

Nicholas (Nick) Meyer

Mathematics PhD Candidate

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About me

I am a fourth-year Mathematics Ph.D. Candidate at the University of Nebraska specializing in low-dimensional topology. I'm primarily interested in knot theory and manifold decompositions in dimensions three and four. I am advised by <https://sites.google.com/view/alexzupan>

Education

August 2018 – May 2024 (Expected)

August 2018 – May 2020

August 2015 – May 2018

Ph.D. in Mathematics

University of Nebraska – Lincoln

M.S. in Mathematics

University of Nebraska – Lincoln

B.S. in Mathematics (Minor: Physics)

Cum Laude, Winona State University

Relevant Coursework

General and Algebraic Topology

Differential Topology

Topics in Topology: 4-Manifolds

Knot Theory

Homological & Commutative Algebra

Topics in Topology: Cohomology

Selected Talks

October 2021

Maps from 3-manifolds to 4-manifolds that induce isomorphism on fundamental groups (Part 2)

Groups, Semigroups, and Topology Seminar, University of Nebraska – Lincoln

June 2021

A Geometric Introduction to Heegaard Splittings and Trisections

GOSS (Graduate Online Seminar Series), Online
Pants: An Introduction to Oriented Cobordism Theory

April 2021

Graduate Student Seminar, University of Nebraska – Lincoln

March 2021

Pants: An Introduction to Oriented Cobordism Theory

Graduate Students Talking Groups, Semigroups, and Topology Seminar, University of Nebraska – Lincoln

October 2020

Heegaard splittings and trisections 101

Groups, Semigroups, and Topology Seminar, University of Nebraska – Lincoln

October 2020

Things knot theorists want you to know, but won't tell you

Graduate Students Talking Groups, Semigroups, and Topology Seminar, University of Nebraska – Lincoln

November 2019

Trisections from Morse 2-functions

4-Manifolds Seminar, University of Nebraska – Lincoln

October 2019

An Alexander Polynomial for Knots in Thickened Surfaces

Graduate Students Talking Groups, Semigroups, and Topology Seminar, University of Nebraska – Lincoln

October 2019

Orderings on 3-manifold groups

Groups, Semigroups, and Topology Seminar, University of Nebraska – Lincoln

September 2019

Heegaard-Kirby Diagrams for Trisections of 4-Manifolds

4-Manifolds Seminar, University of Nebraska – Lincoln

March 2019

The Extension Problem for Topological Dynamical Systems via Monoid Actions

Graduate Students Talking Groups, Semigroups, and Topology Seminar, University of Nebraska – Lincoln

April 2018

A Study of the Invariance of Finite-Dimensional Measures under Group Actions

Pi Mu Epsilon Conference, Saint John's University

Fall 2016 — Fall 2017

Six versions of "On The Algebra of Rotations in \mathbb{R}^3 "

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Selected Conference/Workshop Participation

January 2022	Joint Mathematics Meeting 2022
July 2021	Gauge Theory in Geometry and Topology, Summer Graduate School at MSRI
June 2021	Nearly Carbon Neutral Topology Conference
June 2021	Georgia Topology Conference 2021
June 2021	Summer Trisectors Workshop 2021
December 2020	Winter Trisectors Workshop 2020
June 2020	Nearly Carbon Neutral Topology Conference
February 2020	Nebraska Conference for Undergraduate Women in Mathematics (Volunteer)
September 2019	Midwest Geometry Conference
February 2019	Nebraska Conference for Undergraduate Women in Mathematics (Volunteer)
July 2017	MAA Mathfest
April 2017	MNSCU Scholars Conference
March 2017	MUMS/CURM Conference

Awards and Honors

May 2018	Winona State University Distinguished Graduate in Mathematics
April 2018	SIMIODE SCUDEM 2018 Won local Mathematical Modeling competition
November 2017	PME Wisconsin Section- Math Group Competition Membership in winning team of the group competition.

Other Activities

Summer 2021	Polymath REU Jr. 2021 Mentored for an undergraduate research program with Alex Zupan on bridge trisections and knotted surfaces.
Summer 2021	SIPS-GT 2021 Organized an online weekly summer seminar on the Generalized Property R Conjecture and the Andrews-Curtis Conjecture.

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Professional Experience

August 2018 – Present

Graduate Teaching Assistant

University of Nebraska – Lincoln

I taught many undergraduate courses using active learning methods, both in-person and at a distance, much of which occurred during the COVID-19 pandemic. I also served as associate convener for several courses, meaning I oversaw multiple sections with an average enrollment of 300+ students per semester.

May 2018 – July 2018

Learning Clinician

Lindamood-Bell Learning Processes

I aided students aged 5-21 with various learning disabilities in their journeys learning to read, spell, and do math using peer-reviewed, differentiated instructional techniques.

August 2016 – May 2018

Math, Statistics, and Physics Peer Tutor

Winona State University

I assisted peers in maximizing learned content and developing good study skills. I also led small-group and individualized study sessions for Mathematics and Physics Classes.

Teaching Experience

Calculus II

Recitations: F18, Sp19, Su19

Contemporary Mathematics

Instructor: Sp20, F20, Sp21;
Associate Convener: Sp21

College Algebra and Trigonometry

Instructor: F21;
Associate Convener: F21

College Algebra

Instructor: F19

Applied Calculus

Instructor: Su20