Outline

1. Coding Theory
   (a) Linear Codes
   (b) Nonlinear Codes
   (c) Cyclic Codes
      i. BCH codes
      ii. Quadratic residue codes
      iii. Reed-Muller codes
      iv. Vandermond Matrix
   (d) MacWilliams Theorem
   (e) Assmus-Matson Theorem
   (f) MDS Codes

2. Cryptography
   (a) Classical cryptography
   (b) Public key cryptography
   (c) Authentication Schemes
   (d) Threshold Schemes