MA330 Policy (Spring 2013)

- **Instructor:** Dr. Avinash **Sathaye email:** sathaye@uky.edu
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- **Office:** 703 POT (Phone 257-8832)
- **Teaching Assistant:** Robert Davis TR 4:00-5:00 POT 806
- **Office Hours:** Tentative: MWF 8:00-8:30 in Office, MWF 10:00-10:30 in Mathskeller.
  Also, you may come by any other time and I will help you if I am free. I mean this!
- **Textbook:** *The Crest of the peacock by G. G. Joseph. Other reading material will be assigned during the semester.*
- **Syllabus:** The text emphasizes the non-European roots of Mathematics and we will try to compare and contrast the usual mathematical theories met in regular courses with their historical development. The subject matter is vast, but we will settle on selected segments based on a combination of student interest and historical significance.
  I make a point of teaching some topics from Indian mathematics which are useful even in Modern mathematics, but not usually taught in courses. The exact details will be posted on the web page as they are settled.
- **Structure of the course:** We will begin with a general discussion of various Mathematical topics that you have studied and try to determine the specific details that we need to pursue. I typically make a general review of set theory, number systems, algebra and geometry with brief pointers to their development. I expect feedback from the students for fixing the further direction of the course.
  Then we will pick up and discuss specific chapters from the textbook as well as several other source books.
  As we progress, I will split up the class into teams for the purpose of working on the projects described below. From time to time, the teams will be asked to report to the class.
  When I teach a specific mathematical skill of interest, I will follow it up with a quiz (announced at least a day in advance) and you will be expected to prepare for it.
  I have a new collection of manuscripts from India and also some newly printed reports and essays. Some of these will be posted on the web page as additional sources for you to study and discuss.
  We are fortunate in have assistance by TA Robert Davis. He shall be available for consultation and discussion and occasionally shall also lead the class.
- **Projects:** There will be a total of two projects during the semester. The first project will be a team project (with a team of about 4/5 students), while the second project will be the final exam. It will be based on your individual work. The teams and the topic for the first project should be decided during first two weeks and the project shall be submitted at the midterm.
  The topics for the final project should be settled on by the midterm and the project is expected by the final week, even though the formal deadline for submission is during the finals' week.

Topics and outline for both projects should be fixed in consultation with me sufficiently early to avoid conflicts and to allow you enough time for actual work. At least a few of the projects shall be selected for class presentation.

- **Exams:** I do not expect any written exam in class. The two projects will be treated as two exams. The deadlines for the projects will be strictly observed and any delays shall be costly in grade. In case of a seriously faulty midterm project, I may require a rewrite and the whole team will be responsible for the work.
- **Quizzes and homework:** I plan to give occasional quizzes and some homework to be submitted. I will try to spread these evenly during the semester.
- **Class participation:** It is crucial that you actively participate in class discussions and research projects. Attendance accounts for the part of the grade and if you need to miss the class for an unavoidable circumstance, then you should contact me for permission.
- **Grade:** The midterm project shall be 100 points and the final project shall be 150. The quizzes and the homework shall be each worth 50 points and the attendance will count for 50 points. This makes a total of 400 points.
  The final grade shall be on the usual (percentage) scale E(0-59), D(60-69), C(70-79), B(80-89), A(90-100).

- **Advice:** This course is very different from a typical Mathematics course. You should not think of it as a chore to be finished, but an interesting journey into a fantastic world. You should try to use your own imagination and you should be raising your own questions!