studies of Rigid Trusses.

FRTZLEN, ANDREW FIELD, B.S.Ch.E., Case School of Applied Science.

Master of Chemical Engineering. Thesis: A Study of Liquid Entrainment in Annular, Co-current, Two-Phase Fluid Flow.

GOURSE, JEROME ALLEN, B.S., Virginia Polytechnic Institute.

Master of Science, Chemistry. Thesis: The Affect of Solvent on the Polymerization of N-Carboxy Amino Acids.

HAN, PAUL, Th.B., North China Theological College; B.D., Faith Theological Seminary.

Master of Arts, Philosophy. Thesis: Confucianism.

HARRIS, LEILA GERTRUDE, A.B., Houghton College.

Master of Arts, Education. Thesis: Suggested Content for a Citizens' and Students' Reference Manual for the State of Delaware.

HASSELRIIS, FLOYD, B.S. (M.E.), Columbia University.

Master of Mechanical Engineering. Thesis: Tests and Analysis of General Electric Educational Turbine.

HENDERSON, LORAN ANDREW, B.S., Iowa State College.

Master of Science, Chemistry. Thesis: Bromination of Ethyl p-ter-Butyl- β -Cyano- α -Hydroxycinnamate under Anhydrous Conditions.

HILL, CHARLES EDWARD, B.S.M.E., Duke University.

Master of Mechanical Engineering. Thesis: A New-Type Dryer.

HOFFMAN, ELLSWORTH LINCOLN, B.S., Albright College.

Master of Education.

HOWLAND, MARY ELIZABETH, B.S., New Jersey State Teachers College.

Master of Science, Education. Thesis: An Analysis of Some Major Techniques of Gathering Information for Use in an Elementary School Guidance Program.

HUBER, EMILE HULTON, B.S., Pennsylvania State College.

Master of Education.

KAPLAN, LLOYD ALLAN, B.S., College of the City of New York.

Master of Science, Chemistry. Thesis: Synthesis of a Lactal.

KENYON, VAN LESLIE, JR., B.S. in M.E., University of North Carolina.

Master of Mechanical Engineering. Thesis: A Study of the Manufacture, Use and Control of Certain Protective Atmospheres.

LEVY, EUGENE JACK, B.S., City College of New York.

Master of Science, Chemistry. Thesis: The Air Oxidation of Polyethylene at Elevated Temperatures.

LIGHTCAP, EARL JACOB, JR., B.S., State Teachers College, West Chester.

Master of Science, History. Thesis: A History of the Presbyterian Church, New London, Chester County, Pennsylvania, 1726-1951.

MANTZ, ALONZO LESTER, B.S., Lebanon Valley College.

Master of Science, Chemistry. Thesis: Kinetics of the Benzaldehyde-Acetophenone Condensation.

McCORMICK, JAMES PETER, A.B., Colgate University; B.E.E., Clarkson College of Technology.

Master of Civil Engineering. Thesis: A Study of Thyatron Inverter Circuits.

McGINNES, FRANKLIN EARL, JR., B.A., University of Delaware.

Master of Education.

McLEAN, EDGAR ALEXANDER, B.S., University of North Carolina.

Master of Science, Physics. Thesis: The Design, Construction and Operation of a Wilson Cloud Chamber.

MILSPAW, AUDREY KERNS, B.A., Dickinson College.

Master of Arts, Education. Thesis: An Analysis of the Usefulness of a Course Entitled, "Psychology For Living," with Plan of the Course.

MOFFETT, JAMES COLBURN, JR., B.A., University of Delaware.

Master of Education.

NAGLE, ELLIOTT VALENTINE, JR., B.S., Lebanon Valley College.

Master of Science, Chemistry. Thesis: The Synthesis of 3-Substituted-2,5-Oxazolidinediones.

OEHRLER, MARIE LOUISE, B.A., Wilson College.

Master of Arts, Education. Thesis: An Investigation of Devices Used for Making the Daily Schedule in Secondary Schools.

OGDEN, WARREN HARVEY, A.B., Swarthmore College.

Master of Arts, History. Thesis: Delaware County in Jackson's Time.

OSBURN, BURL NEIL, B.S., Ohio State University.

Master of Education.

