# MATH 499: UNDERGRADUATE RESEARCH SEMINAR (FALL 2015)

**Instructor.** Dr. Allison H. Moore ( allison.h.moore@rice.edu)
Office: HBH 456, Office hours: Tuesdays 3:30-5, Wednesdays 2-3

**Course Information.** Meetings on Wednesdays 12:00PM – 12:50PM, HB 427

**Course Description.** This class is an undergraduate research seminar. Instead of lectures, meetings will be based on open-ended discussions. Together, we will explore topics in knot theory, in particular combinatorial descriptions of the the Alexander polynomial, fibered knots, mutants and rotants. The goal will be to carefully formulate and prove some interesting statements in this general area.

**Textbooks.** There are no required textbooks for this class. However, you may find the following references helpful:

- *The Knot Book* by Colin Adams

- *Formal Knot Theory* by Louis Kauffman

- *An Introduction to Knot Theory* by W.B. Raymond Lickorish

**Assignments.** Reading assignments, problems and tasks may be assigned occasionally, and students can work on these at their own pace. Assignments will not be graded and there will not be any exams. However, all students will expected to work towards formulating and proving new statements in mathematics, and to write proofs carefully and concretely.

**Grades.** Your grade will be determined by active participation and attendance. This means reading research level math papers, explaining math to other students, attempting to work hard problems, and writing up proofs and exposition. Most importantly, it means talking about math during our weekly meetings.

**Academic Integrity.** Students are expected to abide by the Rice Honor Code at all times.

**OWL-Space.** Announcements, suggested readings and assignments will usually be posted to OWL-Space. Add yourself to OWL-Space with a NetID and check regularly.

**Students with disabilities.** Any student with a documented disability needing academic adjustments or accommodations is requested to speak with me during the first week of class. All discussions will remain confidential. Students with disabilities need to also contact Disability Support Services in the Ley Student Center.

Visit `http://students.rice.edu/students/Disability.asp` for more information.

**Disclaimer.** The instructor reserves the right to update the expectations outlined in this syllabus. Any modifications will be announced in class before changes are made to the syllabus.