Proposal to Count ENEE 459E (or Equivalent) for CMSC 456
Submitted by Jonathan Katz

MATH/CMSC 456
CMSC 456 (undergraduate cryptography) has been cross-listed with MATH 456 since at least 2002 when I began teaching it. It is a popular course that is typically over-subscribed at the beginning of each semester. For the past 10 years or so, CS has offered one section of CMSC 456 in the Fall and Math has offered two sections of MATH 456 in the Spring. (We are discussing changes to this going forward, but those are irrelevant to the current proposal.)

The Issue
The ECE department has recently hired one faculty member (Dana Dachman-Soled) who would naturally teach undergraduate cryptography, as well as another (Babis Papamanthou) who may want to teach it as well. In fact, Dachman-Soled already taught such a course in Spring 2014 as ENEE 459E, cross-listed as CMSC 498R. The ECE department has asked us to accept ENEE 459E (or equivalent) as credit in place of CMSC 456.

Pros
ENEE 459E as taught by Dachman-Soled in Spring 2014 was closer to the way CMSC 456 is taught by CS than the version offered by Math is, and I would expect the same to hold for a version of the course offered by Papamanthou. On that basis, there is no real reason not to accept ENEE 459E or equivalent as credit for CMSC 456.

Making another section of the course available would increase the number of our students who will be able to take it.

ECE is likely going to continue offering the course regardless of what we decide. (For reference, the current plan going forward is to offer four sections of undergraduate cryptography on campus per year, with the exact split negotiated among all three departments at the time schedules are set.)
From an MC2 perspective, accepting the course for credit would present a more unified picture to students, and would help the new ECE faculty continue to teach this course regularly. (The course is currently more popular among CS students than ECE students.)

**Cons**

Having four sections of cryptography on campus each year seems like a lot. Note, however, that this is not entirely under our control since MATH seems to want to continue offering two per year.

By adding an ECE version of the course, we may reduce the number of students in the CS-taught section. As noted, however, ECE is likely going to continue offering the course anyway. And this is currently a problem we already experience to some extent with the cross-listing with MATH.

While there seem to be no problems with ENEE 459E as taught by Dachman-Soled and Papamanthou, there is the risk that some other ECE faculty will teach the course down the line. That is always a risk, even with courses taught within our own department.

**Proposal**

The computer science department will accept ENEE 459E (or equivalent) as credit in place of CMSC 456.

**Note.** We are currently unsure whether we can create an ENEE 456 class and cross-list it with MATH/CMSC 456. At issue that math is the “home department” for MATH/CMSC 456, and no one seems to know the procedures for triple cross-listing courses.