Probability Theory Syllabus

Sources:
[1] Prof. Gravner's lecture notes
https://www.math.ucdavis.edu/~gravner/MAT135A/resources/lecturenotes.pdf

1. Probability Theory (at the level of 135A)
1. 1 Combinatorial Analysis [1, Ch 2]
1. 2 Axioms of Probability [1, Ch 3]
1.3 Conditional Probability and Independence [1, Ch 4]
1.4 Discrete Random Variables [1, Ch 5]
1.6 Continuous Random Variables [1, Ch 6]
1.7 Jointly Distributed Random Variables [1, Ch 7]
1.7 Properties of Expectation [1, Ch8]
1.8 Convergence in Probability [1, Ch 9]
1.9 Moment generating functions [1, Ch 10]
1.10 Limit Theorems [1, Ch 11]

2. Stochastic Processes (at the level of 135B)
2.1 Markov Chains [1, Ch 12, Ch 13]
2.2 Branching processes [1, Ch 14]
2.3 Limiting probabilities in Markov Chains [1, Ch 15]
2.4 Reversible Markov Chains [1, Ch 16, Ch 17]
2.5 Poisson Processes [1, Ch 18]

Recommended classes
Math Department: MAT 135AB