SEAN RICHARDSON

seanhr@uw.edu ⋄ seanhrichardson.com

EDUCATION

University of Washington. Seattle, WA (GPA: 3.93)   *September 2021 – Present*
Ph.D. Candidate in Mathematics.
Masters of Science in Mathematics.

Lewis & Clark College. Portland, OR (GPA: 3.97)   *September 2016 – May 2020*
Bachelor of Arts in Mathematics and Computer Science, with honors.
Bachelor of Arts in Physics.

TEACHING EXPERIENCE

Differential Equations Instructor : University of Washington   *Summer 2024*
Independent instructor for a hybrid class of 65 students. Planned and gave lectures, wrote and graded exams, held office hours, planned homework, and typed detailed lecture notes, which can be found on my website.

Teaching Assistant : University of Washington   *September 2023 – June 2024*
Teaching assistant for a 500 level graduate mathematics course. Held office hours and graded homework.

Math Circle Instructor : University of Washington   *September 2022 – Present*
Develops and leads fun and engaging mathematics lessons for Seattle middle school students. This a free outreach program focused on independent problem solving that I helped revive and grow following lockdown.

Independent Study Mentor : University of Washington   *September 2022 – June 2023*
Led undergraduate independent studies through the Washington Directed Reading Program.

AmeriCorps Member and Math Tutor : Saga Education   *August 2020 — June 2021*
Provided virtual and in person math tutoring at low income and marginalized high schools in Washington, D.C. Assisted with homework problems, prepared small lessons, and communicated with family members.

Teaching Assistant and Grader: Art of Problem Solving   *August 2020 — June 2021*

Counselor : Ross Mathematics Program   *June 2020 — August 2020*

Peer Tutor and Grader: Lewis & Clark College   *September 2017 — May 2020*

PAPERS

"An inversion formula for the X-ray normal operator over closed hyperbolic surfaces."   *January 2025*
Submitted for publication. (arXiv link ⌕).

"A sharp Fourier inequality and the Epanechnikov kernel."   *October 2023*
Submitted for publication. (arXiv link ⌕).

"You can hear the local orientability of an orbifold" with Liz Stanhope.   *February 2020*
Journal of Differential Geometry and its Applications. (arXiv link ⌕).

SELECTED AWARDS

NSF Graduate Research Fellow   *September 2021 — Present*
Provides full living stipend and funding, covering three years of mathematics Ph.D. research.

Pamplin Honors Society Member ⌕   *September 2017 — May 2020*
Scholarship covering full undergraduate tuition.

MATHEMATICS CLASSES

The below table lists all mathematics course work. Classes taken at the University of Washington are denoted by "UW", classed taken at Lewis & Clark College are denoted by "LC" and classes taken at the Budapest Semesters in Mathematics Program are denoted by "BSM".

Class	Instructor	Term	Institution	Grade/GPA
582 - Sp. Top. Microlocal Dynamics	Gabriel Paternain	Winter 2024	UW	4.0
581 - Sp. Top. Harmonic Analysis	Bobby Wilson	Fall 2024	UW	4.0
583 - Sp. Top. Calderón Problem	Gunther Uhlmann	Spring 2024	UW	4.0
581 - Sp. Top. Nonlinear PDEs	Yu Yuan	Fall 2023	UW	4.0
558 - Intro to PDEs	Gunther Uhlmann	Winter 2023	UW	4.0
549 - Geometric Structures	Yu Yuan	Spring 2023	UW	4.0
536 - Complex Analysis	Steffen Rhode	Spring 2023	UW	3.9
557 - Intro to PDEs	Gunther Uhlmann	Winter 2023	UW	4.0
548 - Geometric Structures	Yu Yuan	Winter 2023	UW	4.0
535 - Complex Analysis	Steffen Rhode	Winter 2023	UW	3.9
581 - Sp. Top. Hard Analysis	Stefan Steinerberger	Fall 2022	UW	4.0
547 - Geometric Structures	Yu Yuan	Fall 2022	UW	4.0
526 - Real Analysis	Hart Smith	Fall 2022	UW	4.0
546 - Differential Geometry	Judith Arms	Spring 2022	UW	3.9
534 - Complex Analysis	Steffen Rhode	Spring 2022	UW	3.8
545 - Differential Geometry	Judith Arms	Winter 2022	UW	3.9
525 - Real Analysis	Bobby Wilson	Winter 2022	UW	3.9
505 - Modern Algebra	Julia Pevtsova	Winter 2022	UW	3.8
544 - Differential Geometry	Jeffrey Case	Fall 2021	UW	4.0
524 - Real Analysis	Bobby Wilson	Fall 2021	UW	3.8
504 - Modern Algebra	Julia Pevtsova	Fall 2021	UW	3.9
422 - Abstract Algebra II	Liz Stahope	Spring 2020	LC	A
421 - Abstract Algebra I	Iva Stavrov	Fall 2019	LC	A
390 - Conjecture and Proof	Tamás Keleti	Summer 2019	BSM	A
230 - Intro to Number Theory	Péter Maga	Summer 2019	BSM	A
422 - Analysis and Topology	Iva Stavrov	Spring 2019	LC	A
341 - Real Analysis	Paul Allen	Fall 2018	LC	A
365 - Complex Variables	Iva Stavrov	Spring 2018	LC	A
305 - Intro to PDEs	Liz Stanhope	Spring 2018	LC	A
235 - Differential Equations	Iva Stavrov	Fall 2017	LC	A
225 - Linear Algebra	Iva Stavrov	Spring 2017	LC	A
233 - Multivariable Calculus	Iva Stavrov	Fall 2016	LC	A

SELECTED TEACHING REVIEWS

"Sean lectured in a clear way that made things easy to understand, and going to office hours always helped"

"Differential equations gave a more real-life approach to the problems, so it made the calculations a bit more fun and motivating unlike other math courses."

"The fact that our professor was very passionate about the subject and was more than willing to go over examples to help our understanding of certain topics helped immensely."

More details on my mathematics teaching and research at **www.seanhrichardson.com** ⬈