

MATH 537

Algebraic Topology I – METU Mathematics Department

Fall 2023

Titles of Videos:

- 1) Math 537-1: Chapter 1: Review of Topological Spaces, Subspace Topology and Quotient Topology
- 2) Math 537-2: Chapter 1: Pulback, Pushout and Clutching Construction
- 3) Math 537-3: Chapter 1: Examples of Pushout and Clutching, Proper Maps
- 4) Math 537-4: Crash Course on Category Theory
- 5) Math 537-5: Fundamental Group, The Notion of Homotopy-1
- 6) Math 537-6: Fundamental Group, The Notion of Homotopy-2
- 7) Math 537-7: Fundamental Group, Further Homotopy Notions-1
- 8) Math 537-8: Fundamental Group, Further Homotopy Notions-2
- 9) Math 537-9: Mapping Spaces and Homotopy
- 10) Math 537-10: Fundamental Groupoid-1
- 11) Math 537-11: Fundamental Groupoid-2
- 12) Math 537-12: Fundamental Groupoid-3
- 13) Math 537-13: Seifert-van Kampen Theorem-1
- 14) Math 537-14: Seifert-van Kampen Theorem-2
- 15) Math 537-15: Examples on Seifert-van Kampen Theorem-1
- 16) Math 537-16: Examples on Seifert-van Kampen Theorem-2
- 17) Math 537-17: Examples on Seifert-van Kampen Theorem-3
- 18) Math 537-18: Fundamental Group of the Circle-1
- 19) Math 537-19: Fundamental Group of the Circle -2
- 20) Math 537-20: Fundamental Group of the Circle -3
- 21) Math 537-21: Fundamental Group of the Circle -4
- 22) Math 537-22: Fibre Bundles (Definitions)-1
- 23) Math 537-23: Fibre Bundles-2
- 24) Math 537-24: Principal G-Coverings and Deck Transformations-1
- 25) Math 537-25: Principal G-Coverings and Deck Transformations-2
- 26) Math 537-26: Homotopy Lifting Property-1
- 27) Math 537-27: Homotopy Lifting Property-2, Transport and Homotopy Exact Sequence-1
- 28) Math 537-28: Transport and Homotopy Exact Sequence-2
- 29) Math 537-29: Classification of Covering Spaces-1
- 30) Math 537-30: Classification of Covering Spaces-2
- 31) Math 537-31: Classification of Covering Spaces-3
- 32) Math 537-32: Universal Covering Space
- 33) Math 537-33: Classification of Covering Spaces-4
- 34) Math 537-34: Classification of Covering Spaces-5
- 35) Math 537-35: Classification of Covering Spaces-6
- 36) Math 537-36: Examples of Constructions of Coverings
- 37) Math 537-37: Normal (Regular) Coverings
- 38) Math 537-38: Simplicial Complexes-1

- 39) Math 537-39: Simplicial Complexes-2
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- 42) Math 537-42: Examples of CW-Complexes-2, Singular Homology-1
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- 44) Math 537-44: Singular Homology, Definitions and Exact Sequence of Pairs-1
- 45) Math 537-45: Exact Sequence of Pairs-2
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- 47) Math 537-47: The Zeroth and the First Homology
- 48) Math 537-48: Homotopy Invariance of Homology-1
- 49) Math 537-49: Homotopy Invariance of Homology-2
- 50) Math 537-50: Homotopy Invariance of Homology-3
- 51) Math 537-51: Excision, Meyer-Vietoris Sequence and Reduced Homology
- 52) Math 537-52: Homology of Spheres, Degree of a Map of Spheres and Suspension