Please refer to last year's Kurs-PM for further information.

Course literature

Norman L. Biggs, Discrete Mathematics, Oxford Science Publications

OR

Ralph P. Grimaldi, Discrete and Combinatorial Mathematics, Addison Wesley

OBS! Purchase of one or other course book is highly recommended. The reason for listing two is as follows : Biggs book has been used in previous years. There has, however, been a good deal of student criticism of the book as not containing enough worked examples or exercises. Hence, I decided to change to Grimaldi's book, which does not suffer from the same deficiencies, I believe. Problem is, due to a bureaucratic meltdown, Biggs book has been ordered in by Cremona anyway.

Hence, what I will do is formally follow Biggs, but hand out copies of or post on the homepage material from Grimaldi's book which I consider helpful (subject to copyright restrictions), for those of you who buy Biggs. And for those who buy Grimaldi (which you'll have to sort out yourself), I will post on the homepage the exercises I do from Biggs at lektioner.

Course content

The term 'Discrete Mathematics' covers a broad spectrum of mathematics. In this course I will give an introduction to several topics which I hope represent a good cross-section of this spectrum - time permitting. Topics to be covered include :

1. Counting techniques (enumerative combinatorics) - chapters 9,10,11,12,19,25 in Biggs.
2. Graph theory - chapters 15,16,17,18.
3. Relations, modular arithmetic, RSA encryption - this material is only partly covered in Biggs, mostly chapters 8 and 13. Otherwise, refer to your lecture notes

4 (If we have time, which is unlikely !). Error correcting codes - chapter 24.

Note that the chapter numbers refer to the latest edition of the book. To convert to the previous edition subtract 7 from each chapter number.

Examination

The examination will consist of three homework exercises and a final written exam. Approximately one-third of the course points will be given for the homework and two-thirds for the exam. Each homework exercise will also include one or two, perhaps more difficult, 'bonus problems', which give bonus points amounting to about 10 percent of the total.

In order to pass the course, you need to achieve (i) a minimum overall grade of 50 percent (ii) a minimum grade of 40 percent on the exam.

The exam will consist of a number of problems to solve - you will not be asked to recite proofs of theorems in the lecture notes or the text book. These problems will be of a similar nature to material covered in the lektioner and in the easier homework exercises.

OBS! The material on the home page for last year's course gives a good indication of what you can also expect this time round.