

## JACOB ZOROMSKI

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## EDUCATION

**University of Notre Dame, Notre Dame, IN**

**Aug 2019 - Present**

PhD Candidate in Mathematics

**University of Wisconsin-Madison, Madison, WI**

**Sept. 2015 – May 2019**

B.A. in Mathematics earned May 2019

## PUBLICATIONS

C. Crowley, J. Rodriguez, J. Weiker, J. Zoromski, “MultiRegeneration for Polynomial System Solving.” *ACM Communications in Computer Algebra*, vol. 54, no. 2, Sept. 2020, pp. 39-43

## PRESENTATIONS

Graduate Student Algebra Seminar, University of Notre Dame – “Ideals with Linear Quotients”, Apr. 2023

Graduate Student Seminar, University of Notre Dame – “The History of Calculus”, Jan. 2023, Oct. 2024 “Infinite Minimal Free Resolutions”, Oct. 2022

## TEACHING

### **Instructor of Record**

Discrete Mathematics – FA '24 – at Holy Cross College – Notre Dame

Elements of Calculus - SP '22, SU '22, FA '22

### **Teaching Assistant**

Principles of Calculus – FA '24

Calculus III – Head TA – FA '23

Honors Calculus II – SP '23, Honors Calculus I – FA '22

Calculus B – SP '21, Calculus A - FA '20

## AWARDS

Kaneb Center for Teaching and Learning Outstanding Graduate Student Teaching Award, AY 2022-2023

ISAAC2020 Distinguished Software Presentation Award, 2020, for “MultiRegeneration for Polynomial System Solving.”

## FELLOWSHIPS, CONFERENCES & WORKSHOPS

SLMath Semester in Commutative Algebra – Spring 2024

GAeL XXX, University of Warwick – July 2023

International Thomas Merton Society Daggy Fellowship – June 2023 – Present

Macaulay2 Workshop, University of Minnesota Twin Cities, June 2023

MSRI/SLMath Summer School on Commutative Algebra and its Interaction with Algebraic Geometry, University of Notre Dame, May 2023

Algebra, Geometry, and Combinatorics Day, University of Illinois Urbana-Champaign, October 2022

Notre Dame Center for Social Concerns Graduate Institute for Engaged Teaching and Research – October 2022

de Nicola Center for Ethics and Culture Sorin Fellow, 2021 - Present

## SERVICE

Directed Reading mentor for two undergraduate math majors, Spring 2024  
 Volunteer tutor at DePaul Academy, serving incarcerated youth, Sept. 2019 – May 2023  
 Volunteer math tutor at St. Thomas More Academy, Sept. – May 2023  
 Volunteer at St. Vincent de Paul Society of St. Joseph County, making deliveries for food pantry, June 2022 – Present

## WORK EXPERIENCE

**Holy Cross College – Notre Dame** **Aug. 2024 – Present**  
 Adjunct Professor

- Taught Discrete Mathematics, teaching liberal arts students mathematical reasoning skills

**University of Notre Dame** **Aug. 2020 – Present**  
 Graduate Student Instructor

- Lead problem sessions for Calculus courses, including making and grading worksheets
- Lead tutorial sections for Honors Calculus, a proof-based course, giving lectures and grading quizzes
- Instructor for Elements of Calculus, a first-year calculus course for Business majors

**University of Wisconsin Mathematics Department** **Sept. 2016 – May 2019**  
 Math Tutor

- Tutored peers in calculus and advanced math. Course assistant for probability theory Fall 2018

**Division of University Housing** **Sept. 2016 – May 2017**  
 Math Tutor

- Tutored peers in math, mostly calculus

## RELATED EXPERIENCE

**Macaulay2 Workshops** **April 2018, June 2023**

Developed code for the computer algebra system Macaulay2. Projects included creating a program to aid in a mathematical biology graduate student's research project (2018) and working in a group led by David Eisenbud to study the structure of infinite resolutions, for which we developed packages (2023).

**Summer Research Program** **May 2019 – July 2019**

Researched computational methods for solving systems of polynomial equations, and applied problems, under the direction of Dr. Jose Rodriguez (UW-Madison). Helped write the paper "MultiRegeneration for Polynomial System Solving," published in Sept. 2020.

**de Nicola Center for Ethics and Culture - Sorin Fellow** **May 2021–present**

The Sorin Fellows Program is the student formation initiative of the de Nicola Center for Ethics and Culture, the leading center for scholarly reflection within the Catholic moral and intellectual tradition. Students accepted to the program ("Sorin Fellows") receive specialized resources through the life of the Center – including social, academic, spiritual, and professional formation opportunities.

**Notre Dame Center for Social Concerns Graduate Institute for Engaged Teaching and Research** **October 2022**

A weeklong institute promoting socially-engaged graduate student research and teaching. Met with community leaders and faculty from South Bend and Chicago to explore models of effective community-university partnerships. Learned about projects in a range of disciplines including the arts, chemistry, housing, sociology, and others, each grounded in efforts to advance justice.

**History of Math Presentations****January 2023, Fall 2023**

Researched and presented a lecture on the history of calculus at the Notre Dame Mathematics Graduate Student Seminar. Invited to give another history of math talk in the fall.

**Teaching Center Involvement****Summer 2022-Present**

Involvement with the Kaneb Center for Teaching and Learning at Notre Dame. Participated in two reading groups with other graduate student instructors and faculty, reading pedagogy books. Led one of these groups. Progress towards teaching certificate. Took a course on Inclusive Teaching Summer 2023.

**SKILLS**

Extensive coding experience in Macaulay2 (including developing packages), basic coding experience in Python, SAGE, MAGMA, and Java.