

Math 591: Probability and Discrete Mathematics
Summer, 2006
TENTATIVE Syllabus

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

TENTATIVE Description of the Course:

We will investigate probability and discrete math content areas and relate them to pedagogical approaches at the middle and secondary school levels.

We will examine a portion of possible mathematics curriculum for these areas from an advanced standpoint. I assume that you are already familiar with probability and (maybe to a lesser extent) discrete math. However, we will engage in activities that run the gamut from fairly basic probabilistic ideas to those beyond the secondary level. The course will draw on your teaching experiences to examine both content and pedagogy.

We will be flexible concerning allocation of time but I would expect the first two days to be on probability (including counting concepts) and the third and fourth days to be on discrete math. We can negotiate the particulars as the class develops. 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:

Bright, et al. (2003). *Navigating through probability grades 6-8*. NCTM: Reston, VA.

Shaughnessy, et al. (2004). *Navigating through probability grades 9-12*. NCTM: Reston, VA.

(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 homework each of the first three days. For the most part, this will consist of problems that extend or work of that day but may also include questions related to pedagogical issues that require a response of a few paragraphs or so. (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. Hedgcock (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.