

Catherine Zimmitti

Curriculum Vitae

CONTACT INFORMATION	University of Nebraska - Lincoln Department of Mathematics 203 Avery Hall Lincoln NE 68588-0130 USA	czimmitti2@huskers.unl.edu www.math.unl.edu/~czimmitti2 www.linkedin.com/in/catherine-zimmitti
RESEARCH INTERESTS	My research interests are in Operator Theory. I am currently working on several problems related to representations of the Cuntz algebra.	
EDUCATION	University of Nebraska - Lincoln , Lincoln, Nebraska Ph.D in Mathematics [May 2022] Thesis Advisor: David Pitts M.S. in Mathematics May 2019 GPA: 3.977 University of Houston , Houston, Texas B.S. in Mathematics, Minor in Chemistry May 2017 <i>The Honors College, Summa Cum Laude</i>	
TALKS, PRESENTATIONS, AND PANELS	Talk: “Wandering vectors for a unitary U and $\sigma(U)$ ” Operator Algebra Seminar, University of Nebraska - Lincoln September 2021 Talk: “An Interesting Construction Involving Free Semigroup Algebras” C^* -Seminar, Arizona State University April 2021 Talk: “Matrices Diagonizables” Seminar de Matemáticas, University of Nebraska - Lincoln April 2021 Talk: “Section III.3 Perturbations from Davidson” Operator Algebra Seminar, University of Nebraska - Lincoln March 2021 Talk: “Gauge Invariant and Cuntz Krieger Uniqueness Theorems” Operator Theory Reading Seminar, University of Nebraska - Lincoln February 2021 Talk: “Definition of K_0 -group of a Unital C^* -algebra” Operator Algebra Seminar, University of Nebraska - Lincoln September 2020 Talk: “La teoría de votación” Seminar de Matemáticas, University of Nebraska - Lincoln September 2020 Talk: “Intro to Hilbert Spaces and $\mathcal{B}(\mathcal{H})$ ” Operator Theory Reading Seminar, University of Nebraska - Lincoln September 2020 Talk: “¿Qué es una C^* -álgebra?” Seminar de Matemáticas, University of Nebraska - Lincoln February 2020 Talk: “Berg’s Technique (from Davidson VI.4)” Operator Theory Reading Seminar, University of Nebraska - Lincoln February 2020	

Talk: “Irrational Rotation Algebras (from Davidson VI.1)” Operator Theory Reading Seminar, University of Nebraska - Lincoln	January 2020
Talk: “Graph C^* -algebras: ‘ C^* -algebras you can see” Graduate Student Seminar, University of Nebraska - Lincoln	November 2019
Talk: “Cuntz Algebras (from Davidson V.4)” Operator Theory Reading Seminar, University of Nebraska - Lincoln	October 2019
Talk: “A proof of Glimm’s Lemma (from Davidson II.5)” Operator Algebra Seminar, University of Nebraska - Lincoln	September 2019
Panelist: “Graduate School in Mathematics” UNL Pi Mu Epsilon Chapter Meeting	April 2019
Talk: “Introduction to Hilbert spaces” Operator Theory Reading Seminar, University of Nebraska - Lincoln	September 2019
Talk: “On complete boundedness of isomorphisms of operator algebras” Operator Algebra Seminar, University of Nebraska - Lincoln	October 2018
Talk: “An introduction to operator algebras” Graduate Student Seminar, University of Nebraska - Lincoln	September 2018
Talk: “Multipliers and Morphisms (from Paulson Ch. 2)” Operator Theory Reading Seminar, University of Nebraska - Lincoln	February 2018
Talk: “On complete boundedness of isomorphisms of operator algebras” Math Literature Seminar, University of Nebraska - Lincoln	June 2018
Talk: “A Voting Method for Multiple Candidates” Nebraska Conference for Undergraduate Women in Math, UNL	February 2017
Talk: “A Voting Method for Multiple Candidates” Texas Undergraduate Math Conference, Llamar University, Beaumont, Texas	October 2016
Poster: “Voting Methods for Elections with Three or More Candidate” Undergraduate Research Day, University of Houston	October 2016
GRADUATE COURSEWORK	
Math 817-818: Modern Algebra	Fall 2017-Spring 2018
Math 825-826: Mathematical Analysis	Fall 2017-Spring 2018
Math 847: Numerical Linear Algebra	Spring 2019
Math 856: Differential Topology	Spring 2020
Math 871-872: Topology	Fall 2017-Spring 2018
Math 896: Seminar, Teaching and Learning in Math Post-Secondary	Fall 2018-Spring 2019
Math 902: Algebra	Spring 2019
Math 911: Theory of Groups	Fall 2020

