

ELISE ASKESEN

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EDUCATION AND PROFESSIONAL HISTORY

Pepperdine University <i>Assistant Professor, Mathematics</i>	Malibu, CA August 2025-Present
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EDUCATION

University of Iowa <i>MS, Mathematics</i> <i>PhD, Mathematics</i> Thesis Advisor: Dr. Ryan Kinser Thesis Topics: Topological Data Analysis and Actions of Hopf Algebras	Iowa City, IA December 2022 Expected May 2025
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Central College <i>BA, Mathematics Secondary Education, summa cum laude</i>	Pella, IA May 2020
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Budapest Semesters in Mathematics <i>Mathematics Education Student</i> ◇ Studied abroad in an academically rigorous and math-intensive program for mathematically gifted students ◇ Learned to teach mathematics using an inquiry based approach, namely through the Pósa Method	Budapest, Hungary January 2018 - May 2018
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PROFESSIONAL APPOINTMENTS

NSF Research Assistant , University of Iowa <i>Quivers in quantum symmetry</i> , Dr. Ryan Kinser (PI), award DMS-2303334	January-May 2024
Teaching Assistant , University of Iowa	August 2020 - January 2024, Aug. 2024 - Present

HONORS AND AWARDS

Ballard and Seashore Dissertation Fellowship <i>University of Iowa</i>	Spring 2025
Graduate College Summer Fellowship <i>University of Iowa</i>	Summers 2023 & 2024
Dale T. Peer Scholarship <i>University of Iowa, Department of Mathematics</i>	October 2023
Erwin and Peggy Kleinfeld Scholar <i>University of Iowa, Department of Mathematics</i> Awarded for excellent scholarship in mathematics	July 2023
Outstanding Teaching Assistant Award <i>University of Iowa</i>	May 2023

CERTIFICATIONS

Associate Level CIRTl Certificate

July 2024

Engaged in a month-long Center for Integration of Research, Teaching, and Learning (CIRTl) course to be able to describe and recognize the value of evidence-based teaching, learning communities, and learning through diversity

Certificate in College Teaching

Expected December 2024

Participated in three courses and two practicums in preparation to use best practices when instructing

TEACHING AND MENTORING

Department of Mathematics, University of Iowa

Iowa City, IA

Primary Instructor:

August 2022 - December 2022

College Algebra (MATH 1005), Fall 2022

- ◇ Instructor of record responsible for four lectures a week, supporting students, coordination and collaboration with seventeen other instructors
- ◇ An overall average of 5.7 out of 6 on students' course evaluation survey measuring organization, clarity, effectiveness of methods, learning materials, assessments, and support

Lead Teaching Assistant

January 2023 - December 2023

- ◇ First point of contact for an average of 250 students a semester, primary administrative support for faculty, main manager of ICON (Canvas) Learning Management System, collaborated with faculty on quality of learning activities and assessments, organized collaboration of teaching assistants and primary instructor
- ◇ Leveraged the role for student success through compassion

Graduate Teaching Assistant:

August 2020 - Present

Introduction to Linear Algebra (MATH:2700), Fall 2024

- ◇ Write weekly quizzes and activities, offer support for students, and collaborate with three faculty members

Mathematics for the Biological Sciences (MATH:1440), Spring 2023, Fall 2023

- ◇ Provided instruction twice a week, wrote and graded quizzes, designed activities for all teaching assistants, and supported students through office hours
- ◇ Collaborated frequently with the primary instructor(s) to disseminate information to students through the role of lead teaching assistant
- ◇ An overall average of 5.8 and 5.7 out of 6, respectively, on students' course evaluation survey measuring organization, clarity, effectiveness of methods, learning materials, assessments, and support

Calculus I (MATH:1850), Spring 2022

◇ Instructed two discussion sections twice each week, informed review topics and quiz content, administered and graded quizzes, supported students through office hours

◇ An overall average of 5.6 out of 6 on students' course evaluation survey measuring organization, clarity, effectiveness of methods, learning materials, assessments, and support

Calculus for the Biological Sciences (MATH:1460), Spring 2021, Fall 2021

◇ Designed two interactive (hybrid) lessons a week, wrote, administered, and graded assessments, assisted students in office hours

◇ An overall average of 5.8 and 5.7 out of 6, respectively, on students' course evaluation survey measuring organization, clarity, effectiveness of methods, learning materials, assessments, and support

Quantitative Reasoning for Business (MATH:1350), Fall 2020

◇ Created and delivered engaging (hybrid) instruction for two days a week administered and graded assessments, assisted students in office hours

◇ An overall average of 5.7 out of 6 on students' course evaluation survey measuring organization, clarity, effectiveness of methods, learning materials, assessments, and support

Calculus and Matrix Algebra for Business (MATH:1380), Fall 2020

◇ Implemented (hybrid) instruction two days a week, administered and graded assessments, assisted students in office hours

◇ An overall average of 5.4 out of 6 on students' course evaluation survey measuring organization, clarity, effectiveness of methods, learning materials, assessments, and support

