Actual Schedule Followed for STOR 834 Class, Spring 2025

Date	Topic(s)
9-Jan	Introduction: Chicago Marathon Data
14-Jan	Three types theorm; GEV
16-Jan	Exceedances; r-largest order stats; point process approach
21-Jan	More on point process approach; Estimation - MLEs
23-Jan	Asymptotics of MLE; Jenkinson's data and R code
28-Jan	Bayesian methods; r-largest order stats approach; Hill-Weissman estimator; multiple samples; Venice data
30-Jan	Domains of attraction; Gnedenko-de Haan theory
4-Feb	Examples; t and beta distributions
6-Feb	Normal and lognormal extremes; rate of convergence; penultimate approximation
11-Feb	Tests of fit; some counterexamples
13-Feb	Results of GOF tests for the marathon example; inverse functions; the de Haan-Stadtmüller representation
18-Feb	More on deH&S: application to rates of convergence, examples, intro to Dombry-Ferreira results
20-Feb	Detection and attribution of extreme climate events (video)
25-Feb	More on detection-attribution; Dombry-Ferreira theory
27-Feb	Second-order theory: Hill-Weissman estimator, GPD, heuristic derivation of Dombry-Ferreira results
4-Mar	Interpretation of second-order asymptotic results (handout)
6-Mar	Automated selection of threshold (Hall-Welsh-Weissman results)
11-Mar	No class - Spring break
13-Mar	No class - Spring break
18-Mar	Detection and attribution of extreme climate events (book chapter and data analysis)
20-Mar	Extremes in Dependent Sequences (beginning of Chapter 3 of course text)
25-Mar	Extremal Index; examples; extremal index for a Markov chain
27-Mar	Estimating the extremal index: parametric model, blocks and runs estimators, Ferro-Segers method
1-Apr	Multivariate extremes: basic definitions, Pickands representation, parametric families, estimation, testing
3-Apr	Asymptotic independence and dependence: models of Ledford-Tawn, Ledford-Ramos, Heffernan-Tawn
8-Apr	
10-Apr	
15-Apr	
17-Apr	No class - well being day
22-Apr	Student Presentations
24-Apr	Student Presentations