Basic Topology

Reference

1. 尤承业，基础拓扑学讲义，北京大学出版社
2. M. A. Armstrong，Basic Topology，北京大学出版社
3. J. R. Munkres，Topology，科学出版社
4. 包志强，点集拓扑与代数拓扑引论，北京大学出版社

Schedule

1. **Topological Space and Continuous mapping**
   (a) topology and topological space;metric topology,subspace topology
   (b) Continuous mapping(definition,criterion,construct?) and Homeomorphism
   (c) Product space and topological Basis
   (d) Quotient space,*Mobius* band,Projective Space(definition,construct?)
2. **Topological Property**
   (a) Separability(Hausdorff) and Countability(C2)
   (b) Metrization(*Tietze* extension themrem,*Urysohn* metrization theorem)
   (c) Compactness(some properties;Product & Quotient spaces)
   (d) bicompact space(in Metric space: bicompact$\Longleftrightarrow$compact)
   (e) Connectness(property),connected component
   (f) Path connnected and Path components
   (g) 用拓扑性质判断空间的不同胚
3. **topological Surface**
   (a) Closed surface,Compact surface,Orientable or Nonorientable surface
   (b) Connected Sum and Euler Character Number χ
   (c) the Classification theorem