Suggested References

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RANDOM GRAPHS

An outline of a series of ten lectures given at the IMA Summer Graduate Student Program at Ohio State University August 23-27, 1993

Lecture 1 *Basics* What is a Random Graph. Threshold Functions. Variance. Appearance of Small Subgraphs.

Lecture 2 *More Random Graphs* Clique Number. Chromatic Number. Connectivity. The Probabilistic Method. High Girth and High Chromatic Number.

Lecture 3 *The Poisson Paradigm* The Janson Inequalities. The Proofs. Appearance of Small Subgraphs Revisited.

Lecture 4 *The Chromatic Number Resolved!* Clique Number Revisited. Chromatic Number. Some Very Low Probabilities.

Lecture 5 *Counting Extensions and Zero-One Laws* Every Vertex in a Triangle. Rooted Graphs. All Vertices in nearly the same number of Triangles. Zero-One Laws.

Lecture 6 *A Number Theory Interlude* Prime Factors. Four Squares with Few Squares. Counting Representations.

Lecture 7 *The Phase Transition* Branching Processes. The Giant Component. Inside the Phase Transition.

Lecture 8 *Martingales* Definitions. Large Deviations. Chromatic Number. A General Setting. Three Illustrations.

Lecture 9 *The Lovász Local Lemma* The Lemma. Property B and multicolored sets of real numbers. Lower Bounds for the Ramsey numbers. Latin Transversals. The Algorithmic Aspect.