

Math 115: Introduction to Number Theory

Spring 2016, MWF 12:00-1:00pm, 458 EVANS

Instructor: Xinyi Yuan

Office hours: 4:30pm-5:30pm Monday & Friday, 999 Evans

Email: yxy@berkeley.edu (For administrative questions only. Please come to my office hours to ask math questions.)

Prerequisites

Proofs are required in this course.

Textbook

An Introduction to the Theory of Numbers, 5th Edition, by Ivan Niven, Herbert S. Zuckerman, Hugh L. Montgomery.

Homework, Exams

There will be weekly homework sets, to be updated in the syllabus below. They will be collected in class on Mondays and returned to you on Fridays.

There will be one midterm exam and one final exam. The midterm will be taken in the regular class meeting on Friday Mar 4. The schedule and location of the final exam will be notified when it is ready.

Schedule and Grade Distribution

Type of Work	Date/Due Date	Location	Percentage	
Homework	Tuesdays	458 Evans	10%	
Midterm	Mar 4 Fri	458 Evans	35%	
Final	May 11 Wed	TBA	55%	

Syllabus

The following table describes materials in the textbook covered by the MWF classes every week and homework related to the materials.

Weeks	Class Dates	Reading	Homework	Homework Due Date
Week 1	Jan 20, 22	1.1,1.2, 1.3	1.2: 2, 13, 14, 31// 1.3: 11, 12, 16, 42	Jan 27 Wed
Week 2	Jan 25, 27, 29	2.1, 2.3	2.1: 8, 14, 18 (note: p is prime), 20, 27 // 2.3: 2, 36	Feb 1 Mon
Week 3	Feb 1, 3, 5	2.2, 2.7, 2.8, 2.10	2.2: 5(a) // 2.7: 2, 3, 4, 10 // 2.8: 2, 9, 12, 21 // 2.10: 1	Feb 8 Mon
Week 4	Feb 8, 10, 12	2.11, 3.1, 3.2	2.11: 2, 12 // 3.1: 7(a)(b)(c)(d), 11, 13, 14 // 3.2: 6, 7	Feb 17 Wed
Week 5	Feb 17, 19	3.3, 3.6	3.3: 2, 4, 6, 14, 16 // 3.6: 2, 8, 12	Feb 22 Mon
Week 6	Feb 22, 24, 26	4.1, 4.2	4.1: 2, 4, 5, 9, 12 // 4.2: 5, 11, 12, 16, 20	Feb 29 Mon
Week 7	Feb 29, Mar 2	4.3, 5.1	4.3: 1, 7, 17 // 5.1: 2, 6, 12, 13	Mar 7 Mon
	Mar 4 Friday		Midterm	solution
Week 8	Mar 7, 9, 11	5.3, 5.4	5.3: 2, 7, 10 // 5.4: 1, 4, 5, 8	Mar 14 Mon
Week 9	Mar 14, 16, 18	5.6, 5.7	5.6: 1, 5, 9 // 5.7: 1, 5, 10	Mar 30 Wed
Week 10	Mar 28,30, Apr 1	5.7, 7.1, 7.2	7.1: 1, 5 // 7.2: 1	Apr 4 Mon
Week 11	Apr 4, 6, 8	7.3, 7.4	7.3: 3(a)(b), 4, 5 // 7.4: 1, 3, 4, 5	Apr 11 Mon
Week 12	Apr 11, 13, 15	7.5, 7.6, 7.7	7.5: 3,4 // 7.6: 1, 3 // 7.7: 1, 2, 3	Apr 18 Mon

Week 13	Apr 18, 20, 22	7.8, 9.1, 9.2, 9.3	7.8: 2, 5, 8, 11 // 9.1: 1, 5 // 9.2: 1, 2 // 9.3: 4	Apr 25 Mon
Week 14	Apr 25, 27, 29	9.4, 9.5, 9.6, 9.7, 9.8		
	May 11		Final	

Special Accommodations

All students requesting special accommodations need to be registered with the Disabled Student Services and need to provide a letter indicating the necessary accommodations. Because it is very difficult to arrange accommodations at the last minute, all requests must be received at least 10 days prior to the exams.