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# MAT 425 - Intro to Real Analysis I

TAUGHT BY: BRANDON HANSON

**Meeting times:** MWF, 2:00-2:50 PM

**Prerequisites:** A grade of C or higher in both MAT 228 and MAT 261

**Credits:** 3

## Course Description

In *MAT 425* we begin the study of the foundations of calculus in earnest. The goal is to answer the following questions.

- *What even is a real number, and why do we need them?*
- *How big is really big, and how small is really small?*
- *What are these limits we saw in calculus? I mean really!*
- *And perhaps most importantly: Do we really need all of this? I mean what could possibly go wrong...*

To answer these questions, we'll review the foundations of math and proof, construct the real numbers, and use these new numbers to define limits, convergence of sequences and series, make sense of continuity and topology, and finally makes sense of the derivative and everything it's used for.