Derek Young **Curriculum Vitae**
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https://derekyoungmath.github.io/

Education

Doctor of Philosophy in Mathematics — May 2019
Iowa State University - Ames, Iowa
Advisor: Dr. Leslie Hogben

Bachelor of Science — May 2013
Iowa State University - Ames, Iowa
Major: Mathematics
Advisor: Dr. Sung Yell Song

Associate of Arts — May 2010
Florida State College at Jacksonville - Jacksonville, Florida
Advisor: Gregory Dietrich

Professional Experience

Mount Holyoke, Mathematics Department — Fall 2019 -
Hutchcroft Fellow, Visiting Lecturer

St. Olaf College, Mathematics Department — Spring 2019
Adjunct Instructor

Iowa State University, Mathematics Department — Summer 2017
Research Assistant

Iowa State University, Mathematics Department — Fall 2013-Fall 2018
Teaching Assistant

Grants

Solve-a-Thon Grant, Iowa State University Spring 2017.

Solve-a-Thon Grant, Iowa State University Spring 2016.

Honors and Awards

Poster Award for "Best Theory", Conference for African-American Researchers in the Mathematical Sciences(CAARMS) Summer 2018.

Pathways Scholar for Transforming Undergraduate Mathematics Education Certificate, Arizona State University Spring 2016.

Ronald E. McNair Scholar 2010.

Teaching Experience

Mount Holyoke College

Discrete Mathematics — Spring 2020
Discrete Mathematics — Fall 2019

St. Olaf College

Calculus I — Spring 2019

Calculus I	Spring 2019

Iowa State University

College Algebra	Summer 2018
Calculus I	Spring 2017

Recitation - Iowa State University

Calculus II	Spring 2018
Business Calculus (Lab)	Fall 2017
Calculus II	Fall 2016
Calculus II	Spring 2016
Preparation for Calculus (Project Pathways)	Fall 2015
Preparation for Calculus (Project Pathways)	Spring 2015
Preparation for Calculus (Project Pathways)	Fall 2014
Calculus I	Spring 2014
Business Calculus (Lab)	Fall 2013

Research Interests

Combinatorics, Linear Algebra, Graph Theory

Research Papers

Submitted

Derek Young. Techniques for Determining Equality of the Maximum Nullity and the Zero Forcing Number of a Graph 2019

Published

Joesph S. Alameda, Emelie Curl, Armando Grez, Leslie Hogben, O'Neill Kingston, Alex Schulte, Derek Young, and Michael Young. Families of graphs with maximum nullity equal to the zero forcing number. *Spec. Matrices*, 6:56-67, 2018.

arXiv

Chassidy Bozeman, Joshua Carlson, Michael Dairyko, Derek Young, Michael Young. Lower Bounds for the Exponential Domination Number of $C_m \times C_n$. https://arxiv.org/abs/1803.01933. 2018.

Undergraduate Research

Christina Eubanks-Turner, Matthew Jake Lennon, Eduardo Reynoso, Brandy Thibodeaux, Amanda Urquiza, Ashley Wheatley, Derek Young. Using the division algorithm to decode Reed-Solomon Codes. *Shanghai Normal University*, 44:3, 2015.

Workshops Attended

MSRI 2019

GRWC 2017

Invited Talks

Some graphs whose maximum nullity and zero forcing number are the same: Joint Mathematics Meetings Denver, Co, January 16, 2020

Determining the Maximum Nullity and Minimum Rank Field Independence for some graphs: 50th Southeastern International Conference on Combinatorics, Graph Theory and Computing Boca Raton, Fl, March 4-8, 2019.

Techniques for Determining Equality of the Maximum Nullity and the Zero Forcing Number of a Graph: St. Olaf College Research Seminar Northfield, MN, March 22, 2019.

Contributed Talks

Determining the Maximum Nullity and Minimum Rank Field Independence for some graphs: Joint Mathematics Meetings Baltimore, MD, January 16-19, 2019.

Determining the maximum nullity and minimum rank field independence for some graphs: Conference for African-American Researchers in the Mathematical Sciences, Princeton, NJ, July 11-14, 2018.

Lower Bounds for the Exponential Domination Number of $C_m \times C_n$: 47th Southeastern International Conference on Combinatorics, Graph Theory and Computing Boca Raton, Fl, March 7-11, 2016.

Flows in Networks : 7th Annual GMAP Research Symposium, Ames, IA, May 19, 2013.

Division Algorithm Decoding of Reed Solomon Codes: 2012 Young Mathematicians Conference, Columbus, OH, July 27-29, 2012.

Contributed Posters

Determining the maximum nullity and minimum rank field independence for some graphs: Conference for African-American Researchers in the Mathematical Sciences, Princeton, NJ, July 11-14, 2018.

Families of graphs with maximum nullity equal to zero forcing number: International Linear Algebra Society, Ames, IA, July 24 - 28 2017.

Families of graphs with maximum nullity equal to zero forcing number: Conference for African-American Researchers in the Mathematical Sciences, Ann Arbor, MI, June 21 - 24, 2017.

Lower Bounds for the Exponential Domination Number of $C_m \times C_n$: Conference for African-American Researchers in the Mathematical Sciences, Princeton, NJ, June 15 - 18, 2016.

Finite Approximations of Ammann-Beenker Tiling: Conference for African-American Researchers in the Mathematical Sciences, Princeton, NJ, June 11 - 14, 2014.

Randomize Matrix Multiplication: Society for Advancement of Chicanos

and Native Americans in Science, San Jose, CA, October 27-30, 2011.

Memberships

National Association of Mathematicians(NAM) - *Member*

International Linear Algebra Society(ILAS) - *Member*

Mathematician of Color Association, Iowa State University(MOCA) - *Member*

Language Skills

English: native speaker

Computer: SageMath(Python), Shell Scripting(Linux), LaTeX, HTML

Volunteering Experience

Ronald E. McNair Mentor August 2013 - May 2014