

## Math 499

### Introduction to Coding Theory

<b>Week</b>	<b>Date</b>	<b>Topic</b>
1	Feb 12 – 16	Communication channels Error detection and decoding
2	Feb 19 – 23	Modular arithmetic Finite prime fields
3	Feb 26 – Mar 2	Review of linear algebra Vector spaces over finite prime fields
4	Mar 5 – 9	Linear codes
5	Mar 12 – 16	Generator and parity-check matrices Review for Exam 1
6	Mar 19 – 23	Encoding/decoding with linear codes
7	Mar 26 – 30	Lower bounds for codes
8	Apr 2 – 6	Hamming bound Hamming and Golay codes
9	Apr 16 – 20	Further bounds for codes Review for Exam 2
10	Apr 23 – 27	Propagation rules for codes Reed-Muller codes
11	Apr 30 – May 4	Polynomials over finite prime fields Cyclic codes
12	May 7 – 11	Generator polynomials
13	May 14 – 18	Decoding of cyclic codes Reed-Solomon codes
14	May 21 – 25	Quadratic-residue codes
15	May 28 – Jun 1	MDS codes