

MA3202 R01, Fall 2018
Introduction to Coding Theory

Tuesday & Thursday, 2:05 pm - 3:20 pm, Fisher 131

Professor Dr. Vladimir D. Tonchev

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Office hours: MWTR 11:00 am -12:00 pm, or by appointment.

Text: Vera Pless, *Introduction to the theory of error correcting codes*, Wiley, Third Edition

Learning Objectives: Error-correcting codes are used for improving the reliability of data transmission. This course is an introduction to the mathematical theory of coding, with an emphasis on algebraic and combinatorial methods for designing good codes and decoding algorithms. Learning objectives include techniques for encoding and decoding of linear codes, bounds on the minimum distance, perfect codes, Hamming codes, Golay codes, Reed-Muller codes, cyclic codes, and quadratic residue codes.

Prerequisites: linear algebra: MA2330 or MA2320; abstract algebra: MA3310 or MA4320 (optional).