At the University of Redlands, we offer a one-month intensive term course as our transition to upper level mathematics course. While this course has been offered with a variety of topics, students have responded especially well to using topics from cryptology. One of the most important aspects of making this course successful is incorporating a wide variety of discovery-based activities. In this session I will present some of the most successful activities that I have found/developed for engaging students with cryptology. While this course is designed for first and second year mathematics and computer science majors and minors, recommendations for how these materials could be adapted for other levels will also be included. A link to a website with sample handouts and interactive demos (via embedded Sage cells) will be provided. (Received September 15, 2014)