

Foundations of Mathematics – Math 3425

Fall 2009

Professor: Dr. David Milan

Office: RBN 4006

Office Hours: 11-12 MW, 2-4 F or by appointment

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Office Phone: 903-566-7198 (email is best)

Web: class page on blackboard

Class Meeting Time: MWF 9:30 – 10:45

Required Text: *Foundations of Mathematics*, by Richard Mitchell and Deborah Pace

Prerequisites: Math 2414

Course Description: Study of elementary logic, intermediate set theory, relations, functions and countable number systems.

Learning Outcomes: Upon completion of this course, students should be able to do the following:

- Write complete, correct and coherent proofs (critical thinking & communication)
- Understand and use some fundamental mathematical concepts such as logic, techniques of proof, set theory, and the principle of mathematical induction.

Course Evaluation: Your grade will be based on:

Participation	10%
Homework	15%
Two Hour Exams	40%
Final Exam	35%

The grading scale will be no more harsh than 90% = A, 80% = B, 70% = C, 60% = D.

Important Dates:

September 7: Labor day.

September 9: Census date: date to withdraw without penalty, grade replacement deadline

October 16: First Hour Exam (*this date is approximate*)

October 30: Last day to drop a course with a W.

November 23: Second Hour Exam (*this date is approximate*)

November 25-27: Thanksgiving break

December 16: Final Exam 10:15 am – 12:15 pm

Participation: A crucial part of proof writing is communicating a convincing argument to others. We will practice this skill by having frequent student presentations of proofs in class. I will keep a tally of the number of times students present *high quality* work and the number of times they make *useful* comments during other students' presentations. Your grade in this category will be assigned competitively: the top 15% of the class gets an A, the next 30% gets a B, the next 30% gets a C, the next 15% gets a D and the remaining 10% gets an F.

Homework: There will be weekly homework assignments. Unless stated otherwise, homework will be due at the beginning of class on Monday. You may choose to turn in late homework to me personally by 4pm the next day. As a penalty, late homework will be worth half the credit.

I encourage students to discuss the homework outside of class. In fact, the best way to succeed in Foundations is to form small study groups that work together after class. However, when you sit down to write your solutions to the homework, you must do it **alone**.

Exams: Students should expect to write high quality proofs on all exams. The focus of this class will not be on memorization of terminology nor will the test consist of a series of routine calculations.

University Policies

See <http://www.utt Tyler.edu/academicaffairs/syllabuspolicies.pdf> for a list of important University policies: **student rights and responsibilities, grade replacement and forgiveness, state-mandated course drop policy, disability services, student absence due to religious observance or university sponsored events, and social security and FERPA.**