Math 496-2, Fall 2005: An elementary introduction to knot theory.

Lecture: MWF 12:40-1:30 in C–304 Wells Hall (WH).

Instructor: Dr. Effie Kalfagianni, A–338 WH.
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Office hours: MWF 11:30-12:30 in A-338 WH.

Background: This course is designed primarily for undergraduates students that have completed the basic sequence of Calculus courses and have had some background in writing proofs. The students must have completed MTH 309 or MTH 314, MTH 310, and MTH 320 (or the honors equivalent).

Textbook: "*The knot book: An Elementary Introduction to the Mathematical Theory of Knots*"', by Colin C. Adams. (American Mathematical Society, Providence, RI, 2004)

Contents: This course will be an elementary introduction to the mathematical theory of knots with emphasis in some developments that occurred in the last twenty years. We will describe the different classifications of knots, their properties, various ways for measuring their complexity and some applications of knot theory to biology and physics. Since some open problems in this area can be explained at an elementary level, students will also have the opportunity to get a taste of what it is like to do research in mathematics.

We expect to cover the first seven chapters of the textbook. if time permits, we will also cover chapter nine.

Assignments/presentations: There will be regular homework assignments (approximately every 2-3 weeks.) The usual time for assignment completion will be a week. *Late homework will not be accepted.* You are encouraged to discuss the assignments problems with each other. However *write-ups you turn in must be your own work.*

Some assignments might require you to give a short blackboard presentation.

Homework guidelines: PLEASE WRITE LEGIBLY.

Proofs should be double spaced and written IN COMPLETE SENTENCES.

Exams: There will be a "take home" final exam. The details and dates will be announced later in the semester.

Missed Lecture(s): If you miss a class, you are responsible for covering the material before you return to class. You should read the corresponding section(s) of the book and if possible get notes from a classmate. Although you are encouraged to discuss your questions with me during my office hours, note that office hours cannot be used as a substitute of a missed class.

Grading scheme/Determination of final grade: Your final grade will be based on the scores of your written assignments and presentations (65%) and your final exam score (35%).

Important Dates for Fall Semester 2005 :

1. Monday August 29 - Classes begin.
2. Friday, September 2- Last day of computer/telephone enrollment and the last day to change to or from Credit/ No Credit or Visitor grading options.
3. Mon. September 5: Labor Day Classes canceled.
4. Friday September 9: - Last day to change from Mth 103, 106, 110, 114, 116, 124, 132, 153H, 254H, or 255H to an approved lower-level course.
5. Thursday September 22: - Last day to drop a course and receive a 100 % refund.
6. Tuesday October 18: March 3 - MIDDLE OF SEMESTER: Last day to drop a course with no grade reported.
7. Thursday and Friday, Nov. 24 and 25: Thanksgiving Holiday.
8. Friday, December 9: Last day of Classes
9. Monday DEcember 12, 10am-12noon: Common Final Exam for Mth 1825, 103,106,110,114,116,124, 126,132, 133,201,202,234,309