Number Theory Seminar

The degrees of divisors of $x^n - 1$

Lola Thompson
University of Georgia

Abstract: We discuss what is known about the following questions concerning the degrees of divisors of $x^n - 1 in Z[x]$, as n ranges over the natural numbers:

1. How often does $x^n - 1$ have AT LEAST ONE divisor of every degree between 1 and n?

2. How often does $x^n - 1$ have AT MOST ONE divisor of every degree between 1 and n?

3. How often does $x^n - 1$ have EXACTLY ONE divisor of every degree between 1 and n?

4. For a given m, how often does $x^n - 1$ have a divisor of degree m?

We will also discuss what changes when Z is replaced by the finite field F_p. A portion of this talk is based on joint work with Paul Pollack.

Wednesday, February 6, 2013, 3:00 pm
Mathematics and Science Center: W306

Mathematics and Computer Science
Emory University