

# Fall 2001 Course Offering

## The Art and Craft of Applying Mathematics:

### A Course in Mathematical Modeling

Have you ever wondered what all that mathematics you studied was actually used for? Would you like to know about the kinds of jobs or job duties mathematically trained people have -- either for your own use or for guiding your students?

In the fall of 2001 I'll be offering an introductory course in mathematical modeling at Plymouth State College. We will look at a variety of different applications of mathematics to the world around us. There will be a special emphasis on areas of application that are in the news or that involve important social issues.

To apply mathematics you must know some mathematics. The prerequisite for this course will be a year of calculus plus some additional study beyond calculus. That additional study could be either additional mathematics courses or courses or experience in areas where mathematics is used. Participants will be expected to know calculus and be able to use it, and to be prepared to make contributions to the class based on their own expertise beyond calculus. They should also have some useful skills with technology or expect to put in some extra time acquiring same. Depending on the individual, these might include graphing calculators, spreadsheets, programming languages, computer algebra systems, etc.

The format will be what I'll describe as team-leader. This means that I will try to provide some structure and common experience for the course, lead group discussions, and advise students working on projects. In past offerings of the course we have sometimes changed the course outline on the spot in response to student interest in a particular application or to interesting news items of the day. There will be opportunities for individual and group projects, but if you have no applications you wish to work on you may prefer to meet with like-minded people and the instructor to investigate additional example applications instead. People working on projects at this point need not attend class but **MUST** file regular progress reports and provide a draft of their final project report well before the end of the course so that it can be evaluated and returned in time for revisions to be completed and resubmitted well before final grades are due.

Officially the course is listed as MA445, Seminar in Applied Mathematics. It meets Tuesday and Thursday evenings from 6:30 to 7:45.

Bob Hayden, Hyde 308  
hayden@mail.plymouth.edu