MHF 3202 - SETS AND LOGIC
SYLLABUS

INSTRUCTOR: Paul Robinson (paulr@ufl.edu)
CLASS ROOM: 221 Little Hall
CLASS TIME: MWF period 3 (09:35-10:25)
OFFICE: 414 Little Hall (NE Corridor)
OFFICE HOURS: To be announced
TEXT: Daniel Velleman, *How to Prove It* (third edition)

This course will be based primarily on the adopted text (*How to Prove It*) but it will also include some occasional extra material. A supporting secondary reference, Book of Proof, has been kindly made available free-of-charge by its author, Richard Hammock, and can be downloaded from the Canvas page for the course. Speaking of the Canvas page, it will be minimal: everything that is posted for the course (homework, practice material, notes, ...) can be found on the home page.

The course material falls quite naturally into three sections.

The first section (chapters one and two of Velleman) is primarily devoted to learning the languages of mathematical logic and set theory: the logic provides the tools with which to argue; sets provide something about which to argue.

The second section (chapter three of Velleman) assembles a variety of proof techniques - individual steps that are available for use in constructing full arguments to establish claims - along with guidance as to when and how to apply them.

The third section covers topics chosen from the later chapters of Velleman, in which the various proof techniques are applied to specific mathematical topics; these will certainly include mathematical induction and infinite sets.

Grades will be based on criteria to be discussed during the first week of class.