Course Outline, MATH 480, Autumn 2009

Instructors:

	Prof. Ioana Dumitriu	**Prof. Julia Pevtsova**
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Time and place: TTh 3:30-4:50pm, RAI 116
Office Hours: M 5-6pm, PDL C-342, M 6-8pm, PDL C-36 or by appointment (with either instructor)
Website: http://www.math.washington.edu/ dumitriu/m480_au09.html

Textbook: Paul Zeitz, *The Art and Craft of Problem Solving*, **Wiley & Sons**, Second Edition. We will follow the book loosely; buying the book is *strongly recommended*, and it is essential to have access to a copy.

Office Hours: During the Monday 5-6pm office hours, we will discuss problems and give hints for homework; during the 6-8pm office hours, we will also give and solve Putnam problems, as these sessions will be open to all students who want to take the Putnam competition (see back of sheet). If you need one-on-one time, make an appointment with one of the instructors.

Homeworks and Presentations: Homework will be assigned each Thursday and it will cover material from the Thursday lecture. The homework will consist of 3-5 manageable problems (feedback is welcome) to be handed in the following Tuesday, and an additional 3-5 slightly more complex problems (not be handed in), the solutions to which will be presented in class during the following Tuesday. You are encouraged to work in groups and discuss the problems with us. Hints, encouragement and feedback on ideas and partial solutions will be offered during office hours, Monday prep sessions, by e-mail and by appointment.

In special circumstances, we will allow you to turn in one homework late, at the cost of 50% of the grade.

The Tuesday presentations will be on a more-or-less volunteer basis, but every student will have to give 4 presentations (which means you should generally come in prepared, because we may call on you). The presentations will be graded on clarity, board work, and correctness.

Exams: The **in-class final** will be a 2-hour long exam, time and place TBA (during exam week).

Grading: The main component of the course will be the weekly homework. The written part will account for 40% of the grade, while the 4 student presentations will account for 35%, with the remaining 25% reserved for the in-class final.

Guidelines for homework: One of the goals of this class is for you to learn (or improve) your mathematical writing and reasoning. As such, we expect you to put significant time and effort into doing your homework. Help will be available. Write your solutions carefully, show your reasoning,

produce complete explanations, and use words to clarify your formulas. *Visit course website for more info and writing tips.*

The Putnam Competition. Although this class can be used as preparation for the Putnam competition, and we encourage you to think about taking it, there is no requirement concerning this, and participation in the Putnam will not affect your grade in any way.

If you would like to sign up for taking the Putnam, please do so with one of the instructors ***as soon as possible***. To find out more about the Putnam, see

http://www.math.washington.edu/∼dumitriu/putpage.html

Tentative Syllabus. This preliminary syllabus will be modified as needed, depending on the pace of the class.

Week	Subject covered	Important Dates
1	**Introduction and methods of argument**	
2	**Combinatorics**	
3	**Number Theory**	
4	**Geometry and Trigonometry**	
5	**Advanced Number Theory**	
6	**Sequences and Series**	
7	**Advanced Combinatorics**	
8	**Functional Relations**	
9	—	Thanksgiving break
10	**Algebra**	
11	**Review**	