

Professor Neranga Fernando

Student: Zhaoqi (Zack) Wu

Meeting Times: 3pm - 5pm on Fridays

Schedule of Topics

Fall 2024

1. Review of Jones Polynomial
2. Review of Knot Coloring by Quandles
3. Quandles and Groups
 - (a) Fundamental Group
 - (b) Braid Groups
 - (c) Knot groups
 - (d) Knot Quandles
 - (e) Augmented Quandles
 - (f) Quandles and Quasigroups
4. Quandle Rings
5. Yang-Baxter Equation
6. Generalizations of Quandles
 - (a) Racks
 - (b) Bikei
 - (c) Biracks and Biquandles
 - (d) f -quandles

Spring 2025

1. Knot Theory and DNA
2. Homology and Cohomology
3. Enhancements
 - (a) Basic Enhancements
 - (b) Structure Enhancements
 - (c) Quandle Cocycle Enhancements
4. Generalized Knots and Links
 - (a) Colorings of Tangles and Embeddings
 - (b) Surface Knots
 - (c) Virtual Knots
5. Virtual Quandles