

MATHEMATICS 514-01 - THEORY OF NUMBERS - FALL SEMESTER 2013

Prerequisites: A grade of at least C in MAT 311 (Modern Algebra) or permission of instructor.

Professor: Dr. Brett Tangedal ; Room and times: Petty 224, TTh 3:30 p.m. - 4:45 p.m.

Office: Petty 112; Math Dept. Phone: 334-5836 ; e-mail: batanged@uncg.edu

Office Hours: Mon. 3:30 - 4:30 p.m., Tues. 10:00 - 11:00 a.m., Wed. 2:15 - 3:15 p.m., and by appointment.

Course Objectives: The goal of the course is to give a rigorous development of elementary number theory. Among the topics covered will be: rings, integral domains, the Fundamental Theorem of Arithmetic, the Euclidean algorithm, modular arithmetic, quadratic residues, and the Gaussian integers.

Text: Number Theory: A Lively Introduction by James Pommersheim, Tim Marks, and Erica Flapan

Please bring a notebook with scratch paper as well as your book to class *everyday!* Please have your cell phones turned off and packed away during class. The same goes for laptops and text messaging devices. All of these things should be turned off and packed away during class! If I see any one of these devices out on the desk, in your lap, or anywhere else that is visible to you during class, *whether you are using it or not*, you are in violation of the rules for proper conduct in this class. The first time I observe a student violating this rule, that student will be requested to leave the class room for the rest of the class period, even if we are in the middle of an exam. If a student violates this rule a second time, that student will be permanently removed from the class through a process involving the Undergraduate Dean's office. If this happens on or before Friday, October 11th, you will receive a W on your transcript. After this date, you receive an F. If you need to leave early on a given day, please let me know before class, sit near the door on that particular day and leave quietly. Steady work as manifested by punctual attendance is important to learning Mathematics. Four (4) unexcused absences from this class will result in a student being dropped from the course. If you want to avoid having an absence from being unexcused, you must provide some form of written documentation. If your 4th unexcused absence happens on or before Friday, October 11th, you will receive a W on your transcript. After this date, you receive an F.

Homework will be due typically every Thursday at the very beginning of class (the first will be due on August 29th). Late homework will not be accepted! "Late" is defined as 15 minutes after class starts that day. Again, we will talk if you turn it in 14 minutes after class starts on more than one occasion. If you can't turn your homework in personally, then fax it or e-mail it or have a friend deliver it before it is due! An absence (even if excused) does not change the definition of "late". If you are ill for an extended period, I want to hear from you! If you miss a day of class, make sure to find out what you missed from me or a classmate. Consulting on homework is fine but copying is unacceptable. Be willing to spend AT LEAST 20 minutes on each problem before giving up. If nothing else, you can write down any relevant definitions to clarify what you're working with (which will at least give some partial credit). Some homework problems will be graded more carefully or assigned a higher value than others based upon my own choosing.

Two Tests: There will be two in-class tests during the semester scheduled for Thursday, October 3rd and Thursday, November 14th. There will be no make-up tests! If you have a documented excuse for missing a test, I will just average your remaining test scores. An unexcused absence will result in a ZERO score for that test. Keep all of your tests for future reference!

Final Exam: A 3-hour cumulative final exam will be given on Thursday, December 5th from 3:30 p.m. to 6:30 p.m.. There will be no exemption from the final exam.

Grades: Homework 30%; Two Tests 40%; Final 30%