SAM MACDONALD | Curriculum Vitae

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Research Interests

I am primarily interested in mathematics education and expanding the accessibility of mathematics. Specifically, I am interested providing college level courses for prisoners and expanding access to educational resources behind bars, developing Open Educational Resources (OERs), and in studying shifts in mathematical self-efficacy at transitional points in undergraduate education.

Education

UNIVERSITY OF NEBRASKA – LINCOLN — August 2021 - Present
Ph.D – Mathematics — Expected May 2026
Advised by Yvonne Lai

UNIVERSITY OF NEBRASKA – LINCOLN — August 2021 - May 2023
M.S – Mathematics — -

WILLAMETTE UNIVERSITY — August 2016 - May 2020
B.A. – Mathematics, Minor in Political Science — -
Advised by Erin McNicholas

Positions Held

NSF GRADUATE RESEARCH FELLOW — September 2023 - Present
University of Nebraska – Lincoln

GRADUATE TEACHING ASSISTANT — August 2021 - Present
University of Nebraska – Lincoln

Teaching Experience

MATH 208 – CALCULUS III — Fall 2023
University of Nebraska – Lincoln — Recitation Instructor
Online Textbook

MATH 100A – INTERMEDIATE ALGEBRA — Summer 2023
Reception and Treatment Center — Instructor of Record
Taught through UNL

MATH 101 – COLLEGE ALGEBRA I — Spring 2023
University of Nebraska – Lincoln — Instructor of Record
Online Textbook

MATH 100A – INTERMEDIATE ALGEBRA — Fall 2022
University of Nebraska – Lincoln — Instructor of Record
Online Textbook

MATH 102 – TRIGONOMETRY — Summer 2022
University of Nebraska – Lincoln — Instructor of Record
Online Textbook

MATH 107 – CALCULUS II — Spring 2022

University of Nebraska – Lincoln — Recitation Instructor
Online Textbook

MATH 106 – CALCULUS I — Fall 2021
University of Nebraska – Lincoln — Recitation Instructor
Online Textbook

Research Experience and Publications

REU – ALGEBRAIC COMPUTATIONAL BIOLOGY — Summer 2019
Texas A&M University
Advised by Anne Shiu

PUBLICATION

Gambacini, B., Jeffs, R. A., Macdonald, S., & Shiu, A. (2022). "Non-monotonicity of closed convexity in neural codes." Vietnam Journal of Mathematics, 50(2), 359-373.

Honors & Awards

NSF GRFP — 2023
University of Nebraska – Lincoln
National Science Foundation Graduate Research Fellowship

PHIL HANNI STUDENT SCHOLAR AWARD — 2020
Willamette University

Selected Presentations

BRINGING THE INSIDE OUT: WHAT PRISON EDUCATION CAN TELL US ABOUT OUR CLASSROOMS, CHARACTER, AND CULTURE
Joint Math Meetings, AMS Special Session on Ethics in the Mathematics Classroom, January 2024 [20 Minutes]
Kansas Math Graduate Student Conference, University of Kansas, December 2023 [20 Minutes]
Graduate Student Seminar, University of Nebraska – Lincoln, August 2023 [50 Minutes]

ARE WE THERE YET?: AN UNFORTUNETELY FINITE GUIDE TO THE INFINITE
Math RaMP through the Great Plains Alliance, Benedictine College, October 2023 [50 Minutes]
Math RaMP through the Great Plains Alliance, Wayne State University, April 2022 [50 Minutes]

FIFTY SHADES OF GRADE: EQUITY, MOTIVATION, AND OBEDIENCE IN TRADITIONAL GRADING PRACTICES
Graduate Student Seminar, University of Nebraska – Lincoln, January 2023 [50 Minutes]
Mathematics Education Seminar, University of Nebraska – Lincoln, November 2022 [50 Minutes]
Mathematics Teaching Table, University of Nebraska – Lincoln, October 2022 [50 minutes]

BE THERE OR B^2: HUMOR THEORY AND ITS USES IN THE CLASSROOM
Graduate Student Seminar, University of Nebraska – Lincoln, April 2022 [10 Minutes]

THE COMPLEXITIES OF CONVEXITY: NON-MONOTONICITY OF CLOSED CONVEXITY IN NEURAL CODES
Jim Albaugh Colloquium Series, Willamette University, May 2019 [50 Minutes]
Phil Hanni Virtual Conference, Willamette University, April 2020 [20 Minutes]
Texas A&M REU Conference, Texas A&M University, July 2019 [50 minutes]

GERRYMEANDERING: MEASURING CONGRESSIONAL DISTRICT MEANDERINGNESS
Jim Albaugh Colloquium Series, Willamette University. May 2019 [50 Minutes]

Professional activities

NEBRASKA CONFERENCE FOR UNDERGRADUATE WOMEN IN MATHEMATICS
Organizing Committee Member
August 2023 - Present
University of Nebraska – Lincoln

GRADUATE MENTORING PROGRAM
Mentor
August 2023 - Present
University of Nebraska – Lincoln

NEBRASKA MATH DAY
Volunteer
2021, 2022, 2023
University of Nebraska – Lincoln

ALGEBRA INSTRUCTOR
Volunteer Instructor
Fall 2022 - Spring 2023
Rehabilitation and Treatment Center

LINCOLN HIGH HOMEWORK CENTER
Volunteer
Spring 2023
Lincoln High School

NEBRASKA CONFERENCE FOR UNDERGRADUATE WOMEN IN MATHEMATICS
Volunteer
January 2023
University of Nebraska – Lincoln

Student quotes

- "Sam. Just the way he teaches is phenomenal. He is definitely one of the best math TA's and just in general teachers I've had. He is almost always available to help with questions and is very good at getting back to emails. And just the fact that he truly does show that he wants us to learn and to succeed."

  - Calculus II Student

- "I have never had an instructor who so willing gave his best each and every class. Sam went above and beyond my expectations in being available to offer assistance in our course work and answer questions. My success in this course is primarily because of his dedication to giving every opportunity to succeed."

  - Intermediate Algebra Student

- "I can't think of anything that Sam could improve on. He is kind to all students and tries his hardest to help everyone understand calculus. There is nothing he could improve on, and any attempt to imply that he can improve is complete blasphemy."

  - Calculus I Student

- "Sam was a very welcoming and easy person to talk to. I can have a hard time asking for help at times, and his communication skills allowed me to release the fear of asking questions. I enjoyed how he taught, definitely made learning easy and possible."

  - College Algebra Student

- "The strength of this course comes from the teachers. Their ability to help us through our struggles makes the material easier to interpret. You changed my view of math and education as a whole."

  - RTC Intermediate Algebra Student

- "I've never felt truly comfortable in a math classroom until I entered this one."

  - College Algebra Student