Tentative Topics Schedule

Fall 2022 - University of Portland

Contents

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

The assigned reading materials are meant to be done before class.

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	Reading	Assignment	Deadline
8/30	Orientation & Calculus Review	Syllabus	TBA	8/30
9/1	Basics of Probability Theory	TBA	TBA	9/1
9/6	Independence & Conditional Probability	TBA	TBA	9/6
9/8	Bayes Theorem	TBA	TBA	9/8
-	**Module 1 Due**	**-**	**-**	**9/9**
9/13	Random Variables & Probability Functions	TBA	TBA	9/13
9/15	Discrete Random Variables (DRVs)	TBA	TBA	9/15
9/20	Probability Mass Functions	TBA	TBA	9/20
9/22	Expected Values for DRVs	TBA	TBA	9/22
9/27	Variance for DRVs	TBA	TBA	9/27
9/29	Moment Generating Functions for DRVs	TBA	TBA	9/29
-	**Module 2 Due**	**-**	**-**	**9/30**
10/4	Joint & Marginal Distributions for DRVs	TBA	TBA	10/4
10/6	Covariance & Correlation for DRVs	TBA	TBA	10/6
10/11	Geometric Random Variables	TBA	TBA	10/11
10/13	Binomial Random Variables	TBA	TBA	10/13
-	**Mini-Project 1 Due**	**-**	**-**	**10/14**
-	*Fall Vacation*	-	-	-
10/25	Review	-	-	-
10/27	Continuous Random Variables (CRVs)	TBA	TBA	10/27
-	**Module 3 Due**	**-**	**-**	**10/28**
11/1	Probability Density Functions	TBA	TBA	11/1
11/3	Moment Generating Functions for CRVs	TBA	TBA	11/3
11/8	Joint & Marginal Distributions for CRVs	TBA	TBA	11/8
11/10	Covariance & Correlation for CRVs	TBA	TBA	11/10
11/15	Exponential Random Variables	TBA	TBA	11/15

Day	Topic	Reading	Assignment	Deadline
11/17	Normal Random Variables	TBA	TBA	11/17
-	**Module 4 Due**	**-**	**-**	**11/22**
11/22	Special Office Hours	TBA	TBA	11/22
-	*Thanksgiving Vacation*	-	-	-
11/29	The Law of Large Numbers	TBA	TBA	11/29
12/1	The Central Limit Theorem	TBA	TBA	12/1
12/6	Point Estimators	TBA	TBA	12/6
12/8	Maximum Likelihood Estimation	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.