Statistical Simulation Spring 2024 Planned Schedule of Topics

Class #	Week	Date	Topics
1	1	**Tu Jan 16**	Lecture 00. Get to Know and Syllabus
2		**Th Jan 18**	Lecture 01. Numerical Integration & Chapter 3 Random Numbers (for integration)
3	2	**Tu Jan 23**	Lecture 2. Chapter 4: Generating Discrete Random Variables
4		**Th Jan 25**	Homework 01. Numerical Integration & Chapter 3 Random Numbers (for integration)
5	3	**Tu Jan 30**	Lecture 03. Chapter 5: Generating Continuous Random Variables
6		**Th Feb 1**	Homework 02. Chapter 4: Generating Discrete Random Variables
7	4	**Tu Feb 6**	Lecture0 4. Chapter 6: The Multivariate Normal Distribution and Copulas
8		**Th Feb 8**	Homework 03. Chapter 5: Generating Continuous Random Variables
9	5	**Tu Feb 13**	Lecture 05. Symmetric Matrix PDFs
10		**Th Feb 15**	Homework 04. Chapter 6: The Multivariate Normal Distribution and Copulas
11	6	**Tu Feb 20**	Lecture 06. Line Fitting and Regression
12		**Th Feb 22**	Homework 05. Symmetric Matrix PDFs
13	7	**Tu Feb 27**	Lecture 07. Multivariate Multiple Linear Regression
14		**Th Feb 29**	Homework 06. Line Fitting and Regression
15	8	**Tu Mar 5**	Class Cancelled.
16		**Th Mar 7**	**Exam – IC, Take Home due Sun Mar 10**
	9	**Tu Mar 12**	**Spring Break**
		Th Mar 14	**Spring Break**
17	10	**Tu Mar 19**	Lecture 08. Logistic Regression Analysis
18		**Th Mar 21**	Homework 07. Multivariate Multiple Linear Regression
19	11	**Tu Mar 26**	Lecture 09. Linear and Logistic Regression as Artificial Neural Networks
20		**Th Mar 28**	**Easter Break**
21	12	**Tu Apr 2**	Homework 08. Logistic Regression Analysis
22		**Th Apr 4**	Lecture 10. Chapter 8: Statistical Analysis of Simulated Data (Bootstrap) & Confidence Intervals for the Variance (min CI)
23	13	**Tu Apr 9**	Homework 09. Linear and Logistic Regression as Artificial Neural Networks
24		**Tu Apr 11**	Lecture 11: The Correlation Coefficient
	14	**Tu Apr 16**	Homework 10. Chapter 8: Statistical Analysis of Simulated Data (Bootstrap) & Confidence Intervals for the Variance (min CI)
25		**Th Apr 18**	Lecture 12. Bayesian Statistics
26	15	**Tu Apr 23**	Homework 11. The Correlation Coefficient
27		**Th Apr 25**	Lecture 13. Chapter 9: Variance Reduction Techniques, Importance Sampling (short) Chapter 12: Markov Chain Monte Carlo Methods, Gibbs Sampling
28	16	**Tu Apr 30**	Homework 12. Bayesian Statistics
		Th May 2	Homework 13. Chapter 9: Variance Reduction Techniques, Importance (short) Chapter 12: Markov Chain Monte Carlo Methods
29		**Tu May 7**	**Final Exam Due Midnight**