

Math 4950, Problem Solving Seminar

Course Information

Fall 2012

Instructor: Dr. Lisa Mantini, 410 Math Sciences, telephone 405-744-5777, email mantini@math.okstate.edu, home page <http://www.math.okstate.edu/~mantini/>, FAX 405-744-8275.

Course Times: Wednesdays from 4:30 until 5:45 PM in MSCS 509.

Office Hours: Tuesday through Friday from 1:00–3:00 PM and by appointment. I am also available every day after class.

Course Objectives: Our objective is to improve your skills at problem solving, to teach you some new mathematical techniques to add to your problem-solving repertoire, and to improve your mathematical writing. One possible goal is to help you to improve your potential score on the Putnam Exam.

Prerequisites: Consent of the instructor.

Textbook: *The Art and Craft of Problem Solving*, 2nd edition, by Paul Zeitz.

Course format: This is a seminar course. We will discuss problem solving techniques, work on interesting problems, and present problem solutions. I will typically bring in one or two new problems every week. Students should try to write up solutions carefully, stating all assumptions, showing and describing all steps, and stating conclusions clearly. For a complicated problem or one with a long solution, you might begin your solution write-up by stating the answer. Then your written solution serves to justify your answer.

Course Requirements: I will be looking for students to

- Attend class weekly, notifying me in advance of any reasons for absence;
- Participate in discussions of problem-solving techniques and in working on solutions to problems posed;
- Present some of your solutions on the board;
- Submit for grading approximately 10 problems, completely solved, with solutions written clearly, in paragraph form, as if submitted on the Putnam Exam.
- Participate in the Putnam Exam, which takes place in MSCS 514 on Saturday, December 1, from 9:00–12:00 and 2:00–5:00 PM.

Grading: Your grade will express your active participation, effort, and success in solving problems.