

**MATH 416**  
**Problem Solving for High School Teachers**

The course is taught by Prof. Joseph (Buck) Stephen

Tele: 815-753-6737

Fax: 815-753-1112

email: buck@math.niu.edu

Math 416 investigates various mathematical topics in an experiential setting. Topics may include, the construction of the Platonic solids, applications to modeling, the nature of real numbers, mathematical induction, and curve fitting.

It is planned that the course will cover seven or eighth topics. In general, two weeks will be spent on each topic. At first, the goals of the project will not be specific, the focus will be on guided discovery and free exploration. As the discussion progresses, the class will focus on more specific aspects of the topic considered.

For each topic, a written paper will be required. While students are encouraged to work together in this course, the writeup is to be a solitary enterprise. At first, the instructor will help with an outline of the writeup for the projects, but it is expected that students will develop independence in their ability to produce such written work.

Your grade will be based upon the graded written work for the course. Written work is assigned a letter grade, and your final grade will be the average of these grades.

Note that each project included a required *reflections on problem solving* component. This is a separate sheet on which students write about the impact of the topic studied upon their previously held notions, teaching philosophy, knowledge base or methodologies, for instance.