Axiomatic Set Theory - Book List

We list some alternative reading. For anyone wishing to pursue the subject further then 1,3,5 are the ones to look at.

1 *Constructibility* K.Devlin Springer, Perspectives in Mathematical Logic, 1984.

Ultimately this book goes way beyond what we shall cover, and we shall probably just do the first two chapters. It does not have much in the way of introduction to ordinals and cardinals. Better here is to look at 2:

2 *Intermediate Set Theory* F.R.Drake & D. Singh, Wiley, 1996.

This can be read all the way up to Section 8.8. It is available, in print, in paperback. On the whole, it is pretty sound, and will develop L in the same way as we shall in the course. Probably the best book on this list to look at.

3 *Set Theory: An Introduction to Large Cardinals* F.R. Drake, North-Holland Studies in Logic Series.

This contains material to cover the course, and has been a standard text for introduction to axiomatics and large cardinals - although a little dated now.

4 *Modelle der Mengenlehre* R.B. Jensen Springer Lecture Notes in Mathematics vol 37, 1967.

A model itself of precision, concision and elegance by a major set theorist of the late 20'th Century. We shall follow his approach closely at the beginning. Less material on the H_κ sets, Reflection principles however.

5 S*et Theory: an introduction to independence proofs* K.Kunen, North-Holland Publishing Company, 1980.

An excellent text book on the basics of axiomatics, but whose intention is to look at Cohen's method of forcing. It has a development of L, but not the way we are going to do it. Chapter 1 is a good introduction to axiomatics. Ch. 2 should be omitted, Ch.3 &4 are relevant. The best part is probably the introduction to forcing, for which it is the book of choice.

Introductory material on ordinals and cardinals, but not L, can be found in the texts below.

4 *An Introduction to the theory of ordinals and transfinite numbers*. B.Rotman & G. Kneebone, Oldbourne Mathematical series, 1966.

This is an old but a well-written text. There are multiple copies in the library.

5 *Elements of Set theory*, H.B. Enderton. Academic Press, 1977.

Chapters 6,7,8 cover ordinals and cardinals. Several library copies.

6 *Discovering Modern Set Theory. I The Basics.* W. Just & M. Weese, American Mathematical Society Graduate Studies in Mathematics vol 8, 1995.

In particular chapters 1-3, 7,8,10-12.

7 *Classic Set Theory*, D. Goldrei, Chapman & Hall (Library Copy, somewhat elementary).