Practicum

Iowa City, IA

First-Year Graduate Seminar (MATH:5900) August 2024 - December 2024

◇ Assist the primary instructor in developing classes to help first year students navigate graduate school, serve as a peer mentor

Introduction to Abstract Algebra I (MATH:3720) August 2024 - December 2024

◇ Observe classes and will teach a week's worth of lectures

Tutoring

August 2020 - Present

◇ Provided drop-in tutoring for all students in mathematics courses through the *Math Lab*, and specifically for military connected students in *Math Platoon*

Directed Reading Program

Iowa City, IA

Mentor

January 2024 - May 2024

◇ Developed a plan of study to introduce an undergraduate to Topological Data Analysis and mathematics research

Central College Upward Bound, Central College

Pella, IA

Tutor-Counselor

Summers 2017 - 2020

◊ Assisted in math classrooms, coordinated and led study sessions, and interacted with a diverse group of future first generation students in a variety of settings

Student Teaching

January 2020 - May 2020

◊ Fulfilled the role of the teacher and successfully met teacher licensure guidelines at both the middle and high school levels

Central College Teacher Academy

Pella, IA

Student Observer/Learner

January 2017 - May 2020

◊ Assisted in my mentor teacher's classroom by working with students one-on-one and in small groups, providing whole class instruction, and completing other supporting tasks

PUBLICATIONS

1. **Askelsen, E.**, Kinser, R. Actions of Hopf-Ore Extensions of Group Algebras on Path Algebras. *Preprint, arXiv:2410.14880, 14 pp., 2024.*

INVITED TALKS

1. *Hopf Actions of Hopf-Ore Extensions of Group Algebras on Path Algebras*, QuaSy-Con II. Notre Dame, IN. In-person. May 2024
2. *Actions of Some Noetherian Hopf Algebras on Path Algebras*, Underrepresented Students in Topology and Algebra Research Symposium (USTARS). Iowa City, IA. In-person. April 2024
3. *Actions of Some Noetherian Hopf Algebras*, St. Louis University. Algebra Seminar. Online. April 2024
4. *The Topological Data Analysis Pipeline and Persistent Homology*, Central College. In-person. November 2023

SEMINAR PRESENTATIONS

1. *Actions of Some Hopf-Ore Extensions on Path Algebras*, Algebra Seminar. University of Iowa. In-person. September 2024
2. *Actions of Some Hopf-Ore Extensions on Path Algebras*, Applied and Computational Mathematical Sciences Day. University of Iowa. In-person. September 2024
3. *An Introduction to Hopf Algebras*, Prospective Student Research Seminar. University of Iowa. In-person. March 2024
4. *Hopf Algebras in Quantum Physics*, Graduate and Undergraduate Student Seminar (GAUSS). Iowa City, IA. In-person. October 2023
5. *The Topological Data Analysis Pipeline and Persistent Homology*, Graduate and Undergraduate Student Seminar (GAUSS). Iowa City, IA. In-person. October 2022

6. *An Investigation of the Stability of Multiparameter Persistent Homology*, Algebra Seminar. University of Iowa. In-person. October 2022

WORKSHOPS ATTENDED

- Turning Your Research into Teaching** **University of Iowa**
 Intensive four week workshop to create an undergraduate level course about Topological Data Analysis using backward design. June 2024 - July 2024
- Research on Undergraduate Mathematics Education (RUME) Online, Univ. of Nebraska Omaha** June 2024 - July 2024
 A forum to share research pertaining to the learning and teaching of undergraduate mathematics.
- CBMS Conference in Topological Data Analysis and Persistence Theory** **Valdosta State University**
 Introduction to topological data analysis and persistence theory. August 2022

LEADERSHIP AND SERVICE

- Math Graduate Board**, University of Iowa **Iowa City, IA**
General Liaison January 2023 - Present
 ◇ Act as a formally appointed liaison between the mathematics student body, faculty, and College of Liberal Arts and Sciences, mediate discourse to better the graduate student experience
- Member of the Travel Funding Committee* January 2022 - January 2023
 ◇ Reviewed applications for funding and awarded departmental funding
- Association for Women in Mathematics Student Chapter** **Iowa City, IA**
Treasurer January 2024 - Present
 ◇ Located and applied for funding, participated in and organized chapter events
- Student Reading Seminar Organizer** **Iowa City, IA**
Joint organizer August 2023 - Present
 ◇ Chose topic, organized schedule, and presented material once every four weeks
- Sonia Kovalevsky Day Organizer** **Iowa City, IA**
Joint organizer November 2022 - April 2023
 ◇ Jointly organized a fun and interactive day for 25-30 high school girls to learn about careers in mathematics and some interesting math
- Graduate Student Senate**, University of Iowa **Iowa City, IA**
Member of the Teaching Committee August 2022 - August 2023
 ◇ Planned and hosted professional development and appreciation events to support, equip, and encourage teaching assistants

References available upon request.