Mathematical Problem Solving / Summer 2014 / Alex Küronya and Gábor Moussong

Class time: Mon-Wed-Fri 12-2, Thu 2-4 Email: Gábor Moussong: mg@cs.elte.hu, Alex Küronya: kalex@math.bme.hu Office hours: TBA

Text: There will be no official text for the course, problem sheets and supplementary material will be provided and/or pointed out.

Course Web Page: http://www.math.bme.hu/ kalex/MPS.html

Prerequisites: Familiarity with basic concepts of mathematics (sets, functions, integers/divisibility, real numbers, etc.), elementary plane geometry will be assumed; so will be some practice in proof-based mathematics.

Short Description: Problem solving skills are one of the main assets of the modern mathematical curriculum, that in part responsible for a large percentage of the current job opportunities for mathematicians on today's job market. The primary goal of this course is to develop/train these skills in a wide variety of mathematical settings.

The various training grounds will of course provide extra mathematical knowledge in the areas treated; these will include elementary number theory, plane geometry, theory of algorithms, and algebra.

Grading and Exam schedule: There will be an in-class final exam, however, most of the course work will come in in form of weekly homework, part of which will be graded. The final exam will count for 40% of the course grade, the remaining 60% will come from the homework. The course will not be graded on a curve.

Homework/class work: Homework will be assigned twice a week, however, only one or two problems per sheet will be graded (these will be marked by an asterisk). The problems to be handed in are due within one week. This means the *beginning* of the class. No late homework is accepted.

Every correct solution to a homework problem is worth 5 points, but only one solution per problem will count. Beside the compulsory homework problems there will be more challenging extra problems (marked with two asterisks). These can also be handed in, and in case of success, they will give you 5 points. The one-week rule applies here as well.

You are strongly encouraged to discuss homework problems with other students in the course, but please write up solutions in your own words. You are expected to understand your own solutions in full detail. If you rely on sources different from the course notes, it is expected that you name these sources and the extent you have made use of them.

No class attendance will be taken.