MATH 132 – Discrete Mathematics

Semester: Spring 2012

Instructor: Hamza Yesilyurt
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Office Hours: Wednesday 10:40-12:30, and by appointment.

Course webpage: http://www.fen.bilkent.edu.tr/~hamza/132.html

Exams & grading:
• 1st Midterm (27%) March 18, 2012 at 2:00 pm
• 2nd Midterm (27%) April 29, 2012 at 2:00 am
• Final Exam* (36%) to be announced later
• Quizzes (10%)

Course schedule: Wed. 9:40 – 10:30, Friday. 10:40 – 12:30 @ B206


Make-up Exam Regulations
Student who misses a midterm or the final exam with a valid and documented excuse is entitled to take a make-up exam subject to the approval of the instructor. The make-up exam takes place after the final exam, covers the same material as the final exam. Although the make-up exam takes place at the end of the semester, the student is expected to contact the instructor as soon as possible.

Tentative Schedule

Week : 1
Principals of Counting: Sums, Products, Permutations, Combinations: The Binomial Theorem (Sections 1.1, 1.2, 1.3)

Week : 2
Combinations with Repetitions, Fundamentals of Logic: Connectives, Truth Tables (Sections 1.4, 2.1, 2.2)

Week : 3
Set Theory: Set Operations, Venn Diagrams, Properties of Integers: Well-Ordering, Mathematical Induction (Sections 3.1, 3.2, 4.1)

Week : 4
Division Algorithm, Euclidean Algorithm, Fundamental Theorem of Arithmetic (Sections 4.3, 4.4, 4.5)

Week : 5
Relations, Functions (One-to-One, Onto, Composition, Inverse), Pigeonhole Principle (Sections 5.1, 5.2, 5.5)

Week : 6
Review, Midterm I
Week : 7
Properties of Relations, Partial Orders, Equivalence Relations and Partitions (Sections 7.1, 7.3, 7.4)

Week : 8
Principle of Inclusion and Exclusion (Sections 8.1), Stirling Numbers (Section 5.3)

Week : 9
Generating Functions, Partitions of Integers (Sections 9.1, 9.2, 9.3)

Week : 10
First Order Linear Recurrence Relations, Second Order Linear Homogeneous Recurrence Relations (Sections 10.1, 10.2, 10.4)

Week : 11
Graph Theory: Subgraphs, Complements, Graph Isomorphism (Sections 11.1, 11.2)

Week : 12
Review, Midterm II

Week : 13
Graph Theory: Vertex Degree: Euler Trail and Circuits Planar Graphs (Sections 11.3, 11.4)

Week : 14
Review

Week : 15
Final Exams : 17.05.2012 - 30.05.2012