

(—; 3-0-0)

Introduction to Coding Theory

MATH-406*

Textbook: *Introduction to Coding Theory*, 3rd Edition
by J. H. Van Lint (Springer-Verlag)

Prerequisite: MATH-212* or 217*.

Instructor: Jung-Jo Lee

Evaluation: Homework 100%

Outline:

Construction and properties of finite fields. Polynomials, vector spaces, block codes over finite fields. Hamming distance and other code parameters. Hamming codes, Hadamard codes, Golay codes. Bounds relating code parameters. Cyclic codes, BCH codes and Reed-Solomon codes. Decoding algorithms.