1125-B1-1416 **Manmohan Kaur*** (mkaur@ben.edu), Department of Math and CS, 5700 Colleg Road, Lisle, IL 60532. *Computer Implementations of Certain Cryptographic Methods.* Preliminary report.

Cryptology, the science of sending and receiving secret messages, is at the intersection of mathematics and computer science, and encompasses every aspect of modern life. Cryptographic methods are easily accessible to undergraduates, and can help kindle their long term interest in mathematics and its applications. Computer simulations of various cryptographic methods add to the excitement in the classroom, as the students encrypt and decrypt in real time. While implementations of the more traditional cryptosystems are easily available online, the newer ones are not. As a part of our undergraduate course on cryptology, the students work on a project, relating cryptography with another topic of their interest. Some students choose to implement cryptosystems like Enigma, RSA, Diffie-Hellman Key Exchange, El Gamal, etc., in a computer algebra system. Working through their implementation allows them not only to better understand the method, but also introduces them to various nuances and gaps between theoretical cryptography, whose main concern is security, and practical cryptography, which is guided by efficiency. We will describe some of these implementations, how they are used in the classroom, and student outcomes. (Received September 16, 2016)