

Department of Mathematics

Applied Mathematics Seminar

The Fundamental Theorem of Algebra and Its Proof

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Time: 2-3 PM

Place: Allgood Hall E259

Abstract

Carl Friedrich Gauss discovered the proof of the fundamental theorem of algebra (i.e., any n th degree polynomial has n roots) in his doctoral dissertation (1799). But Gauss was hesitant to share this with others as he used imaginary numbers and some pictures of them. Gauss himself had proved the theorem in five different ways. There are now several ways of proving the theorem but many standard graduate texts demonstrate the proof through entire functions and Liouville's Theorem. This talk is based on an upcoming article titled "How Fundamental is the Fundamental Theorem of Algebra?" by Steven G. Krantz who is a Fellow of the American Mathematical Society and works at Washington University in St. Louis, to appear in the journal Math Magazine in 2019/2020 published by the Mathematical Association of America. A proof of the Theorem will be provided that fits within the seminar.