

# 1 Course Description

## 1.1 Title

18.04A = Real Analysis

Purpose:

- Gain experience with proofs
- Prove statements about the real numbers, functions, and limits ("analysis")

# 2 Set Theory

## 2.1 Definitions

- Define sets:
  1. A set  $A$  is a subset of  $B$ , denoted by  $A \subseteq B$ , if for all  $a \in A$ ,  $a \in B$ .
  2. Two sets are equal,  $A = B$ , if  $A \subseteq B$  and  $B \subseteq A$ .
  3.  $A$  is a proper subset of  $B$ , denoted by  $AB$ , if  $A \subseteq B$  and  $A \neq B$ .