

# Luke Fredericks

Berry College

Department of Mathematics and Computer Science

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## Research Interests

Number Theory, Arithmetic Algebraic Geometry.

## Education

PhD Mathematics, University of California, Irvine 2015 - 2021.

Advisor: Nathan Kaplan.

Thesis: Average Cyclicity of Elliptic Curves in Torsion Families

M.A. Mathematics, California State University, Sacramento, 2012-2014.

B.S Mathematics, California State University, Chico, 2008-2012.

B.A French, California State University, Chico, 2008-2012.

## Employment

**Berry College**

Fall 2021-Current

Visiting Assistant Professor of Mathematics

**University of California, Irvine**

Fall 2015-Spring 2021

Teaching Assistant

## Publications

L. Fredericks, 'Average Cyclicity of Elliptic Curves in Torsion Families.' In Preparation, (2022).

## Teaching

At Berry College:

Instructor of Record for

MAT 105 – The Nature of Mathematics (Fall 2021, Spring 2022)

MAT 111 – Elementary Statistics (Fall 2021, Spring 2022)

MAT 120 – Precalculus (Fall 2021, Spring 2022)

At UC Irvine: Note: \* indicates that the course was delivered remotely for that term.

Teaching Assistant for

Math 2A Calculus (Fall 2015, Winter 2016)

Math 2B Calculus (Fall 2016)

Math 2D Calculus (Winter 2019)

Math 3A Linear Algebra (Spring 2016, Winter 2017, Fall 2017, Spring 2018, Summer 2018, Fall 2020\*)

Math 4 Math for Economics (Fall 2018)

Math 13 Introduction to Abstract Mathematics (Fall 2019, Summer 2020\*)

Math 120A Group Theory (Summer 2017, Spring 2019, Summer 2019)

Math 120B Rings and Fields (Winter 2020, Spring 2020\*)

Math 121A Linear Algebra (Spring 2017)

Math 121B Linear Algebra (Winter 2021\*)

Math 175 Combinatorics (Winter 2017)

Math 180A Number Theory (Summer 2016, Winter 2018)

## Mentorship

Graduate Student Peer Mentor, (2016-2017).

Directed Reading Program Graduate Student Advisor: Reading course on Binary Quadratic Forms.

## Professional Development

Mentoring Excellence Certificate, UCI Mentoring Excellence Program

Certificate in Course Design

Center for the Integration of Research, Teaching, and Learning, Associate Level

Certificate in Teaching Excellence

Inclusive Excellence Certificate

## Conferences Attended

Fall AMS Western Sectional Meeting, Special Session on Recent Advances in Number Theory, 2015

Southern California Number Theory Day, 2016-2020

CTNT 2018 Conference

Open Questions in Cryptography and Number Theory, UCI, Fall 2018

Arizona Winter School 2019 – Topology and Arithmetic

Arithmetic & Algebraic Geometry in Ann Arbor, 2019

Number Theory in Los Angeles, Fall 2019 and Spring 2020

Fall AMS Western Sectional Meeting, Special Session on Arithmetic Geometry in Finite Characteristic, 2019

Arizona Winter School 2020 – Nonabelian Chabauty

## Other Experience

Tutor, Chico State Math Department, 2010-2012.

Research Intern, Chico State Mathematics Department, Summer 2012.

## Service

Co-Organizer, UC Irvine Student Number Theory Seminar.

## Outreach

Volunteer, 2017 MathCounts competition.

## Skills

### **Programming**

Python, SageMath,  $\LaTeX$ .