

NSC 514 NUMBER THEORY

Lecture Time: MTh 3:30-4:50 pm
Lecture Location: Brown Science/Sci 221
Instructor: Zoey Guo
Office: Brown Science 205
Office Hours: By appointment
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1. COURSE DESCRIPTION

Patterns within the set of natural numbers have enticed mathematicians for well over two millennia, making Number Theory one of the oldest branches of mathematics. In this course we will explore some of the classical problems in number theory, such as divisibility, primes and their distribution, congruences, arithmetic functions, and RSA cryptography. The last couple weeks of the semester will be devoted to the reading and presenting of research papers. (That is, students will be responsible for reading and presenting these papers to one another.)

2. TEXTBOOK

The recommended textbook for this course is *A Pathway into Number Theory* by R. P. Burn. The instructor will provide all necessary materials needed to complete the course, but students are encouraged to solve additional problems from Burn's book or use other books for reference.

3. EXERCISES

There will be exercises both before and after classes. Pre-class exercises will be evaluated in the form of in-class presentations. (That is, students will take turn presenting solutions to these problems at the beginning of class.) Post-class exercises are collected every Thursday at the start of class and will be graded for accuracy.

4. EXAMINATIONS

There will be two midterm exams. Each exam will have two components: an in-class component and a take-home component. The in-class component will be 30 minutes long, and you will have 48 hours to complete each take-home exam.

5. COURSE EVALUATION

Your scores will weigh as follows in the determination of your course grade:

Homework	30%
Paper Presentation	20%
Midterm Examination	25% (each)

After computing each student's average as a percentage, the instructor will rank the averages to determine a distribution of final letter grades. The instructor guarantees at least an A to students scoring 90% or higher, at least a B to students scoring 80% or higher, at least a C to students scoring 70% or higher, and at least a D to students scoring 60% or higher. However, the grading scale may be more lenient than this.

6. ACADEMIC INTEGRITY

Students are expected to comply with Marlboro College regulations regarding academic integrity. If you are in doubt about what constitutes academic integrity, speak with the instructor or examine the section "Policy on Academic Integrity" from the Marlboro College handbook. The instructor may report suspected breaches of regulations regarding academic integrity to the Dean of the college.

7. STUDENT WITH DISABILITIES

In compliance with Marlboro College policy and equal access laws, the instructor is available to discuss appropriate academic accommodations that you may require as a student with a disability. Requests for academic accommodations need to be made during the first week of the semester, except for unusual circumstances, so arrangements can be made. For more information, visit: https://www.marlboro.edu/community/undergraduate/disability_services.