Timothy Smits

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EMPLOYMENT

Instructor   Fall 2024 – Present
Virginia Tech   Blacksburg, VA

EDUCATION

Ph.D. in Mathematics   August 2017 – August 2024
University of California, Los Angeles   Los Angeles, CA

- Advisor: Romyar Sharifi

M.A. in Mathematics   August 2017 - June 2019
University of California, Los Angeles   Los Angeles, CA

B.S. in Mathematics   September 2012 – June 2017
University of Connecticut   Storrs, CT

AWARDS

Liggett Teaching Fellow Award   Spring 2022

- Recognizing excellence in, and contributions to, teaching in the UCLA mathematics department

RESEARCH

Research Interests

- Number theory and arithmetic geometry. More specifically, the arithmetic of modular symbols and Massey products, Iwasawa theory, and arithmetic statistics

Thesis Work

- *Eisenstein Cocycles for Powers of the Multiplicative Group*

TEACHING EXPERIENCE

Instructor (Virginia Tech)   Fall 2024 - Present

- Math 1225 *Calculus I*

Graduate Student Instructor (UCLA)   Winter 2022 - Spring 2023

- Math 11N *Introduction to Number Theory*
  - Taught using inquiry based learning
- Math 31B   *Calculus II*
- Math 33B   *Differential Equations*
  - Taught online via Zoom
- Math 111   *Introduction to Number Theory*

Teaching Assistant (UCLA)   Fall 2017-Spring 2024

- Upper Division Courses:
  - Math 110A *Ring Theory*
  - Math 110C *Field and Galois Theory*
  - Math 115A *Abstract Linear Algebra I* ($\times 2$)
  - Math 115B *Abstract Linear Algebra II*
  - Math 132 *Complex Analysis for Applications*
- Lower Division Courses:
  - Math 1 *Precalculus* ($\times 2$)
  - Math 11N *Introduction to Number Theory* ($\times 2$)
  - Math 31B *Calculus II* ($\times 6$)
  - Math 32A *Multivariable Differential Calculus*
  - Math 33A *Linear Algebra with Applications* ($\times 4$)

MENTORING

Directed Reading Program (UCLA)   Spring 2022 - Fall 2023
- Conducted one on one quarter long reading courses with undergraduate students
- Projects supervised:
  - Analytic Number Theory
  - Introduction to Arithmetic Geometry
  - Functional Analysis
  - The Erdős-Kac Theorem

Counselor (Ross Mathematics Program, Ohio State University)   Summer 2016/2017
- Actively mentored groups of 5-6 advanced high school students
- Guided students through an inquiry based learning course in number theory and gave detailed feedback on students' proof-writing and problem-solving abilities

SERVICE AND OUTREACH

Teaching Committee (UCLA)   Fall 2023 - Spring 2024
- Observed and provided feedback to graduate TAs and first year instructors on how to improve their quality of teaching

Student Math Center (UCLA)   Fall 2017 - Fall 2022
- Worked 1 hour per week at free math tutoring center for all UCLA students

Quantative Learning Center (UCONN)   Fall 2013 - Spring 2017
- Tutored undergraduate students in lower division mathematics and statistics courses, and created various mathematics and statistics resources for use in the Quantative Learning Center

CONFERENCES AND WORKSHOPS

- Arizona Winter School (March 2020)
- Connecticut Summer School in Number Theory (August 2016)
- University of Utah RTG Summer School in Algebraic Geometry (May 2016)

PRESENTATIONS

- Eisenstein Cocycles for $\mathbb{G}_m^n$ (Thesis defense, July 2024)

- Massey Products of Cyclotomic Units (ATC talk, December 2021)

- Siegel's Rationality Theorem (December 2019)

- The Chabauty-Coleman Method (October 2019)

- Tate's Analogue of Riemann-Roch (March 2019)

- Classical Groups (December 2018)

- The Modularity Theorem (December 2018)

- Artin L-Functions (March 2018)