ELG 5372 (EACJ5504)

Error Control Coding

Fall 2016

Professor:  Dr. Abbas Yongaçoğlu
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Lectures  Tuesday 13:00 - 14:20, SCS E218
           Thursday 11:30 - 12:50, SCS E218

or
or
           S.B. Wicker, Error Control Systems Prentice-Hall 1995

Syllabus:  - Introductory Concepts
           - Introductory Algebra
           - Linear Block Codes
           - Important Linear Block Codes
           - Cyclic Codes
           - BCH and Reed-Solomon Codes
           - Convolutional Codes
           - Viterbi Decoding of Convolutional Codes
           - Trellis Coded Modulation
           - Turbo Codes and Iterative Decoding (if time permits)
           - BICM, LDPC, Polar Codes (as projects)

Grading:   Homework:  % 25
           Project:    % 25
           Final Exam: % 50

Projects:  A small project will be done by each student. The work will be either performance
           evaluation of a coded communications system by simulations (or bounds) or doing
           literature review. Students can come up with their own project ideas, but also a
           list of suggested project topics will be given in the fourth week of classes. Project
           reports of approximately 10 - 20 pages will be submitted in the final week of classes.

Final Exam: This will be 3-hours, open-book, in-class exam in December.

Schedule:  No Class on Nov. 15 and Nov. 17
           Reading Week Oct. 24 - 28, we may have a make up class on Oct. 27
References


   QA 268.B548 1984

   TK 5102.5 .C52 1981

   QA 268 .M3 1977 V 1-2

   TK 5103.7.M53 1985