PAPAMARCOS, JOHN, B.E.E., Cooper Union.

Master of Mechanical Engineering. Thesis: Psychological Factors in Machine and Tool Design.

PEARSON, WAYNE ETTINGER, B.S., Ursinus College.

Master of Science, Chemistry. Thesis: A Polarographic Kinetic Study of the Condensation of Acetophenone and Cinnamaldehyde.

PHILLIPS, HENRY STANDBRIDGE, B.S., State Teachers College, West Chester.

Master of Science, Education. Thesis: A United Nations Unit for the Junior High School.

PLOTNICK, SAMUEL I., B.S., City College of New York.

Master of Electrical Engineering. Thesis: Transient Phenomena of Low Pass Filter Using Laplace Integral Transformation.

POLLARI, WAYNE JOHN, B.A., University of Delaware.

Master of Arts, Political Science. Thesis: Organization of the Democratic Party in New Castle County.

RANINEN, ARNOLD BIRCHARD, B.S. in M.E., Michigan College of Mining and Technology.

Master of Mechanical Engineering. Thesis: Engineering Design Considerations Pertaining to Reflecting Telescopes Used in Tracking Missiles in Flight.

ROUSHEY, LEWIS JOHN, B.S., East Stroudsburg State Teachers College.

Master of Science, Education. Thesis: The Economic Status of Delaware Teachers.

ROWE, RICHARD ANTHONY, B.S., University of Delaware.

Master of Science, Chemistry. Thesis: Preparation and Properties of Some Branched Polysiloxanes.

SACKOFF, MARTIN M., B.S., Philadelphia College of Pharmacy and Science.

Master of Science, Chemistry. Thesis: Quantitative Chromatography of Amino Acids in Soybean Glycinin.

SAUNDERS, CORA BERRY, B.S., State Teachers College, West Chester.

Master of Science, Education. Thesis: A Limited Study of the Contribution of Negro Singers and Songs to American Culture.

SCHMIEDER, ALBERT KARL, B.S. in M.E., Northeastern University.

Master of Mechanical Engineering. Thesis: Theory for Increasing Stiffness of Thin Rotating Disks by Prestraining.

SCHREIBER, DAVID, B.S., University of Rochester.

Master of Chemical Engineering. Thesis: Film Thickness Measurements of Water Flowing down a Vertical Flat Plate.

SQUARES, ELIZABETH BURBAGE, B.S., Salisbury State Teachers College.

Master of Education.

STERN, SUMNER, B.Ch.E., College of the City of New York.

Master of Science, Physics. Thesis: An Oil-Drop Method for the Measurement of the Viscosities of Gases at Elevated Temperatures.

STUART, JOSEPH GRAY, B.S., Pennsylvania State College.

Master of Science, Chemistry. Thesis: The Distribution of Ferric Iron between Hydrochloric Acid Solutions by Methyl n-Hexyl Ketone.

SUSI, PETER VINCENT, B.A., University of Pennsylvania.

Master of Science, Chemistry. Thesis: The Reactions of Alkyl Halides with Sodium Cyanide.

WESTBROCK, ADRIAN JOSEPH, B.S.M.E., Indiana Technical College; M.A.E., Chrysler Institute of Engineering.

Master of Mechanical Engineering. Thesis: The Effect of Interrupting Fatigue Tests by Heating.

WHITESIDE, MILDRED SMITH, B.S., University of Delaware.

Master of Science, Home Economics. Thesis: The Development of a Unit in Family Living, with Emphasis on Home Tasks for Ninth Grade Students.

WILKINSON, HARVEY WESTON, B.S., United States Military Academy.

Master of Science, Education. Thesis: The Possible Contributions of the Secondary School to National Security.

WOLEN, ROBERT LAWRENCE, B.S., State Teachers College, West Chester.

Master of Science, Chemistry. Thesis: Paper Chromatographic Determination of Amino Acids in Hubbard Squash Seed Protein.

YOUNG, KATHRYN JEANNETTE, B.S., Hampton Institute.

Master of Education.

ZELL, HOWARD CHARLES, B.S., St. Joseph's College.

Master of Science, Chemistry. Thesis: Synthesis of 7-t-Butyl-2, 4-Quinazolinone.