

MA3210: Introduction to Combinatorics

Text. Richard A. Brualdi, Introductory Combinatorics, Fifth Edition, Prentice Hall, 2010.

Course Description. MA 3210 - Introduction to Combinatorics Topics include set theory, mathematical induction, integers, functions and relations, counting methods, recurrence relations, generating functions, permutations, combinations, principle of inclusion and exclusion, graphs (including planar graphs). Further possible topics are graph coloring, trees and cut-sets, combinatorial designs, Boolean algebra. Pre-Requisite(s): MA 2320 or MA 2321 or MA 2330

Syllabus.

Date	Week	Sections Covered	Homework/Exam	Due
Aug 30	01	2.1, 2.2	HW01 pages 61- 67 Exercices 4, 6, 7, 9, 12	Sep 08
Sep 06	02	2.3, 2.4, 2.5	HW02 pages 61- 67 Exercices 26, 32, 45, 51, 55b	Sep 15
Sep 13	03	3.1, 3.1, 3.3	HW03 pages 82- 84 Exercices 1, 4, 5, 10, 14, 15, 16, 18	Sep 22
Sep 20	04	Review	Exam 1 (Takehome)	Sep 29
Sep 27	05	5.1, 5.2, 5.4, 5.5	HW04 pages 154-160 Exercices 5, 7, 8, 16, 19	Oct 06
Oct 04	06	6.1, 6.2	HW05 pages 154-160 Exercices 37, 38, 39, 47	Oct 13
Oct 11	07	6.3, 6.4, 6.5	HW06 pages 198-199 Exercices 2, 5, 9, 13, 14	Oct 25
Oct 18	08	7.1, 7.2, 7.3	Exam 2 (Takehome)	Oct 27
Oct 25	09	9.1, 9.2, 9.3	HW07 pages 337-340 Exercices 4, 10, 13, 14	Nov 03
Nov 01	10	11.1, 11.2, 11.5	HW08 pages 449-460 Exercices t.b.a.	Nov 10
Nov 08	11	12.1, 12.3	HW09 Exercices t.b.a.	Nov 17
Nov 15	12	10.1, 10.2, 10.3	Exam 3 (Takehome)	Nov 24
Thanksgiving break				
Nov 29	13	t.b.a		
Time/date of Final exam will be available at the end of week 06				

Grading. Your grade will be based home work assignments (20%) on 3 midterm examinations (60%) and a final examination (20%).

Homework. Clearly mark the beginning and end of each problem. Put your name at the beginning of each page. I expect the problems to be well written in full English sentences with no gaps in detail or logic. Please be as elegant and as concise as possible. Cite all references.