

# WDRP

Applications for Winter 2025  
are open from **December 3**  
to **December 26!**

For important dates, detailed project descriptions, and the application link, go to <https://sites.uw.edu/wdrp/applications/>



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## What is WDRP

The **Washington Directed Reading Program (WDRP)** is an initiative from the Mathematics Department launched in Fall 2018. This program pairs interested undergraduate students with mathematics graduate student mentors to embark on a **quarter-long independent reading project**.

## Key Components

- **Start-of-quarter kickoff event**, including an introduction to the program and time to mingle with other undergraduate and graduate students.
- **One-on-one weekly meetings** between undergraduate student mentees and graduate student mentors, to discuss the readings.
- **Mid-quarter event** with undergraduate students only, to connect with students working on other projects.
- **WDRP seminars** featuring math talks by graduate mentors, informal Q&A and mingling sessions.
- **End-of-quarter presentations** by undergraduate students on topics selected from their readings.

## Why WDRP



### Math Outside the Classroom

What is math beyond calculus? What topics interest math researchers? Find out through a unique reading course structure designed to break away from traditional lectures.



### Graduate Student Mentorship

Are you considering a math major, or advancing in your math career as a math major? Connect with a graduate student mentor and gain firsthand insights into pursuing a math degree.



### Course Credit

2 credits (CR/NC) as Math 398 are available to undergraduate students participating in and successfully completing the program.

## Winter 2025 Project List

### Explorer Level: *All math levels welcome*

- The Structure of Mathematical Revolutions
- Intro to Proofs: Discrete Math
- Mathematics for Sustainability
- Applied Category Theory & The Joy of Abstraction
- Combinatorics, Graph Theory, and Computer Science
- Chip-firing on chains of loops

### Beginner Level: *May require some Calculus*

- Poker and Stats
- Exploring Upper-Level Math
- Visualizing Complex Numbers and Functions
- Mathematics of Quantum Mechanics
- Derivatives Markets: Options and Futures

### Intermediate Level: *May require Math 300 (proofs) and possibly other 300-level courses*

- Geometrical Explorations
- The Combinatorics and Geometry of Kaleidoscopes
- Ideals, Varieties, and Algorithms
- Introduction to Lie Groups
- Solving polynomial equations and more
- Mathematical Finance - How Math Ru(i)ns Wall Street
- Investigating Number Theory
- Analytic Number Theory

### Advanced Level: *Students who have taken multiple 400-level mathematics courses*

- Algebraic Curves, an introduction to algebraic geometry
- Exploring algebraic number theory
- Graphs, Optimization, and Transportation Networks
- Spectral Sequences
- Introduction to Algebraic Geometry