1106-C1-1509 **Michael Olinick*** (molinick@middlebury.edu), Department of Mathematics, 314 Warner Hall, Middlebury College, Middlebury, VT 05753, and **Robert P. Martin**. *Approaching Cryptology Through The Enigma of Alan Turing.*

Courses on the life and work of Alan Turing provide a natural and compelling setting to introduce the mathematical aspects of cryptology to undergraduates. We have developed and taught two such courses: a first year seminar and an intensive winter term class open to all students. Students study classic cryptographic and cryptanalysis schemes including Caesar ciphers, monoalphabetic and polyalphabetic substitutions, Hill and Playfair ciphers, as well as the one time pad as background to understanding the operation and breaking of the Enigma machine. The success of Turing's team on the Enigma code shortened the duration of World War II and saved millions of lives. We also examine Turing's ideas on using the complexity of factorization as a basis for encryption and show how they matured into the RSA algorithm. (Received September 13, 2014)