

1106-C1-848

Sharon M Frechette* (sfrechet@holycross.edu), Department of Mathematics & Computer Science, College of the Holy Cross, 1 College Street, Worcester, MA 01543. *Ciphers and Heroes: Introducing first-year students to the world of cryptology*. Preliminary report.

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 one-year seminar that focuses on a specific discipline, yet emphasizes in-class discussions and collaborative activities. My Montserrat seminar, "Can You Keep a Secret?," introduces students to the mathematics and history of cryptology. In the fall course, "Ciphers and Heroes," students learn about historical ciphers up through World War II, by way of collaborative activities and readings that engage them in the culture of cryptology as well as the mathematics. From learning about 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 mathematics to other areas of the curriculum. In this talk, I will highlight a few of my favorite student activities from the course, including an Enigma decryption activity using the iPad app Mininigma, and an exploration of Friedman's attack on the running key cipher using an easy-to-make sliding-column tool. (Received September 07, 2014)