



**MTH-C406-50**  
**Thinking Algebraically**  
Center for Teaching Excellence  
University of Virginia's College at Wise

Instructor: Ann-Delyse Hopkins  
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Office Hours: By Appointment  
Grading: 3 hour undergraduate college credit

### **I. Course Description:**

Math C406 is designed to refresh your conceptual knowledge of algebra while gaining greater understanding of algebraic thinking skills. We will explore algebra concepts through real world applications and problem solving. This course will cover topics including: linear equations, inequalities, polynomials, quadratic equations, rational expressions, and rational equations. Throughout the course, we will also discuss various methods of teaching these algebraic topics.

This class is designed to be a truly supportive learning community where students can learn and work together in an online format. Since there is no face-to-face meetings, students are required to post on a teaching tip forum each week to share activities and ideas. Students are also required to submit homework every week.

### **Course Goal**

This course will reinforce the content and teaching methods of the Mathematics Virginia Standards of Learning grades 5 through 8 and Algebra I.

### **Course Objectives**

Students in this course should be able to:

- Solve linear equations
- Solve linear inequalities
- Perform operations with polynomials
- Factor polynomials
- Graph linear equations and inequalities
- Solve systems of linear equations
- Perform operations with rational expressions
- Solve rational equations

- Solve quadratic equations by factoring, completing the square, and the quadratic formula
- Graph quadratic equations