

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

Course #: MATH 1319 (CRN 13003)
Course Title: Mathematics in the Modern World
Credit Hrs: 3
Term: Fall 2009
Course Meetings & Location: MWF 9:30-10:20 LART 207
Prerequisite : MATH 0311 or adequate placement score
Course Fee: (if applicable) None
Instructor: Joe Guthrie
Office Location: Bell Hall 300
Contact Info: Phone # 747-6755
E-mail address jguthrie@utep.edu
Fax # 747-6502
Emergency Contact 747-5761
Office Hrs: Monday, Wednesday 10:30 – 11:20, 12:30- 1:20, and by appointment.
Textbook(s), Materials: Required: Burger and Starbird, *The Heart of Mathematics*, 2nd ed.,

Course Objectives (Learning Outcomes): This course is designed to introduce you to the big picture of what mathematics is, and what it means to do mathematics. In contrast (probably) to your previous experiences with mathematics, this means more than applying rote formulas or watching someone else think. You will be actively engaged in (guided) discovery, retracing for yourself the highlights of some of the major developments in mathematics.

Upon successful completion of the course, you will know and understand the great ideas and recurring themes of mathematics. You will be able to express this understanding in verbal form, and by solving problems. You will be capable of applying, in a variety of settings, mathematical thinking, such as: following assumptions to their logical conclusions; finding and testing patterns; and representing the essential information of an involved situation.

Specific topics will come from the broad areas of numbers, infinity, geometry, and probability. Highlights include (but are not limited to) answering the following questions: Are there infinitely many primes? Can all numbers be written as fractions? Are there different kinds of infinity? What are the most symmetric 3-dimensional shapes we can build with straight lines? How likely are coincidences?

Course Activities/Assignments: Homework assignments will be collected weekly. You are allowed to work together on homework (in fact, I encourage you to do so), but the paper you turn in you must write yourself. In order to receive substantial credit for a homework solution, you will need to explain your steps and reasoning, not just the answer. Homework is due at the beginning of class (9:30 sharp); if you cannot make it to class, arrange to either deliver the homework to me early, or have someone else bring it to class for you. Your two lowest homework scores will be dropped.

A large portion of class time will be devoted to discussions and investigations in small groups and with the whole class. You will not be able to get a good participation grade if you are absent too much.

Assessment of Course Objectives: Exams: There will be three mid-term in class exam as well as a comprehensive final exam.

Course Schedule: The last day to drop with an automatic W is Friday October 30. The final exam will cover the entire course and will be held Wednesday, December 9 from 10:00- 12:45.

Grading Policy: At the end of the semester, you will have percentage scores for your homework and for your mid-term and final exams. The homework will count 15%, class participation will count 5%, each mid-term exam will count 20%, and the final exam will count 20% 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.

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://academics.utep.edu/Default.aspx?tabid=23785>.

Civility Statement: You are expected to devote class time entirely to the task at hand and not engage in other activities such as talking, using cell phones, or working on assignments for other courses.

Disability Statement: If you have or suspect you have a disability and need an accommodation, you should contact the Disabled Student Services Office (DSSO) at 747-5148 or at dss@utep.edu or go to Room 106 Union East Building. You are responsible for presenting to me any DSS accommodation letters and instructions.

Military Statement: If you are a 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 then contact me as soon as possible if you do receive such an assignment.