

California State University Long Beach

Math 590 Knot Theory, Fall 2016

Professor : Ryan Blair

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Office : FO3-213

Office Hours: Tu 4:30-5:30pm and Th 3:30-4:30pm

Class Meetings: TuTh 12:30-1:45pm LA5-347

Text: Although the course has no official text, I will be pulling from the following resources

The Knot Book, by Colin Adams

Introduction to Knot Theory, by Richard Crowell and Ralph Fox

Knots and Links, by Dale Rolfsen

Knots Knotes, by Justin Roberts. Found here: <http://math.ucsd.edu/~justin/Papers/knotes.pdf>

Course web page: <http://www.csulb.edu/~rblair/Math590F16/index.html>

Prerequisites: Math 444 or equivalent

Course description: This course is a graduate introduction to knot theory. We will cover the following topics together with additional topics as time permits: the definition of a knot, knot equivalence, knot diagrams, Reidemeister moves, colorings of knots, invariants of knots, free groups, group presentations, the fundamental group, the knot group, the Alexander polynomial, the Jones polynomial.

Attendance: To be successful in this course, you should be present for all class meetings. If you must miss class, please notify me as soon as possible. For more information, see http://www.csulb.edu/divisions/aa/catalog/current/academic_information/class_attendance.html

Homework: Homework assignments will be distributed in class and/or on the course web page, typically once a week. They will be due as noted, always at the beginning of class. You are responsible for being aware of the assignments and due dates

You are strongly encouraged to work in groups to exchange ideas and help each other understand how to approach problems, but the work you turn in must be your own! If you work with others on an assignment, be sure to indicate the names of the other students on your homework. Homework must be legible, well-organized, and written in complete sentences. Handwritten work is fine, but you are encouraged to type up the problems in LaTeX.

Exams: There will be one midterm exams, according to the following tentative schedule:

1) Midterm 1: in class, October 27th

Final Project: The final project will give you the opportunity to explore a topic in knot theory at a deep level. The project will have a written and oral presentation component. Additional information regarding the final project will be distributed later in the course.

Grades: Your grade for the course will be determined based on the following factors:

Homework 50 %

Midterm exam 20 %

Final Project 30 %

Office hours: I will hold regular office hours at the times noted above, unless I email or tell you otherwise in class. Alternatively, you may set up an appointment to meet with me.

Accommodations: Students needing accommodations because of a disability should first register with Disabled Student Services and present the appropriate forms issued by DSS to the instructor no later than two weeks from the date classes begin. Information regarding DSS can be found at <http://www.csulb.edu/divisions/students2/dss/>.

Withdraw: The last day to withdraw without receiving a W is **February 3rd**. The last day to withdraw without the CNSM dean's signature is **April 18th**. Plan early since it's sometimes hard to track people down for signatures. Any office hour may be cancelled due to illness or necessary appointments, and the students should not therefore depend on a faculty member being in his/her office for a particular office hour. Students should secure any necessary signatures well in advance of any deadlines.

Academic Integrity: Academic integrity is expected for assignments and exams. The usual penalty for a student caught cheating or plagiarizing includes an F in the course. Further penalties may include probation, suspension, or expulsion from the university. More information can be found on http://www.csulb.edu/divisions/aa/catalog/current/academic_information/cheating_plagiarism.html

Note: The instructor reserves the right to alter anything on this syllabus at any time during the semester. Any alterations will be announced in class.