MATH 104A SYLLABUS
AUTUMN 2017

Lectures   TH 11:00-12:20, PETER 103
Instructor   James McKernan, APM 6260, phone (858)-534-6347
Office Hours   T 10:00-11:00AM, 1:00-2:00PM
or by appointment, if you cannot make these times.
Teaching Assistants Zihao Li, zil108@ucsd.edu.
Sections   T 5:00-5:50PM, 6:00-6:50PM, APM B402A
Office Hours   T 2-3, W 4-5, APM 5801
Text   *Fundamentals of Number Theory*, W. J. Leveque
See web site for some other suggestions.
Exams, Final   Wednesday December 13th, 11:30-2:30pm, TBA.
Midterms   Thursday October 19th, Thursday November 16th.
Grading   Homework 30%, Midterms 30%, Final 40%.
Syllabus   Elementary number theory with applications.
Topics include unique factorization, irrational numbers, residue systems,
congruences, primitive roots, reciprocity laws, quadratic forms, arithmetic functions,
partitions, Diophantine equations, distribution of primes. Applications include fast
Fourier transform, signal processing, codes, cryptography.
Prerequisites   Math 109 or Math 31CH, or consent of instructor.
Homework   Homework will be assigned on the website every Monday.

It will be due one week later every Wednesday at 5pm, in a dropbox in
the basement of APM. Late problem sets are **not accepted**, however
the lowest problem set score will be dropped.
   At the top of every of each assignment should appear

(1) Your name.
(2) Your section leader's last name.
(3) Your section time.
(4) Either the text "Sources consulted: none" or a list of all sources
consulted other than the main textbook, supplementary notes,
and your own notes from lecture and section. This is *required*.
(Examples of things that should be listed if used: office hours,
names of study group partners, Wikipedia, etc.)

You should not expect to be able to solve every single problem on
your own; instead you are encouraged to discuss questions with each
other or to come to office hours. If you meet with a study group, you
may find it helpful to do as many problems as you can on your own

beforehand. But write-ups must be done independently. (In practice, this means that it is OK for other people to explain their solutions to you, but you must not be looking at other peoples solutions as you write your own.) Use examples in the book as a model for the level of detail expected. Write in complete sentences whenever reasonable. If you have questions about the homework, it is best to ask these in office hours.