

Topics Outline for Mth 676 – Topics in Dimension Theory – Spring 2013

Texts on Reserve:

Dimension theory / Ryszard Engelking.	Engelking, Ryszard.	Valley Reserves -- VR 118 -- AVAILABLE
Princeton mathematical series.	Hurewicz and Wallman	Valley Reserves -- VR 1454 (Dimension Theory) no.4 -- AVAILABLE

- Definition of Small Inductive Dimension (ind)
 - The subspace theorem
 - Definition of Partition
 - Relation between ind and partitions
- Dimension 0
 - Separation Theorem for dimension 0
 - Enlargement Theorem for dimension 0
 - Cartesian product Theorem for Dimension 0
 - Sum Theorem for Dimension 0
 - Universal Space Theorem for Dimension 0
 - Compactification Theorem for Dimension 0
 - Embedding Theorem for Dimension 0
- Types of Disconnectedness
- Dimension n
 - Separation Theorem for dimension n
 - Enlargement Theorem for dimension n
 - Cartesian product Theorem for Dimension n
 - Sum Theorem for Dimension n
 - Universal Space Theorem for Dimension n
 - Embedding Theorem for Dimension n
- Definition of large Inductive Dimension (Ind)
- Definition of Covering Dimension (dim)
- Equivalence of ind, Ind, and dim for separable metric spaces
 - Compactification Theorem for Dimension n
- Characterization of dimension in terms of partitions
- Dimension of \mathbb{R}^n
- Dimension in terms of mappings to spheres and polyhedra
- Hausdorff dimension and other applications