MATH 328K (87120): Introduction to Number Theory - Summer 2018

Class meetings: MTWTHF 10:00 AM - 11:30 AM in RLM 7.104.

Instructor: Bo Lin, office RLM 13.158.

Office hours: MTWTHF 11:30 AM - 12:00 PM, or by appointment.

E-mail address: bolin@math.utexas.edu

Website: https://piazza.com/utexas/summer2018/m328k/home (if you are not enrolled in Piazza, please contact me)

Textbook: Elementary Number Theory and Its Application, 6th edition, by Kenneth H. Rosen.

Recommend reading material: number theory through inquiry, by David C. Marshall, Edward Odell & Michael Starbird.

Prerequisites: M341 or M325K, with a grade of at least C-.

TA: Sreekaavya Kamireddipalli (contact information to be added later).
Homework: 9 assignments are due on Mondays (except the very first one) and Thursdays.

Exams: there will be a 75-minute in-class midterm exam (**Monday, July 30th**) and the final exam (**Monday, August 20th, 9:00 AM to 12:00 PM in RLM 7.104**). Class notes, books, cell phones, calculators and other means of aids will not be allowed in exams.

Grades: your final grade is computed from three parts - homework 20%, midterm exam 35% and final exam 45%. For homework, only completeness is required. For exams, the raw scores may be curved up or down, depending on the your general performance.

Cut-offs	Grade	Cut-offs	Grade
97	A+	93	A
90	A-	87	B+
83	B	80	B-
77	C+	73	C
70	C-	67	D+
63	D	60	D-

Documented Disabilities: if you have a documented disability, you should contact Services for Students with Disabilities (SSD) at (512) 471-6259 (voice) or (512) 410-6644 (video phone), or visit http://ddce.utexas.edu/disability/. You must contact me by the 12th class day to ensure that accommodations can be made.

University Honor Code: Cheating is punished to the fullest extent allowed by university policy. Cheating includes, but is not limited to, using any electronic device on an exam, and presenting another persons work as your own.

Course Overview: this course provides a transition from the problem-solving approach of Mathematics 408C and 408D to the rigorous approach of advanced courses. The contents include properties of the integers, divisibility, linear and quadratic forms, prime numbers, congruences and residues, number theoretic functions, primitive roots and quadratic reciprocity.

Lecture plans:

This is a tentative plan for the topic of the lectures. It may subject to change during the semester. The dates in **bold** are due dates of homework assignments.

Date	Content	Date	Content
July 16th	Section 1.1	July 17th	Section 1.2
July 18th	Section 1.3	**July 19th**	Section 1.4
July 20th	Section 1.5	**July 23rd**	Section 2.1
July 24th	Section 3.1	July 25th	Section 3.2
July 26th	Section 3.3	July 27th	Section 3.5
July 30th	Midterm	July 31st	Section 4.1
August 1st	Section 4.2	**August 2nd**	Section 4.3
August 3rd	Section 6.1	**August 6th**	Section 6.3
August 7th	Section 8.1	August 8th	Section 8.4
August 9th	Section 9.1	August 10th	Section 9.3
August 13th	Section 11.1	August 14th	Section 11.1
August 15th	Section 11.2	**August 16th**	Section 11.2
August 17th	Review	August 20th	Final Exam

Late Homework: in case you cannot turn in an assignment in time, please notify me in advance if possible. Late homework by 1 day is accepted with half credit, other late homework is not accepted. Only your best 8 homework assignment are counted towards your grade.

Hope you all enjoy the world of numbers!