

MATH 446
Section 0101
Spring, 2017

Set Theory

TTh 2:00–3:15
MTH 0102
C. Laskowski

Office: MTH 3312 **Phone:** (301) 405-5336 **email:** mcl@math.umd.edu

Hours: Wed 10-12, or by appointment.

Class webpage: www.math.umd.edu/~mcl/446/Spring17/index.html

This course will demonstrate that the collection of all sets, when endowed with the ZFC axioms, are capable of being a foundation upon which ‘mathematics’ can be derived. After giving the axioms and developing the universe of sets, we will define the integers, rational, real, and complex numbers, and show that the usual axioms for each structure become theorems of ZFC. We will spend time on equivalents of the Axiom of Choice as well as statements that cannot be proved from ZFC (unless ZFC itself is inconsistent).

Text: Introduction to Modern Set Theory by Judith Roitman. Available for download at <http://www.math.ku.edu/~roitman/SetTheory.pdf> We will not follow the text sequentially, and we will not cover all of the topics in the text. However, there will be many additional topics presented, and ancillary materials will be provided as needed.

Format: Math 446 meets two times a week. You are expected to attend every class. Attendance will not be taken, but you are responsible for all material covered in class. Please be aware that much of the material of the course does not appear in the text.

Homework: Doing the homework exercises is where most of the learning will occur! During the term, there will be 11-12 homework sets. Only your top 10 homework scores will be used in computing your course grade.

In-class Exam: There will be one in-class exam on Thursday, March 16.

Final Exam: Wednesday, May 17, 10:30–12:30.

Grading: Course grades will be based on homework sets, the in-class exam, and the final exam. There are 500 points possible (200 from HW, 100 from the in-class exam, and 200 from the final). 90+% is a guaranteed A, 80+% guaranteed at least a B, 70+% at least a C, etc. It is possible that the cutoffs may be lowered at the discretion of the professor.

DSS: If you have a recognized disability, we are pleased to discuss academic arrangements with you. Please discuss this with me as early in the term as possible.

Academic Integrity: Students are expected to abide by the Honor Code and Honor Pledge, see www.president.umd.edu/policies/docs/III-100A.pdf