Masters Research Problems

Supervised by

Dr. Cynthia J. Huffman

70. Aisha Ford, *Wonders of Greek Mathematics*, 2024
69. Prince Lathiya, *Gröbner Bases and Elementary Matrices*, 2024
68. Paige Stainbrook, *Wallpaper Groups Portrayed in the Alhambra and Quilts*, 2023
67. Ty Covey, *Mathematics and Video Game Design: From Mathematicians to the Players*, 2022
66. Eric Holmes, *Introducing High School Students to Gröbner Bases through Sudoku Puzzles*, 2021
65. Michael DeGuerre, *Using Technology to Teach Vectors in Secondary Education*, 2020
64. Abdullah Alanazi, *Influence of Arabic Mathematics on Medieval Europe*, 2020
63. Jordan Bailey, *Implementing Huffman's Local Case Algorithm for Suslin's Sustainability Theorem*, 2020
62. Brenda Thenikl, *The History of Complex Numbers*, 2019
61. Maha Aljofei, *Jordan Canonical Form*, 2019
60. Reine Loflin, *The Life of Dr. Helen Kriegsman*, 2018
59. Katherine Brumley, *Evolution of the Quadratic Formula*, 2018
58. Angela Slater, *Solving Problems from Algebra Qualifying Exams for Doctorate Programs*, 2018
57. Yazeed Alhassan, *Applications on Sylow's Theorem*, 2018
56. Ali Hakami, *Applications on Group Actions*, 2017
55. Reid Alotaibi, *The Relationship between Indian and Arabic Mathematics*, 2017
54. Erica Bischoff, *The Architecture of La Sagrada Familia: Modeling Nature Through Ruled and Quadric Surfaces*, 2017
53. Ashley Keller, *Mathematics Behind the Google Algorithm and its Applications*, 2017
52. Jordan Jameson Epler, *Connections between Computer Graphics and Linear Algebra*, 2017
51. Will Zimmerman, *Computers and Mathematics*, 2016
50. Ashlee Hashman, *An Investigation of Bernstein Polynomials and Bézier Curves*, 2016
49. Ian Dungan, *Applications of Linear Algebra and Number Theory in Electronic Communications and Graphical Rendering*, 2016

48. Sam Hardy, *A History of Quadratic, Cubic, and Quartic Equations*, 2016
47. Rachael Sachs, *Crystallographic Groups of the Baby Taj Mahal*, 2016
46. Dan Eckstein, *From Compass to Wallpaper: How to get High School Students to build Wallpaper Groups*, 2016
45. Dalal Almutairi, *Leontief Models of Economy and Leslie Model of Population Growth*, 2015
44. Esther Muthoni Thuo, *Gröbner Bases Applied to Integer Programming*, 2015
43. Kristin Gilpin, *History of Mathematics in the High School Classroom*, 2014
42. Savanna O'Toole, *Solving Number Puzzles with Gröbner Bases*, 2014
41. Tim Walker, *Educational Benefits of Video Games*, 2014
40. Kevin Spencer, *How the History of Calculus Influences Student Learning*, 2014
39. Ashley Reavis, *Investigations of Elementary Matrices*, 2013
38. Jessica Booth, *M.C. Escher and Work in Hyperbolic Geometry*, 2013
37. Bader Alshammari, *Sylow's Theorems and Fundamental Theorem of Finitely Generated Abelian Groups*, 2013
36. Ahlam Alzharani, *Robotics and Gröbner Bases*, 2013
35. Ahmad Alalyani, *Galois Theory*, 2013
34. Bethany Burns, *Implementing the History of Mesoamerican Mathematics in the Classroom*, 2013
33. Brittiny Earls, *Sixty Famous Women in Mathematics*, 2013
32. Vanessa Peach, *History of Algebra: A Timeline Approach*, 2013
31. Holden Kraus, *Iris Patterns and Algebra: Are there recurring patterns showcased in the human eye that are isomorphic to Dihedral Groups?*, 2012
30. Timothy Todd Endicott, *Pros and Cons of Project-Based Learning*, 2012
29. Lamin Dumbuya, *Cyclic Codes*, 2011
28. Patrick Schoenhofer, *Trisecting an Angle*, 2011
27. Hanan Almashi, *Finite Fields*, 2011
26. Benjamin Michael Buttler, *The Dioid of* n*x*n *Set Theoretic Matrices*, 2011
25. Christine Wilson, *Reed Solomon Codes*, 2011
24. Jason Knight, *Advancing an Algorithm: Can the Park-Woodburn Algorithm be More Efficient*, 2010
23. Erin Kellogg, *Using Gröbner Bases to Solve Integer Programming Problems*, 2010
22. Luke Henke, *The Conversion: Transitioning the local subcase algorithm of the Park-Woodburn Algorithm into a full-fledged program*, 2010

21. Rehab Al-Sultan, *Economics and Linear Algebra: Leontief's Model as Theory and Methodology of Economic Analysis,* 2010
20. Collette Jacobs, *My Tornadoes: Matrix Webquest*, 2009
19. Kelli Langan Blackford, *Group Theory*, 2008
18. Rebecca Lomshek, *Acanthus (Artist William Morris and Wallpaper Groups)*, 2007
17. Leah Marie Woods, *Amalie Emmy Noether and Decomposition of Ideals*, 2007
16. Angela Steele, *Finite Fields and Reed-Solomon Codes*, 2007
15. Kimberly Lee Miller, *An Investigation of the Use of Pascal's Triangle in Collegiate Mathematics Instruction*, 2006
14. Dean Muse, *Girolamo Cardano and the Cubic Equation*, 2006
13. Melissa McNaught, *Project Pascal: Applications of Pascal's Triangle for the Classroom,* 2005
12. Laura Soukup, *Pascal's Triangle in the Primary and Intermediate Classroom*, 2005
11. Brian Hancock, *A Computational Program for the Quillen-Suslin Theorem*, 2003
10. Carrie Denton, *Abstract Algebra: A Further Study of Algebra Through Ph.D. Qualifying Exams*, 2002
9. Scott Marshall, *Suslin's Stability Theorem: An Algorithm for Factoring Matrices with Multivariate Polynomial Entries*, 2002
8. Julie Talbot, *The Art of Algebra: A Study of the Ars Magna by Girolamo Cardano*, 2002
7. Brian Townsend, *A Study in Student Understanding of the Chain Rule*, 2001
6. Chaiwichit Haarsa, *Algebra (Group Theory)*, 2001
5. Shannan Wyant, *Coloring Pascal's Triangle: Construction and Applications*, 2000
4. Jennifer Laswell, *Fascinating Discoveries in the Factorization of Polynomial Matrices*, 2000
3. Michelle Baier, *Algebra*, Fall 1996 - Spring 1997
2. Mitch Richling, *A Big Problem (Implementing Computational Algebra Algorithms)*, Fall 1995
1. Yi-Feng Pang, *Computational Algebra II*, Summer 1995