SEAN DOUGLAS

Curriculum Vitae

PERSONAL INFORMATION

Name: Sean Patrick Douglas
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EDUCATION

University of Missouri: 2018 - present   *Columbia, Missouri*
Graduate school in mathematics, PhD 2024 (expected)

Greenville University: 2014-2018   *Greenville, Illinois*
Bachelor's of Arts in Mathematics

Kaskaskia College: 2012 - 2014   *Centralia, Illinois*
Associate in Science
Associate in Arts
Associate in General Studies
Nursing Assistant Certification

RESEARCH INTERESTS

My research interests center around Harmonic Analysis with topics such as singular integral operators, multilinear estimates, Littlewood-Paley theory, weighted norm inequalities, and broader function space estimates.

AWARDS

University of Missouri	
Nigel Kalton Mathematics Fellowship	2022-2023
- Awarded to the foremost graduate researcher in analysis at UM	
Excellence in Teaching Award	2019-2020
Greenville University	
Summa Cum Laude- graduated with 4.00	
Clair Carrey Mathematics Scholarship	2016-2018
- Awarded to the top upperclassmen math student	
Science Society Scholarship	2014-2018
Kaskaskia College	
Trustee's Academic Scholarship	2012-2014

ARTICLES

- *Higher order fractional chain rule*, in progress.

- *Fractional chain rule for Triebel-Lizorkin spaces*, submitted in 2023.

- *Kato-Ponce inequality with $A_{\vec{P}}$ weights*, Collectanea, to appear, 2024.

- *Remarks on almost everywhere convergence*, with L. Grafakos, Acta Mathematica Sinica, to appear 2024.

- *Weighted Kato-Ponce inequalities for multiple factors*, with L. Grafakos, provisionally accepted in Mathematische Nachrichten.

- *Norm estimates for the fractional derivative of multiple factors*, with L. Grafakos, provisionally accepted in the Journal Mathematical Analysis and Applications.

INVITED TALKS

- Ohio River Analysis Meeting, Lexington KN. March, 2024

- Ohio State University Analysis Seminar (virtual), Columbus OH. December, 2023

- Prairie Analysis Seminar on Harmonic Analysis, PDE and Geometric Measure Theory, Manhattan KS. November, 2023

- Missouri University of Science and Technology Analysis Seminar, Rolla MO. October 2023

- University of Alabama Analysis Seminar, Tuscaloosa AL. October, 2023

- Kansas State University Analysis Seminar, Manhattan KS. April, 2023

- Washington University Analysis Seminar, St. Louis MO. April, 2023

- Rose-Hulman Undergraduate Mathematics Conference, Terre Haute IN. April, 2017

TEACHING EXPERIENCE

- Made the majority of illustrations using PGF/TikZ in *Fundamentals of Fourier Analysis* by Loukas Grafakos to be published soon.

- Gave 6 lectures in a graduate Harmonic Analysis course on the fundamentals of Muckenhoupt weights at the University of Missouri.

Courses Taught

- Recitation Instructor
  -Advanced Multivariate Calculus Math 4900/7900 (4 credit hours) Spring 2024

- Recitation Instructor, Homework/Quiz Planner and Grader
  -Advanced Calculus Math 4700/7700 (4 credit hours) Fall 2023

- Course Instructor, Test/Quiz Planner and Grader
  -Calculus II Math 1700 (5 credit hours) Spring 2023

- Grader-Real Analysis Math 8420 (Graduate Course) Fall 2022

- Course Coordinator and Instructor (150 students)
  -Precalculus Math 1160 (3 credit hours)   Fall 2022

- Course Instructor and Homework/Test Planner
  -Differential Equations Math 4100 (6 credit hours)   Summer 2022

- Course Coordinator and Instructor-Precalculus Math 1160 (3 credit hours)   Spring 2022

- Course Instructor-Quantitative Reasoning Math 1050 (3 credit hours)   Fall 2021

- Recitation Instructor-Calculus I Math 1500 (6 credit hours)   Fall 2021

- Recitation Instructor-Calculus II Math 1700 (6 credit hours)   Summer 2021

- Recitation Instructor-Calculus I Math 1500 (6 credit hours)   Spring 2021

- Course Instructor-Business Calculus Math 1400 (6 credit hours)   Fall 2020

- Course Instructor-Quantitative Reasoning Math 1050 (3 credit hours)   Summer 2020

- Course Instructor-Quantitative Reasoning Math 1050 (6 credit hours)   Spring 2020

- Course Instructor-Finite Math 1300 (6 credit hours)   Fall 2019

- Course Instructor-College Algebra Math 1100 (3 credit hours)   Summer 2019

- Course Instructor-College Algebra Math 1100 (6 credit hours)   Spring 2019

- Course Instructor-College Algebra Math 1100 (6 credit hours)   Fall 2018

SERVICE

- Graduate Mentor at week long graduate instructor workshop   2022, 2023

- CARES tutor to provide extra support for students from
  underprivileged backgrounds   Fall 2019

- Mentor/Lecturer at math and science engagement week
  at Greenville University, which aims to get high school
  students interested STEM   Fall 2017