

Lethbridge Number Theory and Combinatorics Seminar

Monday — March 13, 2017

Room: B660

Time: 12:00 to 12:50 p.m.

Forrest J. Francis Special Values Of Euler's Function

Abstract: In 1909, Landau showed that

$$\limsup \frac{n}{\phi(n) \log \log n} = e^\gamma,$$

where $\phi(n)$ is Euler's function. Later, Rosser and Schoenfeld asked whether there were infinitely many n for which $n/\phi(n) > e^\gamma \log \log n$. This question was answered in the affirmative in 1983 by Jean-Louis Nicolas, who showed that there are infinitely many such n both in the case that the Riemann Hypothesis is true, and in the case that the Riemann Hypothesis is false.

One can prove a generalization of Landau's theorem where we restrict our attention to integers whose prime divisors all fall in a fixed arithmetic progression. In this talk, I will discuss the methods of Nicolas as they relate to the classical result, and also provide evidence that his methods could be generalized in the same vein to provide answers to similar questions related to the generalization of Landau's theorem.

EVERYONE IS WELCOME!

Visit the seminar web page at

<http://www.cs.uleth.ca/~nathanng/ntcoseminar/>



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