

**THE UNIVERSITY OF TEXAS AT EL PASO
COLLEGE OF SCIENCE
DEPARTMENT OF MATHEMATICAL SCIENCES**

Course #: MATHEMATICS 3319

CRN #: 21479

Course Title: Elementary Number Theory

Credit Hours: 3

Term: Spring 2017

Course Meetings & Location: TR 1:30-2:50 LART 203

Prerequisite Course: Math 3325

Instructor: Joe Guthrie

Contact Info: Office Location: Bell Hall 300

Telephone: 747-6755

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Fax: 747-6502

Emergency Contact: 747-5761

Office Hours: TR 3:30-4:50, and by appointment.

Textbook: Burton, *Elementary Number Theory, 7th Ed* (Required)

Course Objectives: Students are expected to make considerable progress in the following areas:

#	Objective
1	Students will become familiar with the fundamental results of Elementary Number Theory (highlights of the course include the Fermat's Little Theorem, Wilson's Theorem, and Euler's Theorem).
2	Students will thoroughly understand the definitions of the basic concepts of Number Theory such as divisibility, primes, and congruences.
3	Students will be able to apply definitions and theorems in Number Theory
4	Students will continue to develop their ability to use the method of proof to establish the fundamental results in Number Theory.
5	Students will employ effective strategies to decide the truth or falsity of mathematical propositions.
6	Students will be able to write down proofs in a clear, concise manner using correct English and mathematical grammar.
7	Students will be able to present and defend a proof to a group of their peers.

Course Activities and Assessment:

Homework: Homework will be assigned each class day and discussed at the next class meeting. Students will be expected to give solutions at the board and will be assigned a grade for participation. Selected assignments also will be collected and graded.

Exams: There will be three mid-term in class exams as well as a final exam. The final exam will be Thursday May 11 from 1:00-3:45 and will cover the entire course.

Course Grade: At the end of the semester, you will have percentage scores for your homework and for your mid-term and final exams. The homework and class participation

will count 15%, each mid-term exam will count 20%, and the final exam will count 25% toward your course average. Grades will then be assigned according to:

A: 90-100% B: 80-89% C: 70-79% D:60-769% F: 0-59%.

If you have problems with the course material, need to be absent for an exam, or have any other circumstances that may affect your performance in the course, contact me by phone or email as soon as possible.

Students taking the course for graduate credit will be required to submit a report on the Riemann Hypothesis in addition to the other requirements.

Drop policy: The deadline to drop with an automatic W is Friday March 30. The Office of the Dean of the College of Science will not approve drops after that date.

Make-up Policy: Makeup exams will be given only in extraordinary and unavoidable circumstances and with advance notice to me by phone or email.

Attendance Policy: Prompt attendance at all class meetings is expected.

Academic Integrity Policy: You are expected to conform to the UTEP policy on integrity. See

<http://admin.utep.edu/Default.aspx?PageContentID=2083&tabid=30292>

Disability Statement: If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass. You are responsible for presenting to me any CASS accommodation letters and instructions.

Military Statement: If you are a military student with the potential of being called to military service or training during the semester, please let me know during the first week of classes and contact me as soon as possible if you do receive such an assignment.

Math 3319 Elementary Number Theory

Homework Assignments from Burton, Elementary Number Theory, 7th Ed.

§1.1 #1, 2, 3, 6.

§1.2 #1, 3 a-d, 5a,c.

§2.1 #1, 2.

§2.2 #1, 2, 3, 5.

§2.3 #2, 3, 4a,c,e, 6, 21.

§2.4 #1, 2, 3, 4, 7, 8.

§2.5 #2, 3, 6, 8.

§3.1 #1, 2, 6, 8, 15.

§3.2 #3, 4, 7, 12.

§3.3 #1, 2, 3, 5.

§4.2 #1, 2, 5, 10, 11, 17.

§4.3 #2, 4, 5, 7, 9, 17.

§4.4 #1, 4, 8, 9, 15.

§5.2 #1, 2, 9, 15, 16.

§5.3 #1, 3, 5.

§6.1 #1, 2, 3, 5, 7.

§6.2 #1, 3.

§6.3 #1, 3, 5.

§7.2 #1, 4, 9, 16.

§7.3 #1, 3, 5, 7.

§7.4 #1, 2, 3.

§10.1 #1, 2, 9, 10, 12, 13, 14.