1096-J5-2609 **Sharon M Frechette*** (sfrechet@mathcs.holycross.edu), Dept. of Mathematics and Computer Science, College of the Holy Cross, 1 College Street, Worcester, MA 01610. *Engaging first-year students in the mathematics of cryptology: "Ciphers and Heroes".*

In 2008, Holy Cross launched Montserrat, a first-year experience that integrates living, learning, and doing from students' first day on campus. As part of this program, each student takes a year-long seminar focusing on a specific discipline, yet heavily emphasizing writing, discussion, and collaborative activities. This fall, I am teaching Ciphers and Heroes, a seminar on historical ciphers up through World War II. In the spring we'll study modern ciphers and authentication protocols in a second seminar, Privacy in the Internet Age. The mathematical content of these courses was once part of an intense one-semester topics course for non-majors. Spreading this across a full year allowed the algebra and number theory background to be introduced more collaboratively. It also gave flexibility in creating activities and choosing readings to engage students in the culture of cryptology as well as the math. From understanding the inner workings of the Enigma machine to discussing pulp magazine detective heroes of the 1920s, students spend the majority of class time doing and relating math to other areas of the curriculum. In this talk, I will discuss several student activities from the fall course, such as learning the Enigma workings by hand using Michael Koss' Paper Enigma. (Received September 17, 2013)