

MATH 503 Discrete Mathematics

Instructor: Jozsef Solymosi <solymosi@math.ubc.ca>

Suggested schedule:	Day	Start Time	End Time	Building	Room
Term	Tue Thu	10:00	11:30	Mathematics Annex	1102
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Please note that there will be no classes on the first week.

In the first part of this course we will follow Lovasz' exercise book. It gives an excellent review of the most useful techniques and methods in discrete mathematics. The main purpose of the book is to provide help in learning existing techniques in combinatorics. The most effective way of learning such techniques is to solve exercises and problems. This book presents all the material in the form of problems and series of problems (apart from some general comments at the beginning of each chapter). In the second part, a hint is given for each exercise, which contains the main idea necessary for the solution, but allows the reader to practice techniques by completing the proof. In the third part, a full solution is provided for each problem. This book will be useful to those students who intend to start research in graph theory, combinatorics or their applications, and for those researchers who feel that combinatorial techniques might help them with their work in other branches of mathematics, computer science, management science, electrical engineering, and so on. For background, only the basic elements of algebra, group theory, probability and analysis are needed.

During the second half of the course we will review some more advanced and recent results in discrete mathematics.

László Lovász: Combinatorial Problems and Exercises: Second Edition

The Hungarian version is available online at

<http://www.tankonyvtar.hu/konyvek/kombinatorikai-problemak/kombinatorikai-problemak-081028-32>

Even if you don't speak Hungarian, the webpage with a web translator might be a useful source.

There will be HW questions, two midterms, and a take-home-final to decide your grade. Solving exercises will be a central part of the course.

Jozsef Solymosi