Mathematics 342. Algebra and coding theory
TTh 9:30-10:50, LSK 460, Winter 2018

Instructor: Zinovy Reichstein

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Textbook: Raymond Hill, A first course in coding theory, Oxford University Press.

Course description: Math 342 is an introduction to abstract algebra and error-correcting codes. Both proof and algorithmic techniques will be emphasized. Topics will include coding and decoding schemes, finite fields, vector spaces over finite fields, linear codes, syndrome decoding, Hamming codes, coding bounds, BCH codes and Reed-Solomon codes.

Registration: Questions regarding registering for this class, switching sections, etc., should be addressed to the Mathematics Department office staff, Rm. 121 Mathematics Building.

Homework: Homework will be assigned bi-weekly and collected in class. Late homework will not be accepted. The lowest homework grade will be dropped.

Evaluation: Course mark will be based on the homework, two midterms and the final exam. The two midterms will be given in class on Thursday, October 19 and Thursday, November 16. The total course mark will be the higher of the following:

Total1 := HW (20%) + Midterm1 (20%) + Midterm2 (20%) + Final (40%) or

Total2 := HW (20%) + Best Midterm (20%) + Final (60%)

Midterm exams are scheduled for Thursday, February 8 and Thursday, March 15.

Students with disabilities: Please see the instructor early in the term if you need any special accommodations.

Academic Integrity: The Mathematics Department strictly enforces UBC's Academic Integrity code

For further information, see the course web page at
http://www.math.ubc.ca/~reichst/342S18syll.html