	Math 921-922: Real Analysis	Fall 2018-Spring 2019	
	Math 923: Topics in Analysis (Partial Actions)	Fall 2018	
	Math 924: Complex Analysis I	Fall 2018	
	Math 925: Complex Analysis II	Spring 2021	
	Math 928-929: Functional Analysis	Fall 2019- Spring 2020	
	Math 956: Topics in Discrete Math (Coding Theory)	Fall 2020	
	Math 990: Topics in Topology (Knot Theory)	Spring 2021	
TEACHING EXPERIENCE	Instructor of Record, Math 102: Trigonometry (2 sections)	Fall 2022	
	Instructor of Record, Math 102: Trigonometry	Fall 2021	
	Instructor of Record, Math 314: Linear Algebra	Spring 2021	
	Instructor of Record, Math 103: College Algebra & Trigonometry	Fall 2020	
	Instructor of Record, Math 102: Trigonometry	Spring 2020	
	Instructor of Record, Math 103: College Algebra & Trigonometry	Fall 2019	
	Instructor of Record, Math 203: Contemporary Math	Summer 2019	
	Instructor of Record, Math 203: Contemporary Math	Spring 2019	
	Instructor of Record, Math 101: College Algebra	Fall 2018	
	Recitation Leader, Math 106: Calculus I	Summer 2018	
	Recitation Leader, Math 106: Calculus I (2 sections)	Spring 2018	
	Recitation Leader, Math 106: Calculus I (2 sections)	Fall 2017	
	ADDITIONAL TEACHING EXPERIENCE	Course Material Creation and Development for Math 102: Trigonometry	Summer 2022
		<i>Description:</i> In this project I (along with another graduate student and faculty member) expanded the trigonometry course from 2 credits to 3 credits. We added new material, including expository material and application sections, to the open-source online textbook (PreTeXt), the course packet, the online homework in WeBWorK (Perl), and videos. This material serves 100-200 students every semester.	
Course Material Creation and Development for Math 106: Calculus I		Summer 2021-Spring 2022	
<i>Description:</i> I developed and coded an online problem bank for the calculus exams in WeBWorK (Perl). This material serves about 1000 calculus students every semester.			
	Textbook Contribution and Development for Math 104: Applied Calculus	January 2021	
<i>Description:</i> I edited the existing open-source Math 104 textbook (PreTeXt) and adapted existing Math 106: Calculus I material to the Math 104 textbook.			

	Instructor/leader for Graduate Student Analysis Qualifying Exam Workshop	May 2020
	<i>Description:</i> I led a two-week workshop for first-year graduate students at UNL to prepare for the Math 825-826 sequence qualifying exam. During the workshop 12 students met for 4 hours daily and worked in groups on problems from past qualifying exams. I prepared workshop materials, reviewed course material with students, and facilitated discussion amongst the groups.	
	Course Material Creation and Development for Math 102: Trigonometry	Summer 2020
	<i>Description:</i> I created instructional lecture videos and online homework problems in WeBWorK (Perl) to be embedded into the open-source textbook (PreTeXt) for the UNL Math 102 course.	
	Learning Assistant, Math 104: Applied Calculus	Spring 2020
	Grader, Math 309: Introduction to Proofs	Fall 2020
	Grader, Math 325: Elementary Analysis	Fall 2019
	Math Resource Center Counselor	Fall 2017, Spring 2019, Fall 2019, Spring 2021, Fall 2022
HONORS AND AWARDS	<i>Linda Bors Fellowship (\$1000)</i> University of Nebraska - Lincoln Department of Mathematics	Fall 2019 - Spring 2020
	<i>Outstanding First Year Student Award (\$750)</i> University of Nebraska - Lincoln Department of Mathematics	Fall 2018- Spring 2019
	<i>Dean's List</i> (GPA of 3.5 or higher out of 4.0) University of Houston College of Natural Science and Mathematics	Fall 2014-Spring 2017
	<i>Arete Award</i> Honors College at the University of Houston	May 2017
	<i>EDGE Summer Program stipend (\$3000)</i> The EDGE Program	June 2017
	<i>Charles P. Benner Scholarship (\$1000)</i> University of Houston Department of Mathematics	Fall 2016-Spring 2017
	<i>Summer Undergraduate Research Fellowship (\$3800)</i> University of Houston Office of Undergraduate Research	Summer 2016
	<i>Provost Undergraduate Research Scholarship (\$1000)</i> University of Houston Office of Undergraduate Research	Spring 2016
	<i>H-LSAMP Scholarship (\$1000)</i> Houston-Louis Stokes Alliance for Minority Participation	Spring 2016 - Spring 2017
	<i>Academic Excellence Scholarship (\$20,000)</i> University of Houston	Fall 2014 - Spring 2017
DEPARTMENTAL SERVICE	Organizer, Operator Theory Reading Seminar	Fall 2021
	Graduate Mentor	Fall 2020 - Spring 2021

UNL Graduate Student Assembly Math Department Representative	Fall 2019 - Spring 2020
President, UNL AMS Graduate Student Chapter	Fall 2018 - Spring 2019
Volunteer, Nebraska Conference for Undergraduate Women in Math	2018, 2019, 2020, 2021
Volunteer, UNL Math Day	2017, 2018, 2019, 2020, 2021

ADDITIONAL SKILLS

- L^AT_EX
- HTML/CSS
- Perl
- PreTeXt
- GitHub
- Python
- MATLAB