

Departmental Honors

Year	First Name	Last Name	Title	Advisor
2025	Zachary	Barnhart	Comparative Analyses of Statistical Classification Methods	Patrick Stewart
2025	Jessica	Dieckman	K-q12 Factors Influencing Non-Stem Majors' Perceptions of Mathematics	Cynthia Taylor
2025	Kaleb	Schmerge	The History and Application of Survival Models	Richard Mikula
2023	Alexis	Cordova	The Complex Relationships Between Mathematician's Religious Beliefs and Their Mathematical Ideas: Historical Snapshots	Cynthia Taylor
2023	Collin	Hood	Divisibility Tests in Different Number Systems and Their Applications	Zhigang Han
2023	Paul	Lipinski	Linking Classical and Transformational Geometry	Zhigang Han
2023	Michael	McCloud	A Survey of the History of Integral Calculus from Archimedes to Riemann	Noel Heitmann
2022	Samantha	Berdel	Teaching Math with Creative Writing in Middle and Secondary Schools	Caleb Corkery & Janet White
2022	Brian	Fodale	Changes and Perceptions Experienced by Secondary-Level Mathematics Teachers during the COVID-19 Pandemic	Erin Moss
2022	Kelsey	Heckert	Factor Analysis: A Comparison of Two Statistical Packages	Kevin Robinson
2022	Hannah	Miller	Using Games as an Educational Resource to Teach Mathematics	Janet White
2022	Sara	Stinchcomb	Mathematical Models for White-Tailed Deer Populations Incorporating Annual Harvest	Baoling Ma
2021	Katherine	Pheysey	Comparison of Three Imputation Methods on a CDC COVID-19 Case Surveillance Database	James Fenwick
2020	Alyssa	Ames	Instructional strategies mathematics classroom teachers use to intrinsically motivate secondary school students	Cynthia Taylor
2020	Madison	Martin	Transfer Functions within Time Series Analysis	James Fenwick
2020	Annie	Tepe	A Historical Analysis of the St. Petersburg Paradox	Kevin Robinson
2019	Susan	Lloyd	Combining Cluster Analysis and Discriminant Analysis into an Integrated Approach to Analyze Data	James Fenwick
2019	Megan	McGee	Quantifying the Recovery of the Active Nesting Bald Eagle (<i>Haliaeetus leucocephalus</i>) Population in New Jersey	Baoling Ma
2019	Noelle	Shellenberger	Classical and Transformational Approaches to Triangle Center Theorems and Its Implication in Geometry Education	Zhigang Han
2019	Jamie	Wittick	A Comparison of Mathematics Textbooks from 1833 to 2015	Cynthia Taylor
2018	Brooke	Dobbs	Women Authors of Mathematics Textbooks	Dorothee Blum
2018	Joshua	Larson	Periodic Orbits on a Regular Hexagon	Zhigang Han
2017	Jessica L.	Butts	Comparison of Principal Components Analysis and Canonical Correlation Analysis	Kevin Robinson
2017	Krista	Mamet	Life Table Modeling and Its Uses in Actuarial Science	Kevin Robinson
2017	Quinn	Minnich	An A_∞ coalgebra Structure on the Cellular Chains of a Polygon	Ronald Umble

2017	Jack	Warner	Structured mathematical models to investigate the interactions between Plasmodium falciparum malaria parasites and host immune response	Baoling Ma
2016	Mervin	Fansler	Computational Application of the Transfer Algorithm to Borromean Rings	Ronald Umble
2016	Taylor	Lagler	The Effect of Covariance Matrices on Classification Procedures in Discriminant Analysis	James Fenwick
2015	Benjamin R.	Baer	Topics in Time Series Analysis with a Focus on Transfer	James Fenwick
2015	Nicholas	Heil	Ethnomathematics: Maya Vigesimal and Chronological Mathematical Systems	Ximena Catepillan & Cynthia Taylor
2015	Ann	Kovacs	A Comparison of Parametric vs. Nonparametric Estimation of Survival Curves	Delray Schultz
2015	Jing	Li	Square of a Connected Quasi Claw-free Graph	Mingquan Zhan
2015	Christopher	Schneider	Generating Box-Jenkins ARIMA Data in JAVA , with a Concentration on	James Fenwick
2014	Jacob J.	Hike	Modeling Optimal Takeoff	J. Robert Buchanan
2014	Chelsea Anne	Leber	Perspectives on Women in Mathematics: Past, Present and Future	Dorothee Blum
2014	Shaina	Smolowe	The Search for the Quadratic Formula	Dorothee Blum
2013	Timothy	Guy	Technology and the Evolution of Mathematics Education	Janet White
2012	Matthew J.	Keefe	Multidimensional Scaling: Mathematics Course Comparison and Zooplankton Abundance J. Fenwick	James Fenwick
2012	Anthony	Mastriania IV	Resolution Graphs and Splice Diagram for Certain Surface Singularities	Elizabeth Sell
2012	Patrick	Owens	Unification Problems on the Advanced Placement Calculus AB Exam	Dorothee Blum
2012	David	Paules	Fibonacci Numbers	Bruce Ikenaga
2011	Katelyn	Coleman	Math Teaching Strategies for Algebra	Janet White
2011	Stephanie	Coleman	The Dependency of Students and Teachers on Calculators in the Classroom	Janet White
2011	Michelle C.	De Stefano	Math Anxiety in College Algebra Students	Michael Wismer
2011	Andrew	Gehman	Discriminant Models in Graduation Prediction and Amblyopia Referral	James Fenwick
2011	James	Patounas	Solutions to the Beam Equation and Applications of Control Methods	J. Robert Buchanan
2011	Morgan	Schreffler	Fixed Point Theorems in Topology and Geometry	Ronald Umble
2010	Osman	Chaudhary	The 3-Body Problem and Saturn's Rings	J. Robert Buchanan
2010	Steven M.	McClure	A Stochastic Model of a Flour Beetle Ecosystem	J. Robert Buchanan
2010	April	Stump	Word Problems as a Reflection of Culture	Dorothee Blum
2009	Catherine	Albright	Time Series Analysis: Seasonally and Intervention Analysis using R	James Fenwick
2009	Katy	Lightner	Visual Displays of Statistics: Teaching Students about Spread Using Graphs and Technology	Kevin Robinson
2009	Jared L.	Martin	Effectiveness of Preliminary Tests of Variance for Two Sample T-Tests	Lewis Shoemaker

