Introduction to Number Theory, Math 427
Text: Elementary Number Theory, Jones and Jones, Springer
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Course Description Credit 3. Topics: Integers, the division algorithm, the Euclidean algorithm, primes and unique factorization, congruences and modular arithmetic, the Chinese remainder theorem, the Euler ϕ-function, units modulo p, quadratic residues and quadratic reciprocity, arithmetic functions, the Riemann zeta function, and sums of two, three, and four squares. If time permits, a look at Wiles' theorem proving Fermat's conjecture about $a^n + b^n \neq c^n$.

This section of Math 427 is designed as a writing-intensive course, with the intent that it qualify for use on transcripts as a W course. Four essays, explaining or analyzing in greater depth something from the couse content, will be due, one every three weeks or so. We will consult as to topics. You will then submit a first draft, and then, a week later after receiving feedback on that draft, a final draft. These essays will each count 10% of your grade. Up to two of the essays may be written in collaboration with one co-author from the class; the other two must be individual work.

There will be weekly homework; this will be worth collectively 10% of your grade. More important, it will both furnish inspiration for essays, and a practical means of self-discipline: The best kind of study is timely, regular study driven by the need to get answers to specific problems.

There will be two hour exams, on Monday October 10, covering the content from chapters 1 through 5, and on Friday Dec 2, covering the rest of the content. Each will count 15%. The final exam will be held at the time specified in the official University calendar, and will count 20%.

The Aggie Honor Code reads as follows: "An Aggie does not lie, cheat, or steal or tolerate those who do." Academic integrity is important and will be taken seriously. This is not just a negative issue. The fame and reputation of your school rests in considerable measure on the fact that Aggies, with rare and unfortunate exceptions, keep to this exacting standard.

When writing an assignment, the basic rule is that your words should either be your own, or they should be brief quotations, in quote marks, with full and explicit credit given to the original author.

The Honor Council rules and procedures are detailed on the web at http://www.tamu.edu/aggiehonor

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