

## MATERI KULIAH

Sumber: San Ling and Chaoping Xing. (2004). *Coding Theory: A first course*. New York: Cambridge Univ Press.

Pertemuan	Materi
1	Introduction, Communication channels, Maximum likelihood decoding, Hamming distance
2	Nearest neighbour distance decoding, Distance of a code, Field
3	Polynomial rings, Structure of finite fields, Minimal polynomials
4	Review, Octave section
5	Vector spaces over finite fields, Linear codes, Hamming weight, Bases for linear codes
6	Generator matrix and parity-check matrix, Equivalence of linear codes, Encoding with a linear code, Decoding of linear codes
7	The main coding theory problem, Lower bounds, Hamming bound and perfect codes
8	UTS
9	Singleton bound and MDS codes, Plotkin bound, Nonlinear codes
10	Griesmer bound, Linear programming bound, Propagation rules
11	Propagation rules, Reed-Muller codes, Subfield codes
12	Review, Octave section
13	Cyclic codes, Generator polynomials, Generator and parity-check matrices
14	Generator and parity-check matrices, Decoding of cyclic codes, Burst-error-correcting codes
15	Review, Octave section
16	UAS

## SISTEM PENILAIAN

Kriteria Penilaian	Persentase
Afektif	10%
Tugas	20%
UTS	30%
UAS	40%

Info lebih lanjut, kunjungi <http://math.fmipa.unmul.ac.id/index.php/nanda>.