

Directed Reading Program

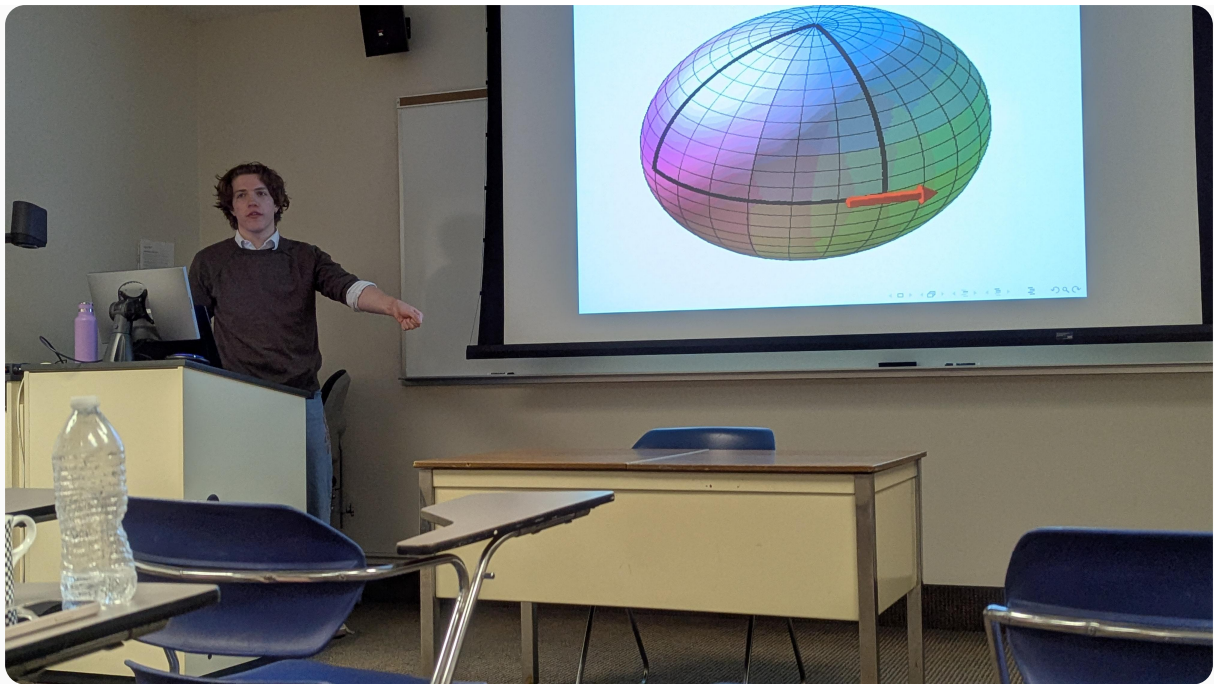
Independent mathematical exploration through mentorship



About the Program

The Directed Reading Program (DRP) pairs undergraduate students with graduate mentors for independent study projects over a semester.

Students explore advanced topics through guided reading, problem solving, and discussion. The program culminates in a final presentation event.



Final presentations at the end of the semester

Expectations (Mentees)

- Weekly 1-hour meetings with mentor
- Independent work between meetings (reading, problem solving, preparation)
- Final presentation
- No exams or grades

Benefits (Mentees)

- Explore advanced topics with out course stress
- Explore material outside the curriculum
- Develop communication skills
- Work closely with a graduate mentor

Expectations (Mentors)

- Propose project ideas with references
- Meet weekly and guide mentee
- Help prepare final presentation

Benefits (Mentors)

- Develop teaching skills
- Deepen understanding of material
- Improve organization skills

Past projects

Fall 2025

Mentor	Mentee	Project
Johnathon Taylor	Zain Syed	Monad Theory & Evolution
Johnathon Taylor	Jurgis Vass	Idempotent Monoidal Categories
Reeve Johnson	Jessica Van Horne	Category Theory & Social Justice
Joseph Dominic	Augustus Kaufmann	Homological Algebra
Jake Hinds	Lucas Maciel Bueno da Silva	Math Tools for Philosophy
Jake Hinds	Michael Cogliano	Knot Theory
Runhan Wang	WenHao Huang	Topology
Andrew Edwards	Grace Wilding	Graph Theory
Andrew Edwards	Avi Chetlin	Surface Geometry

Saravana Mauree	Aadhav Bharadwaj	Tensor Operations in ML
Liwei Hu	Timothy Flisk	Inverse Problems
Aaron H	My Le	Graph Theory

Spring 2025

Mentee	Mentor	Project
Max Seay	Aaron Huntley	Exploring Fractal Dimension
Karel Stryczek	Reeve Johnson	Introduction to Category Theory
James-Lucius Okenwa	Andrew Edwards	The Mathematics of Quantum Mechanics
Carly Schwartz	Reeve Johnson	"The Cube" in Category Theory
Avi Chetlin	Andrew Edwards	Gravity in Curved Spacetime
Dounia Ouzidane	Joseph Dominic	Building to the Urysohn Lemma
Nara Kaibara	Andrew Edwards	Minimal Surfaces
Adam Hutchings	Joseph Dominic	Galois Connection
Atri Banerjee	William Bernardoni	Nevada Semirings
Shane Redmond	Aaron Huntley	Categorical Homotopy
Augustus Kaufmann	William Bernardoni	Rubik's Cube Theory
Nicolas Bliss-Carrascosa	Johnathon Taylor	Compact Hausdorff Spaces
Ritwika Ghosh	Maxwell Kreider	Epileptic Dynamics
Aadhav Bharadwaj	Andrew Edwards	Light Cone & Metric Tensor

Ryan Pitasky	William Bernardoni	Algebraic Geometry in Robotics
Haley Quan	Brandon Oliva	Riemann & Darboux Integration
Leonora Lipson	Rachel Boedicker	Signal Processing
Lucas Maciel Bueno da Silva	Brandon Oliva	Functional Analysis & ODEs
Shreeya Chugh	William Bernardoni	Semirings in AI
Jerry Zhang	Brandon Oliva	Existence & Uniqueness Theorem
Binayek Tiwari	Nirosh/Manuri	Calculus and ODEs