Lectures

This page lists the class lectures plus additional material (slides, notes) associated with each lecture. Recordings of all the classes will available on the course Canvas page.

Lectures from a previous offering (Fall 2019) are available on Panopto (https://scs.hosted.panopto.com/Panopto/Pages/Sessions/List.aspx#folderID=%22618ea253-ca45-4b14-9f1d-aab501543bd2%22).

Lectures

Note: Lecture schedule, slides, and notes are subject to change.

Date	Lecture	Slides	Notes
	Data collection and management		
1/19 Wed	1: Introduction	pdf (/slides/15388_S22_Lecture_1_intro.pdf) (inked (/slides/15388_S22_Lecture_1_intro_inked.pdf))	S21: (/notes/
1/24 Mon	2: Data collection and scraping	pdf (/slides/15388_S22_Lecture_2_data_collection.pdf) (inked (/slides/15388_S22_Lecture_2_data_collection_inked.pdf))	S21: (/notes/data_coll
1/26 Wed	3: Jupyter Notebook lab	pdf (/slides/15388_S22_Lecture_3_jupyter.pdf) (inked (/slides/15388_S22_Lecture_3_jupyter_inked.pdf))	S21: (/notes/ju
1/31 Mon	4: Relational data	pdf (/slides/15388_S22_Lecture_4_relational_data.pdf) (inked (/slides/15388_S22_Lecture_4_relational_data_inked.pdf))	S21: (/notes/relationa
2/2 Wed	5: Visualization and data exploration	pdf (/slides/15388_S22_Lecture_5_visualization.pdf) (inked (/slides/15388_S22_Lecture_5_visualization_inked.pdf))	S21: (/notes/visu
2/7 Mon	6: Vectors, matrices, and linear algebra	pdf (/slides/15388_S22_Lecture_6_matrices.pdf) (inked (/slides/15388_S22_Lecture_6_matrices_inked.pdf))	S21: (/notes/m
2/9 Wed	7: (continued)		
2/14 Mon	8: Graph and network processing	pdf (/slides/15388_S22_Lecture_8_graphs.pdf) (inked (/slides/15388_S22_Lecture_8_graphs_inked.pdf))	S21: (/notes/g
2/16 Wed	9: Free text and natural language processing	pdf (/slides/15388_S22_Lecture_9_free_text.pdf) (inked (/slides/15388_S22_Lecture_9_free_text_inked.pdf))	S21: (/notes/fre
	Statistical modeling and machine learning		

Date	Lecture	Slides	Notes
2/21 Mon	10: Introduction to machine learning	Preview: pdf (/slides/15388_S22_Lecture_10_ml_intro_preview.pdf)	S21: (/notes/m
2/23 Wed	(continued)		
2/28 Mon	12: Linear classification	Preview: pdf (/slides/15388_S22_Lecture_12_linear_classification_preview.pdf)	S21: (/notes/linear_class
3/2 Wed	13: (continued)		
3/7 Mon	*No class: Spring Break*		
3/9 Wed	*No class: Spring Break*		
3/14 Mon	14: Nonlinear modeling, cross-validation	Preview: pdf (/slides/15388_S22_Lecture_14_nonlinear_modeling_preview.pdf)	S21: (/notes/nonlinear_r
3/16 Wed	15: (continued)		
3/21 Mon	16: Basics of probability	Preview: pdf (/slides/15388_S22_Lecture_16_probability_preview.pdf)	S21: (/notes/pro
3/23 Wed	17: Maximum likelihood estimation, naive Bayes	S21: pdf (/slides/15388_S21_Lecture_17_mle.pdf)	S21: (/notes/
	Advanced modeling techniques		
3/28 Mon	18: (continued)		
3/30 Wed	19: Hypothesis testing and experimental design	S21: pdf (/slides/15388_S21_Lecture_19_hypothesis_testing.pdf)	none
4/4 Mon	20: Unsupervised learning	S21: pdf (/slides/15388_S21_Lecture_20_unsupervised.pdf)	S21: (/notes/unsuper
4/6 Wed	21: Recommender systems	S21: pdf (/slides/15388_S21_Lecture_21_recommender.pdf)	S21: (/notes/recomm
4/11 Mon	22: Decision trees, interpretable models	S21: pdf (/slides/15388_S21_Lecture_22_decision_trees.pdf)	none
4/13 Wed	23: Deep learning	S21: pdf (/slides/15388_S21_Lecture_23_deep_learning.pdf)	none
	Additional topics		
4/18 Mon	24: Big data and MapReduce methods	S21: pdf (/slides/15388_S21_Lecture_24_mapreduce.pdf)	none
4/20 Wed	25: Debugging data science	S21: pdf (/slides/15388_S21_Lecture_25_debugging.pdf)	S21: (/notes/deb

Date	Lecture	Slides	Notes
4/25 Mon	26: A data science walkthrough		
4/27 Wed	27: The future of data science and Q&A	S21: pdf (/slides/15388_S21_Lecture_27_future.pdf)	none