

MATH 311M Honors Concepts of Discrete Mathematics Fall 2017

Class meets: Monday, Wednesday, Friday 10:10- 11:00 a.m. in 301D Huck Life Sciences

Instructor: Dr. Victoria Sadovskaya (you may call me Victoria)

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Office hours: Monday and Wednesday 11:15 a.m. - noon and 1:30 - 2:15 p.m.,
Friday 11:15 a.m. - noon, and by appointment

Course description: The goal of this course is to introduce the students to number theory including modular arithmetic, mathematical logic, proof techniques, elementary set theory, and group theory. In this course, mathematical exposition will be emphasized, and the students will learn to understand and write proofs. *Prerequisite:* Math 141.

Text: *Numbers, Groups and Codes* by J. F. Humphreys and M. Y. Prest, 2nd edition.

We will cover most of the material in Chapters 1-4 and parts of Chapter 5.

I strongly encourage you to read the book.

Course web page: <http://www.personal.psu.edu/vxs137/311M/311M.html>

It will contain the syllabus, daily schedule, homework assignments, exam study guides, etc.

Homework: Homework assignments will be given on Fridays and collected on Wednesdays. No late homework will be accepted, except in cases of illness or family emergency.

Solutions of homework problems must be neatly and clearly written in complete sentences and logically structured, and all steps must be justified. You may discuss a general approach to a solution with me and with other students, but you must write solutions on your own.

You may not copy solutions from any source. Additionally, I will assign practice problems that will not be collected. I strongly encourage you to do all the suggested problems as this will help with understanding the course material and with exam preparation.

Exams: There will be two midterm exams and a cumulative final exam. The midterms will take place in class on *Monday, October 2*, and on *Monday, November 6*. The final exam will be scheduled by the university during the final exam week, December 11-15. *Do not make plans to leave the university before the end of this week.* All students must plan to take exams at the scheduled times. If you are unable to attend a midterm exam you should notify me promptly. If there is a compelling reason for absence, such as illness or a family emergency, your score will be replaced by the final exam score. Otherwise, the score for the missed test will be zero.

Writing project: After the first midterm, you will be given several topics to choose from. Detailed information about the projects will be given at that time. You will need to study a topic and write a short paper. The paper will have to be typed, preferably in TeX or LaTeX. The projects will be due before the Thanksgiving break.

Attendance: You are expected to attend every class. If you miss a class, you are responsible for learning the material covered and knowing the announcements made in class. Class attendance and participation will be considered in determining borderline grades.

Grading Policy: The final score and letter grade will be calculated as follows:

Homework:	35%	A	at least 93%	B-	at least 80%
Each Midterm:	15%	A-	at least 90%	C+	at least 75%
Final Exam:	25%	B+	at least 87%	C	at least 70%
Writing project:	10%	B	at least 83%	D	at least 60%

Academic Integrity: Academic integrity is the pursuit of scholarly activity free from fraud and deception and is an educational objective of this institution. All Penn State policies regarding ethics and honorable behavior apply to this course. Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating of information or citations, facilitating acts of academic dishonesty by others, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Academic integrity policies can be found at <http://science.psu.edu/current-students/Integrity/Policy.html>

Students with disabilities: At Penn State, we are committed to providing a welcoming, encouraging, and empowering environment for students with disabilities to ensure equal access, full participation and reasonable accommodations for their academic pursuits. *Student Disability Resources (SDR)* is responsible for coordinating support services, reasonable academic accommodations, and promoting disability awareness in the university community. For further information, please visit the Student Disability Resources web site: <http://equity.psu.edu/student-disability-resources>