Tentative Topics Schedule

Fall 2022 - University of Portland

Contents

- See Books & Online Resources List for the reading materials -

The readings are not mandatory but it is encouraged.

Lecture slides and Mini-Assignments will be available the day before class.

Modules will be available two weeks before the deadline.

The "Reading" column in the table below contains a number on which it refers to a numbered item in the Books & Online Resources List. For example "[PSDR]" refers to the first item in the list, which is our main text book titled "Probability, Statistics, and Data: A fresh approach using R".

Topics and Reading Materials

Day	Topic	Pre-Reading [PSDR]	Post-Reading [PSDR]	Mini-Assignment	Deadline
8/30	Orientation & Calculus Review	Syllabus	-	[pdf] [Rmd] [tex]	8/31
9/1	Basics of Probability Theory Part 1	Ch. 2 (Preamble), Ch. 2.1	-	TBA	9/1
9/6	Basics of Probability Theory Part 2	Ch. 2.1 Cont. & Ch. 2.4	Ch. 2.2	TBA	9/6
9/8	Independence & Conditional Probability	Ch. 2.3 (Preamble) & Ch. 2.3.1	-	TBA	9/8
-	**Module 1 Due**	**-**	**-**	**-**	**9/6**
9/13	Bayes Theorem	Ch. 2.3.3	-	TBA	9/13
9/15	Random Variables & Probability Functions	-	-	TBA	9/15
9/20	Discrete Random Variables (DRVs)	Ch. 3 (Preamble)	-	TBA	9/20
9/22	Probability Mass Functions	Ch. 3.1	-	TBA	9/22
9/27	Expected Values for DRVs	Ch. 3.2	-	TBA	9/27
9/29	Moment Generating Functions	Ch. 3.4	-	TBA	9/29
-	**Module 2 Due**	**-**	**-**	**-**	**9/30**
10/4	Variance for DRVs	Ch. 3.5	-	TBA	10/4
10/6	Covariance & Correlation for DRVs	Ch. 3.5 Cont.	-	TBA	10/6
10/11	Binomial Random Variables	Ch. 3.3.1	-	TBA	10/11
10/13	Geometric Random Variables	Ch 3.3.2	Ch. 3.6	TBA	10/13

Day	Topic	Pre-Reading [PSDR]	Post-Reading [PSDR]	Mini-Assignment	Deadline
-	**Mini-Project 1 Due**	**-**	**-**	**-**	**10/14**
-	*Fall Vacation*	-	-	-	-
10/25	Review	-	-	-	-
10/27	Continuous Random Variables (CRVs)	TBA	TBA	TBA	10/27
-	**Module 3 Due**	**-**	**-**	**-**	**10/28**
11/1	Probability Density Functions	TBA	TBA	TBA	11/1
11/3	Moment Generating Functions for CRVs	TBA	TBA	TBA	11/3
11/8	Joint & Marginal Distributions for CRVs	TBA	TBA	TBA	11/8
11/10	Covariance & Correlation for CRVs	TBA	TBA	TBA	11/10
11/15	Exponential Random Variables	TBA	TBA	TBA	11/15
11/17	Normal Random Variables	TBA	TBA	TBA	11/17
-	**Module 4 Due**	**-**	**-**	**-**	**11/22**
11/22	Special Office Hours	TBA	TBA	TBA	11/22
-	*Thanksgiving Vacation*	-	-	-	-
11/29	The Law of Large Numbers	TBA	TBA	TBA	11/29
12/1	The Central Limit Theorem	TBA	TBA	TBA	12/1
12/6	Point Estimators	TBA	TBA	TBA	12/6
12/8	Maximum Likelihood Estimation	TBA	TBA	TBA	12/8
-	**Module 5 Due**	**-**	**-**	**-**	**12/9**
-	**Mini-Project 2 Due**	**-**	**-**	**-**	**12/15**

Books & Online Resources Lists

Main Textbook

[PSDR] Speegle, D., & Clair, B. (2021). Probability, Statistics, and Data: A Fresh Approach Using R. Chapman and Hall/CRC.

Supplementary Textbook

[IPSR] Pishro-Nik, H. (2016). Introduction to probability, statistics, and random processes.