

Math 170: Ideas in Mathematics

Summer 2008

Instructor: M. Umut Isik

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Office: 4N37

Office hours: Tuesdays and Thursdays, 3:20-4:20pm. Or by appointment

Texts:

Devlin, Keith (2000). *The Language of Mathematics: Making the Invisible Visible*. Holt Paperbacks.

Straffin, P. D. Jr. *Game Theory and Strategy*. Washington, DC: Math. Assoc. Amer., 1993.

Description and aim of the course: The aim of this course is to understand some concepts and methods of mathematics in order to get a good idea of what mathematics is and how it relates to people's lives and the world around us. Our emphasis will be on examples and the historical development of mathematics rather than computational or manipulative skills. We will loosely follow Devlin's book for the first part of the course. Then we will study game theory; which will provide us an understanding of how mathematics can be used to model and understand some social, political and economic conflicts together with many examples (and some of the faulty applications of these ideas).

Lectures are MTWR 4:20-6:20pm at DRL Building, 3C8. At each lecture, we will discuss the reading material in the beginning while making some of the mathematics more rigorous and giving further examples. Then we will do and discuss (together, in groups or individually) some problems which will constitute your homework if you can't finish all the problems in class. This will be due every Monday for the previous week. You will get half of the points for coming to class and trying to solve the problems, and the other half for writing down coherent and correct answers. Each one of you will get her/his worst homework grade dropped from the final grading.

Grading:

In-class/homework 25%

Exam 25%

Paper 35%

Presentation 15%

You must choose a book to read (from the list I will provide or by yourself if you talk to me about it) by June 5th and write a paper on its contents. You will also have to give a 20-30 minute presentation. A first draft of the paper will be due on the 19th of June and the final version will be due in class on the 1st of July.