

Math 591: Algebra & Algebraic Reasoning
Summer, 2007
TENTATIVE Syllabus

Course Instructor:	Dr. Stephen Smith
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Office Hours:	By arrangement

TENTATIVE Description of the Course:

We will investigate algebra & algebraic reasoning from Algebra 1 on and relate them to pedagogical approaches at the middle and secondary school levels.

We will examine a portion of an NSF-sponsored curriculum for algebra across the four years of high school. I assume that you have many years of experience with algebraic manipulations. We will engage in mathematical activities that are intended to help high school (and could easily be adapted for seventh and eighth graders) students learn algebra from a more concept oriented approach. We will also explore the implications for teachers: goals, classroom practices, assessment, etc. The course will draw on your teaching experiences to examine both content and pedagogy.

We will be flexible concerning allocation of time. We can negotiate the particulars as the class develops.

Please feel free to raise questions, propose alternative explorations, and suggest re-direction of the course.

The key, of course, is for the course to be of use to you as teachers.

Since the class sessions are very long, I expect we will spend significant time engaged in mathematical activities in pairs or small groups followed by discussions of the mathematical content. These will alternate with discussions related to pedagogical approaches that reflect the NCTM Standards—what students might need to know prior to the activity, how it might be introduced, what pedagogical or management issues might arise, the teacher's role, and so forth.

Prerequisite: Permission of the instructor.

Textbooks and Materials required:

Textbooks will be provided.

A scientific calculator.

Assessment:

Participation is an important part of the course and will be assessed on an ongoing, informal basis. Participation means daily attendance (and timely arrival) along with adequate preparation and active contribution to the professional conversations of our class.

I will assign mathematical homework on June 13 due June 15 and on July 16 due July 18. In addition, I will assign a paper on June 15th which will be due on July 16. The paper will include some mathematical work and responses to pedagogical questions related to that work. (All students are expected to complete these though, of course, only those taking the course for credit will be graded on them.)

Note: If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Disability Services Office at 2001 C. B. Hedgecock (227-1700; TTY 227-1543). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state and University guidelines.