

SEMINAR IM WINTERSEMESTER 2022/23: KRYPTOGRAPHIE

MAXWELL LEVINE UND HEIKE MILDENBERGER

VORBESPRECHUNG

am 10.7.2022 um 13:00 Uhr im Seminarraum 119
Für Online-Teilnahme BBB Raum
<https://bbb.uni-freiburg.de/b/hei-fw6-gm7-ijs>

TUTORAT:

Dr. Maxwell Levine

ZEIT UND ORT

Blockseminar nach dem Praxissemester im Januar und im Februar
oder in der vorlesungsfreien Zeit des Wintersemesters 2023/24.
In <https://bbb.uni-freiburg.de/b/hei-fw6-gm7-ijs> bei Bedarf.

LISTE DER VORTRAGSTHEMEN, QUELLENANGABEN

Wir folgen den Kapiteln in Hatcher: Algebraic Topology. <https://pi.math.cornell.edu/~hatcher/AT/ATpage.html>

1. Vortrag Chapter 0: Some Underlying Geometric Notions, Homotopy and Homotopy Type, Cell Complexes, Operations on Spaces, Two Criteria for Homotopy Equivalence, The Homotopy Extension Property.

Chapter One: The Fundamental Group

2. Vortrag

Section 1.1, Basic Constructions:
Paths and Homotopy, The Fundamental Group of the Circle, Induced Homomorphisms.

3. Vortrag

Date: 1.7.2023, HM.

Section 1.2, Van Kampen's Theorem:
Free Products of Groups, The van Kampen Theorem, Applications to Cell Complexes.

4. Vortrag Section 1.3, Covering Spaces, first part:
Lifting Properties, The Classification of Covering Spaces

5. Vortrag
Section 1.3, Covering Spaces, second part:
The Classification of Covering Spaces, Deck Transformations and Group Actions.

6. Vortrag.
1.A, Appendix to Chapter 1: Free Groups and Topology. Possibly Subgroups of Free Groups.

Chapter 2. Homology

7. Vortrag.
Section 2.1, Simplicial and Singular Homology, first part:
 Δ -Complexes, Simplicial Homology, Singular Homology, Homotopy Invariance, Exact Sequences and Excision.

8. Vortrag. Section 2.1, Simplicial and Singular Homology, second part:
Exact Sequences and Excision, The Equivalence of Simplicial and Singular Homology.

9. Vortrag.
Section 2.2, Computations and Applications, first part:
Degree, Cellular Homology, Mayer-Vietoris Sequences

10. Vortrag.
Section 2.2, Computations and Applications, second part:
Homology with Coefficients.

11. Vortrag.
Chapter 2B:
Classical applications of cohomology