Math 5 INTRODUCTION TO MATHEMATICAL THOUGHT

Spring 1996 - class meets MWF 1:10-2:00 in Christmas-Saucon 303
Texts - Mathematics and Politics by Alan D. Taylor
Mathematics: the new golden age by Keith Devlin
Instructor - Garth Isaak
Office Hours - M 11-12, W 2-3, F 12-1 and by appointment
Office - Christmas Saucon 337, phone 8-3754, e-mail - gi02@lehigh.edu
Teaching Assistant - Tracy Bowers
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Content - The main purpose of the course is to provide exposure to the meaning, content and methods of mathematical thought. This is not an overview of mathematics. Indeed the topics are not typical, but are selected to provide easy access to the processes of building carefully structured arguments for mathematical proof, without assuming a strong background in mathematics.

We will spend about 2/3 of the course looking at parts of chapters 1,2,5,6,7,10 in the book 'Mathematics and politics: strategy, voting power and proof.' Along the way we will see several cases of mathematical work which have won the Nobel prize in economics. The remainder of the course will cover selected chapters from 'Mathematics: the new golden age' and also possibly from other sources.

Homework - Homeworks are an integral part of the course. There are no 'big' projects, but rather a steady stream of shorter assignments due every few classes. It is essential that you keep up with these, spending time between each class keeping up with the material.

Discussion of problems with other students, the instructor, the TA or in class is encouraged, *but* you should start by seeing what you can do on your own. This does *not* mean copying each others answers: it is easy to detect this and it will not be tolerated. Your final solution should be written on your own. In the end you are responsible for knowing the material.

Homework solutions should be written up carefully. Part of the grading of homeworks will be based on how clearly and concisely you present your solution. Late homeworks will not be accepted. Homework assignments will account for 18% of your grade.

Attendence - will not be taken, but is important. It will be encouraged by quizes and homework assignments. If you feel that you do not understand material in class, ask questions so that class time does become worthwhile. Participation will play a role in borderline cases for final grades.

Quizes - There will be frequent unannounced quizes at the end of classes. You will be expected to be familiar with any material covered in previous classes and/or due for homework the day of the quiz. Quizes will account for 18% of your grade.

Exams - There will be in class exams on Friday February 16 and Monday April 1 and a final exam scheduled by the registrar. Please note the times and plan accordingly. The in class exams will each account for 18% of your grade and the final exam will account for 28% of your grade.