Contents

Chapter 1. Background and Basics 1
§ 1.1 Subshifts of Finite Type 2
§ 1.2 Examples 4
§ 1.3 Perron-Frobenius Theory 16
§ 1.4 Basic Dynamics 21
Notes 28
References 31

Chapter 2. Topological Conjugacy 33
§ 2.1 Decomposition of Topological Conjugacies 33
§ 2.2 Algebraic Consequences of Topological Conjugacy 47
Notes 59
References 61

Chapter 3. Automorphisms 63
§ 3.1 Automorphisms 64
§ 3.2 Automorphisms as Conjugacies 66
§ 3.3 Subgroups of the Automorphism Group 74
§ 3.4 Actions of Automorphisms 88
§ 3.5 Summary 91
Notes 91
References 93

Chapter 4. Embeddings and Factor Maps 95
§ 4.1 Factor Maps 95
§ 4.2 Finite-to-one Factor Maps 101
§ 4.3 Special Constructions Involving Factor Maps 113
§ 4.4 Subsystems and Infinite-to-One Factor Maps 120
Notes 130
References 132

Chapter 5. Almost-Topological Conjugacy 135
§ 5.1 Reducible Subshifts of Finite Type 135
§ 5.2 Almost-Topological Conjugacy 138
Notes 145
References 146

Chapter 6. Further Topics 147
§ 6.1 Sofic Systems 147
§ 6.2 Markov Measures and the Maximal Measure 159
§ 6.3 Markov Subgroups 177
§ 6.4 Cellular Automata 181
§ 6.5 Channnel Codes 182
Notes 188
References 191

Chapter 7. Countable State Markov Shifts 195
§ 7.1 Perron-Frobenius Theory 195
§ 7.2 Basic Symbolic Dynamics 226
Notes 238
References 239

Bibliography 241

Name Index 247

Subject Index 249