Sam Thiel

Mathematician and Musician // sthiel@oberlin.edu // stolenquotient2.github.io

Education

Oberlin College, *Oberlin, Ohio.*	**Deerfield Academy,** *Deerfield, MA*
B.A. Honors Mathematics & Musical Studies, June 2026.	Diploma, May 2022.

Relevant Coursework

- Complex Analysis (MATH356)
- Real Analysis (MATH358, Measure Theory & Functional Analysis)
- Harmonic Analysis (MATH357)
- Foundations of Analysis (MATH301)
- Probability (MATH335)
- Topology (MATH353)
- Group Theory (MATH327)
- Computational Algebra (MATH328)
- Linear Algebra (MATH232)
- Mathematical Approaches to Music Theory (MUTH347)
- Introduction to Computer Science (CSCI150)

Research Experience

Maximal Functions and Maximal Inequalities

Oberlin Honors Project in Mathematics (with Chris Marx)   September 2025–Present

- Exploring the topic of Maximal Functions and Maximal Inequalities, and their applications to results in many subfields of analysis, including Harmonic Analysis, Measure Theory, Ergodic Theory, and Probability.
- The Honors Project will culminate in a paper on the subject, a technical presentation to a small selection of readers, as well as a more-accessible public talk, at the end of Spring Semester 2026.

Partial Results of the HRT Conjecture

Research Experience for Undergraduates, University of Washington at Seattle   Summer 2025

- Read and presented on the published partial results of the Heil-Ramanathan-Topiwala (HRT) Conjecture with a small research group.

Professional Experience

Oberlin College and Conservatory — Oberlin, Ohio

Research Assistant (with Chris Marx)   Fall 2024–Present

- Assisted Professor Marx with his textbook on the intersection between Harmonic Analysis and Music.
- Composed in-text figures to help students visualize novel tools and results.
- Developed online resources to enhance student learning by providing hands-on examples.
- Designed end-of-chapter problems to provide essential practice in the textbook material.
- Proofread sections of the textbook for errors and clarity.

Teaching Assistant (for Susan Colley, Alexander Wilson)   Fall 2024–Spring 2025

- Ran weekly 90-minute problem sessions each week for students taking *Group Theory* (MATH327).
- Collected, graded, and provided feedback on weekly homework assignments.

- Analyzed common mistakes and difficulties and communicated with the professor about these issues.
- Developed individual rapport with students in order to build a safe and supportive learning environment.

Homework Grader (for Susan Colley)   Fall 2022–Spring 2024
- Collected and graded weekly homework for students taking *Linear Algebra* (MATH 232, proof-based) and *Multivariable Calculus* (MATH 231, non-proof based).
- Provided insightful comments and feedback to promote student learning.
- Analyzed common mistakes among students and relayed information back to the professor.

Publications

Costello Divisibility: Explorations of a Comedic Division Algorithm (with Alexander N. Wilson). The College Mathematics Journal, (Accepted, to appear 2026).

Presentations

Costello Divisibility: Explorations of a Comedic Division Algorithm, Talk, Nebraska Conference for Undergraduate Wisdom in Mathematics 2026, (to be given) January 2026.

Costello Divisibility: Explorations of a Comedic Division Algorithm, Poster, 2024–2025 Oberlin Undergraduate Research Symposium, April 2025.

Skills and Software

- Microsoft Office Suite
- Google Suite
- LaTeX/TeXShop
- Python
- GitHub
- Affinity Designer
- Ableton Live
- MuseScore
- Logic Pro