2008	Nicholas D.	Brubaker	Numerical Approximations of Center Manifolds	Zhoude Shao
2008	Sean M.	Evans	2-In / 3-Out A_∞ - Bialgebras	Ronald Umble
2008	Daniel E.	Kravatz, Jr.	Diagonal Approximations on an n -gon and the Cohomology Ring of Closed Compact Orientable Surfaces	Ronald Umble
2008	Sherry B.	Linn	Cardiac Arrhythmias and the FitzHugh-Nagumo Model	J. Robert Buchanan
2007	Nicole	Laros	Equitable Circular Labelings of Graphs	Dorothee Blum
2006	John A.	Gemmer	Generalizations of the Brachistochrone Problem	Michael Nolan
2006	Stephanie	Good	A Study of a Selection of Algebra I and Algebra II Textbooks Before and After the 1989 NCTM Standards	Dorothee Blum
2005	Andrew	Baxter	Periodic Orbits on a Triangular Air Hockey Table	Ronald Umble
2005	Michael	Cherrybon	Time Series Analysis: Utilizing the Box-Jenkins Procedure for Analyzing Economic Data	James Fenwick
2005	Sean M.	Laverty	A Habitat Suitability Model for Crayfish Species I Lancaster County, Pennsylvania, Streams	J. Robert Buchanan
2005	Joel M.	Martin	Log-Linear Models and an Analysis of the Pennsylvania Department of Education High School Mathematics Field Test	James Fenwick
2005	Stephen J.	Weaver	Computing the Saneblidze-Umble Diagonal on Permutahedra	Ronald Umble
2004	Shannon	Boyle	Teaching Styles and the van Heile Levels: An Analysis of the Effects of Two Teaching Styles on Student Learning	Janet White
2003	Michael	Dalmati	Comparison of Non-Parametric Survival Estimates between Full and Reduced Sample Sizes	Delray Schultz
2002	Heather	Heston	Möbius Transformations and Their Isometric Circles	Ximena Catepillan
2002	Joel B.	Mohler	Distance Minimizing Paths on Certain Simple Flat Surfaces with Singularities	Ronald Umble
2002	Ellen	Panofsky	Raising Lower Bounds for the Circularity of Circulant Graphs	Dorothee Blum
2002	Rebecca	Wentz	Mathematical Models of Predator-Prey Interactions	J. Robert Buchanan
2000	Melinda	Moyer	Time Series Analysis of State System of Higher Education Historical Enrollment	James Fenwick
1997	Margaret E.	Brousil	Simulations of Diurnal Circulations using a Two-Dimensional Mesoscale Numerical Model	Richard Clark & J. Robert Buchanan
1997	Melissa	Courtade	A Time Series Approach for Testing Casualty Relationships of Inflation	James Fenwick
1996	Sheila D.	Haller	The Ornamental Groups of the Plane	Ronald Umble
1995	Christine	Ely	A Mathematical Analysis of Acoustic Wave Scattering	Robert Smith
1995	Denise	Grittner	The Equitable Chromatic Number of a Bipartite Graph	Dorothee Blum
1995	Keith E.	Mellinger	Rings with Involution	Hisa Tsutsui
1994	Jennifer	Fritz	Developing Problem Solving Skills in Today's Students: A Necessity for the Future	Bernie Schroeder
1991	Susan	Raught	The Angle Trisection Problem	Ronald Umble

1990	Robin M.	Wert	An Investigation of the Errors Involved in Numerical Solutions to Differential Equations	Robert Smith
1987	Dean	Balach	Simplicial Homology	Ronald Umble
1987	Cynthia	Cuddy	Balloons and Other Surfaces: The Euler Characteristic and Simplicial Homology	Ronald Umble