UNDERGRADUATE HONORS THESES WRITTEN BY MATHEMATICS MAJORS OR DIRECTED BY MATHEMATICS FACULTY

YEAR	STUDENT	TITLE	ADVISOR
1987	Cynthia Cuddy	Balloons and Other Surfaces: The Euler Characteristic and Simplicial Homology	R. Umble
1987	Dean Balach	Simplicial Homology	R. Umble
1990	Robin M. Wert	An Investigation of the Errors Involved in Numerical Solutions to Differential Equations	R. Smith
1991	Susan Raught	The Angle Trisection Problem	R. Umble
1994	Jennifer Fritz	Developing Problem Solving Skills in Today's Students: A Necessity for the Future	B. Schroeder
1995	Keith E. Mellinger	Rings with Involution	H. Tsutsui
1995	Christine Ely	A Mathematical Analysis of Acoustic Wave Scattering	R. Smith
1995	Denise Grittner	The Equitable Chromatic Number of a Bipartite Graph	D. Blum
1996	Sheila D. Haller	The Ornamental Groups of the Plane	R. Umble
1997	Margaret E. Brousil	Simulations of Diurnal Circulations using a Two-Dimensional Mesoscale Numerical Model	R. Clark & J. Buchanan
1997	Melissa Courtade	A Time Series Approach for Testing Casuality Relationships of Inflation	J. Fenwick
2000	Melinda Moyer	Time Series Analysis of State System of Higher Education Historical Enrollment	J. Fenwick
2002	Ellen Panofsky	Raising Lower Bounds for the Circularity of Circulant Graphs	D. Blum
2002	Heather Heston	Möbius Transformations and Their Isometric Circles	X. Catepillán
2002	Joel B. Mohler	Distance Minimizing Paths on Certain Simple Flat Surfaces with Singularities	R. Umble
2002	Rebecca Wentz	Mathematical Models of Predator-Prey Interactions	J. Buchanan
2003	Michael Dalmati	Comparison of Non-Parametric Survival Estimates between Full and Reduced Sample Sizes	D. Schultz

2004	Shannon Boyle	Teaching Styles and the van Heile Levels: An Analysis of the Effects of Two Teaching Styles on Student Learning	J. White
2005	Andrew Baxter	Periodic Orbits on a Triangular Air Hockey Table	R. Umble
2005	Stephen J. Weaver	Computing the Saneblidze-Umble Diagonal on Permutahedra	R. Umble
2005	Sean M. Laverty	A Habitat Suitability Model for Crayfish Species I Lancaster County, Pennsylvania, Streams	J. Buchanan
2005	Joel M. Martin	Log-Linear Models and an Analysis of the Pennsylvania Department of Education High School Mathematics Field Test	J. Fenwick
2005	Michael Cherrybon	Time Series Analysis: Utilizing the Box-Jenkins Procedure for Analyzing Economic Data	J. Fenwick
2006	John A. Gemmer	Generalizations of the Brachistochrone Problem	M. Nolan & R. Umble
2006	Stephanie Good	A Study of a Selection of Algebra I and Algebra II Textbooks Before and After the 1989 NCTM Standards	D. Blum
2007	Nicole Laros	Equitable Circular Labelings of Graphs	D. Blum
2008	Nicholas D. Brubaker	Numerical Approximations of Center Manifolds	Z. Shao
2008	Sherry B. Linn	Cardiac Arrhythmias and the FitzHugh-Nagumo Model	J. Buchanan
2008	Sean M. Evans	2-In / 3-Out A_∞- Bialgebras	R. Umble
2008	Daniel E. Kravatz, Jr.	Diagonal Approximations on an n-gon and the Cohomology Ring of Closed Compact Orientable Surfaces	R. Umble
2009	Jared L. Martin	Effectiveness of Preliminary Tests of Variance for Two Sample T-Tests	L. Shoemaker
2009	Catherine Albright	Time Series Analysis: Seasonally and Intervention Analysis using R	J. Fenwick
2009	Katy Lightner	Visual Displays of Statistics: Teaching Students about Spread	

		Using Graphs and Technology	K. Robinson
2010	April Stump	Word Problems as a Reflection of Culture	D. Blum
2010	Steven M. McClure	A Stochastic Model of a Flour Beetle Ecosystem	J. Buchanan
2010	Osman Chaudhary	The 3-Body Problem and Saturn's Rings	J. Buchanan
2011	Andrew Gehman	Discriminant Models in Graduation Prediction and Amblyopia Referral	J. Fenwick
2011	James Patounas	Solutions to the Beam Equation and Applications of Control Methods	J. Buchanan
2011	Morgan Schreffler	Fixed Point Theorems in Topology and Geometry	R. Umble
2011	Katelyn Coleman	Math Teaching Strategies for Algebra	J. White
2011	Stephanie Coleman	The Dependency of Students and Teachers on Calculators in the Classroom	J. White
2011	Michelle C. De Stefano	Math Anxiety in College Algebra Students	M. Wismer
2012	Matthew J. Keefe	Multidimensional Scaling: Mathematics Course Comparison and Zooplankton Abundance	J. Fenwick
2012	Patrick Owens	Unification Problems on the Advanced Placement Calculus AB Exam	D. Blum
2012	David Paules	Fibonacci Numbers	B. Ikenaga
2012	Anthony Mastriania IV	Resolution Graphs and Splice Diagram for Certain Surface Singularities	E. Sell
2013	Timothy Guy	Technology and the Evolution of Mathematics Education	J. White
2014	Shaina Smolowe	The Search for the Quadratic Formula	D. Blum
2014	Chelsea Anne Leber	Perspectives on Women in Mathematics: Past, Present and Future	D. Blum
2014	Jacob J. Hike	Modeling Optimal Takeoff	J. Buchanan
2015	Christopher Schneider	Generating Box-Jenkins ARIMA Date in JAVA , with a Concentration on Seasonal Model Analysis	J. Fenwick

2015	Benjamin R. Baer	Topics in Time Series Analysis with a Focus on Transfer Function Methodology	J. Fenwick
2015	Nicholas Heil	Ethnomathematics: Maya Vigesimal and Chronological Mathematical Systems	X. Catepillán & C. Taylor
2015	Jing Li	Square of a Connected Quasi Claw-free Graph	M. Zhan
2016	Mervin Fansler	Computational Application of the Transfer Algorithm to Borromean Rings	R. Umble
2016	Taylor Lagler	The Effect of Covariance Matrices on Classification Procedures in Discriminant Analysis	J. Fenwick
2017	Jessica L. Butts	Comparison of Principal Components Analysis and Canonical Correlation Analysis	K. Robinson
2017	Krista Mamet	Life Table Modeling and Its Uses in Actuarial Science	K. Robinson
2017	Quinn Minnich	An A_∞-Coalgebra Structure on the Cellular Chains of a Polygon	R. Umble
2018	Brooke Dobbs	Women Authors of Mathematics Textbooks	D. Blum
2018	Joshua Larson	Periodic Orbits on a Regular Hexagon	Z. Han
2019	Susan Lloyd	Combining Cluster Analysis and Discriminant Analysis into an Integrated Approach to Analyze Data	J. Fenwick
2019	Noelle Shellenberger	Classical and Transformational Approaches to Triangle Center Theoroms and Its Implication in Geometry Education	Z. Han
2019	Jamie Wittick	A Comparison of Mathematics Textbooks from 1833 to 2015	C. Taylor