University of Florida

Paul Robinson Department of Mathematics College of Liberal Arts and Sciences

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Schedule

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Analysis Seminar

MHF 3202 Section 3255

MAA5229 (Section 3014) MAA4227 (Section 01CH)

MHF 3202 Section 3255

Sets and Logic

Time and Location MWF Period 6 (12:50-13:40) – 19 Anderson Hall

Office and office hours

414 Little Hall (NE Corridor) – Hours: To be announced

Text

Richard Hammack, 'Book of Proof' (third edition)

Topics and Policies

The material of this course is drawn primarily from '*Book of Proof*', which the author has kindly made available at no charge; for convenience, I shall post a copy of this text to Canvas and here: Book of Proof. A different viewpoint on the material of this course is offered in '*How to Prove It*' by Daniel Velleman; this text may be consulted as a secondary reference. Of arguably greater importance in this course than the acquisition of mathematical 'facts' is the development of an approach to mathematics. A primary focus of the course will be rigour: we shall synthesize (build up) and analyze (break down) carefully constructed arguments, starting from explicit hypotheses and working with precise definitions; we shall also critique some not-socarefully constructed arguments.

The Canvas pages for this course will host all of the course material. To be perfectly honest, the Canvas pages (honestly, 'page') will be quite minimalistic, with neither bells nor whistles. There will be no strict daily schedule posted at the start of semester; such a rigid constraint would be quite antithetical to my philosophy. However, the following summary will give an idea of what to expect: during the first month of semester we shall discuss most of chapters 1 and 2, being Part I of the text; during the second month of semester we shall discuss most of chapters 4 through 10, which form Parts II and III of the text. Up until this point, we shall be working more-or-less straight through the text in order; 'what comes next' will always be clear. The rest of semester will address selected topics from Part IV of the text, the selection being guided in part by student interest, but certainly including infinite sets and their cardinalities.

Homework for discussion will be posted to Canvas and will be drawn from the oddnumbered questions in '*Book of Proof*'. These are not to be turned in; '*Book of Proof*' has answers to all of them, but some of them call for (and will receive) discussion in class. Grades will be based on performance in four tests, equally-weighted and approximately equally-spaced through the semester. The grading scale will be moreor-less standard: A (90\%), B(80\%), C(70\%), D(60\%), with 4\% increments for 'plus' grades and 3\% decrements for 'minus' grades; for example, the B+ threshold is 84\% and the A- threshold is 87\%.

For various matters of policy, please see 'Policies plus' at the Files page.

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