

# *Talk Math 2 Me*

How to Divide Polynomials with Multiple Variables & Solve Systems  
of Polynomial Equations

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DERR 329  
12:00pm- 1:00pm

## **Abstract**

You probably have learned how to divide polynomials when there is only one variable, but did you know that a method exists to do it when any number of variables are involved? The method was established only decades ago. It is rarely (if ever) included in standard math curricula, but it could easily be taught right after the one variable division algorithm.

Multivariate polynomial division plays a part in an algorithm that generalizes Gaussian elimination from systems of linear equations to systems of polynomial equations. The algorithm computes a special set of polynomial expressions called a Gröbner basis, which itself has been applied to give unique and powerful computational solutions to a wide range of problems.

This seminar is sponsored in part by Pi Mu Epsilon and the Texas State University Department of Mathematics. For more information or to sign up to speak, contact Ellen Robinson at [ebr21@txstate.edu](mailto:ebr21@txstate.edu).