1035-G1-1093 **Keith E. Mellinger*** (kmelling@umw.edu), Department of Mathematics, University of Mary Washington, 1301 College Avenue, Trinkle Hall, Fredericksburg, VA 22401-5358. *Coding Theory Topics for Your Cryptology Course.* Preliminary report.

In an undergraduate cryptography course, students are typically exposed to basic ciphers, concepts from number theory, modern methods like AES, and public key systems. Such topics form a very important part of modern communication, but do not give a complete picture of the mathematics involved in modern digital communication. In this short talk, I will offer some suggestions on how to enhance an undergraduate course in cryptology with topics from the theory of error-correcting codes. I plan to discuss low-density parity-check codes, as well as some of the non-linear codes used today, including deletion-correcting codes and optical orthogonal codes. Codes like these are used in conjunction with cryptographic protocols to provide secure reliable communication over the Internet and also in wireless technology and hard media. Many of these applications will be discussed together with some ideas on how to incorporate the basics into an undergraduate course in cryptology. (Received September 18, 2007)