MA3002 Generell Topologi – Literature Guide

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February 1, 2013

The lectures will not follow a specific book, and it is not required that you look up any other reference than the lecture notes.

Nevertheless, if you are looking for books to support the lectures, here is a list of references, with brief comments. There are many other possibilities!

(1) M.A.Armstrong, *Basic topology.*

This book is the closest in conception I know of to the lectures I will give. It is very nice — it emphasises a geometric point of view, at the same time as covering the fundamental topics of point-set topology.

The later chapters give a pleasant introduction to several aspects of geometric and algebraic topology. We may touch upon one or two of these chapters towards the end of the course.

(2) K.Jänich, *Topologie.*

This is a beautiful book, very close to the spirit of the lectures. On the other hand, we will need to explore point-set topology in more detail.

There is an English translation, *Topology.* I have not yet looked at it.

(3) B.von Querenburg, *Mengentheoretische Topologie.*

This is an excellent book — its emphasis is not especially geometric, but its treatment of point-set topology is thorough, extensive, and concise.

I am not aware of an English translation. However, even if you do not understand German well, you may be able to follow it — my German is almost non-existent!

This book, I feel, complements (2) nicely. Towards the end of the course we may touch on deeper theorems of point-set topology that this book covers in later chapters.

(4) J.Dixmier, *Topologie Générale.*

This book is quite short, but excellent. More than any of the other books on the list, it emphasises the point of view of analysis.

There is an English translation, *General Topology.* I have not yet looked at it.

(5) J.Dugundji, *Topology.*

This book is thorough and excellent. Unfortunately, you may find it hard to obtain a copy! We will take a point of view which is a little more geometric.

(6) R.Brown, *Elements of modern topology.*

This is a very nice book. The later chapters are closer to algebraic topology, which we will not see much of in our course — for this, I recommend the Algebraisk Topologi I course in the autumn, for which our course will prepare you well. The earlier chapters cover the early part of our course.

(7) J.R.Munkres, *Topology.*

The first part of the second edition of this book, or the whole of the first edition, is a popular reference for point-set topology. It is perhaps a little gentler than the books of Dugundji and von Querenburg, but is not as comprehensive. We will take a point of view which is more geometric.