

1106-C1-259 **Ward Heilman*** (wheilman@bridgew.edu). *Cranks, Rotors, Rods, Algorithms, Quilts and Computations: designing and building encryption devices and methods in a Cryptology course*. Preliminary report.

Students often read about cryptosystems from the Spartan scytale to Enigma, SIGABA, AES and RSA, without tangible comprehension. To help students better understand the components, combinatorics and security behind these and other methods, and to connect them more intuitively to them, students in a Junior level mathematics cryptology course design and build encryption devices or techniques. Some merely recreate objects (like the Jefferson wheel cipher), some combine or improve on them and some design their own encryption schemes or machines. These have various levels of effectiveness which students compute and evaluate. (Received August 16, 2014)