

Syllabus for Math 170 – Summer Session 1 (2012)

Instructor Details

Name: Sneha Subramanian

Office: DRL, Fourth Floor, Room 4C9

Email: ssneha(at)math(dot)upenn(dot)edu

Office hours: Tuesday, Wednesday and Thursday, 2:30-3:30 p.m. and by appointment.

Lecture: Monday, Tuesday, Wednesday and Thursday, 4:00-6:10 p.m. in DRL, 3C2.

Plan for the course

“Mathematics is the science of what is clear by itself.” - Carl Jacobi (1804-1851)

Yes, that is all there is to it! And I hope to be able to convince you of that by the end of this course! Oh wait... this plan sounds way too vague than it should be, so allow me to elaborate.

From time immemorial, Mathematics has been classified as a subject that requires way too much effort and thinking than a common man could comfortably afford, and has had fear and anxiety as it's forced companions. Math is hard... there is no denying that fact. But to me, so are history, linguistics and all fields of engineering! The key to excel in each of these fields is dedication, hard work and perhaps a little bit of intuition in the right direction. Well, I'm nowhere close to understanding history, linguistics or any bit of engineering, but for Mathematics at least, I believe intuition can be built with learning examples and relating things to real life. Let us make this a goal for our course... learn a good amount of interesting Mathematics, made interesting because of working out plenty of examples and applications.

The general weekly plan for this summer's Math 170 is given below. Do keep in mind that there may be changes when we begin the course, and the “catching up” may be spread out over more weeks than one, but hopefully these changes shall not be remotely major. At any rate, you are encouraged to keep an eye out for any updates on the syllabus.

Week 1: Number Theory... mostly results about integers, primes, what "modulo" means, clock arithmetic etc.

Week 2 and 3: Counting and probability

Week 4: Graph Theory with elements of probability

Week 5: Cryptography and mathematics in computer science

Week 6: Catching up/Fun problems using math techniques

Reading Materials

The required textbook is *Heart of Mathematics*, by *Edward B. Burger* and *Michael Starbird*, third edition. I might refer to some other books from time to time, and shall inform you of

the same.

Homework

Homework shall be made due every Tuesday, barring the first week of the course. The course policy is absolutely no late homework assignments. However, the lowest homework grade shall be dropped, so although I strongly encourage you to turn in all the assignments, don't fret too much if you couldn't hand in or do satisfactorily on one of them.

You are allowed, and also encouraged, to discuss homework assignments with your friends in the class. However, I trust you to be aware of and maintain the integrity of this course. You shall find a note about that in the website for this course.

Exams

There will be a one hour quiz on the Thursday of Week 3 (June 7th). The final exam, a two hour exam, shall be held on the final day of the course, which is, Thursday, June 28th. There will be no make up quizzes and no make up exams, except in the case of an extreme emergency (in which case, proof of the emergency is required).

Grades

Final grades for the course shall follow the distribution below (tentative):

Homework	20%
Quiz	30%
Exam	50%

To end this note...

I hope we have a lot of fun and learn loads in this course, and am looking forward to meeting and working with you! Feel free to contact me with any questions you have (contact information above).