Introduction to Data Science – Fall 2024					
DATE	**WEEK**	**DAY**	**Lecture Topic**	**Homework**	**Steps for success – Final Project Info – Writing**
09/03/24	**1**	**Tuesday**	**What is Data Science** **Install computer packages** **- GIT** **- Python or R** **- Basics of computation**	**Get your computer set up**	**CLASS PREP – You should be taking notes when you watch the class videos and following along in the provided python notebook.**
09/04/24	1	Wednesday	LAB	Make sure your computer is working!	
09/05/24	**1**	**Thursday**	**Hello World!** **Applications**	**HW1 – Due Friday 11:59pm**	**Make sure to try the exercises as you prepare for class.**
09/10/24	**2**	**Tuesday**	**Data and visualization**		
09/11/24	2	Wednesday	LAB		
09/12/24	**2**	**Thursday**	**Visualizing Numerical Data** **Visualizing Categorical Data**	**HW2 – Due Friday 11:59pm** **Choose a book or set of articles to explore for reading week.** GOAL – Think deeply about what data science means to you and how you might use data science for good.	
09/17/24	**3**	**Tuesday**	**Reading Day (no class)**		
09/18/24	**3**	Wednesday	NO LAB		
09/19/24	**3**	**Thursday**	**Reading Day (no class)**		
09/24/24	**4**	**Tuesday**	**Data Wrangling**		**It's okay if this is hard a first, come get help!**
09/25/24	4	Wednesday	LAB		
09/26/24	**4**	**Thursday**	**Working with DataFrames**	**HW3 – Due Friday 11:59pm**	**Start thinking about Final Project Ideas. Look at some of the available data sets on our class webpage.**
10/01/24	**5**	**Tuesday**	**Tidying Data, Data Types, and Classes**		**Seriously, it's okay if this is hard, but I really want you to come get some help!**
10/02/24	5	Wednesday	LAB		
10/03/24	**5**	**Thursday**	**Importing and Recoding data**	**HW4 – Due Friday 11:59pm**	**Exam 1 handed out.**
10/08/24	**6**	**Tuesday**	**Study Day**		
10/09/24	6	Wednesday	NO LAB		

10/10/24	**6**	**Thursday**	**Work on Exam 1 – Data Basics – in Groups.**	**Submit individual "draft" work on Exam1 before class!** **Exam 1 and Self Assessment due – Sunday 10/13/24**	**Get some initial data for your final project. Start the data preparation process.**
10/15/24	**7**	**Tuesday**	**Recoding and Visualizing Data**		**How did the exam go? It's not too late to get some help.**
10/16/24	7	Wednesday	LAB		
10/17/24	**7**	**Thursday**	**Tips for effective data visualization.**	**HW week 6 – Due Friday 11:59pm**	
10/22/24	**8**	**Tuesday**	**Getting Data and Doing Data Science**		
10/23/24	8	Wednesday	LAB		
10/24/24	**8**	**Thursday**	**Web Scraping**	**HW week 7 – Due Friday 11:59pm**	
10/29/24	**9**	**Tuesday**	**Misrepresentation and Data Privacy**		**Complete some exploratory data analysis on your Final Project data.**
10/30/24	9	Wednesday	LAB		
10/31/24	**9**	**Thursday**	**Algorithmic Bias**	**HW week 8 – Due Friday 11:59pm**	**Exam 2 handed out.**
11/05/24	**10**	**Tuesday**	**Work on Exam 2 – Data Visualizations – in Groups**	**Submit individual "draft" work on Exam1 before class!** **Exam 2 and Self Assessment due – Wednesday 11/6/24**	**Don't forget to sign up for Spring Classes:** **DATA/GIS 167 – Introduction to Programming in Python** **DATA 100 – Math for Data Science**
11/06/24	10	Wednesday	NO LAB		
11/07/24	**10**	**Thursday**	**Fitting and interpreting Models Modeling nonlinear relationships**	**Final Project Proposals – due before class.**	**Final Project Proposals should include a description of your questions, a data set, and some initial Exploratory Data Analysis (EDA).**
11/12/24	**11**	**Tuesday**	**Models with multiple predictors**		**Final Project Groups Assigned – start discussing you project outlines, structure, and version control plans with your group.**
11/13/24	11	Wednesday	LAB	Meet with your Final Project Group	

11/14/24	**11**	**Thursday**	**Logistic Regression, Prediction, and Overfitting**	**HW week 10 – Due Friday 11:59pm**	
11/19/24	**12**	**Tuesday**	**Feature engineering and Cross Validation**		
11/20/24	12	Wednesday	LAB	Meet with your Final Project Group	
11/21/24	**12**	**Thursday**	**Quantifying Uncertainty** **Bootstrapping**	**HW week 11 – Due Friday 11:59pm**	
11/26/24	**13**	**Tuesday**	**Get help on Final Projects**	**Work with your group on finishing your final project. Make sure you have addressed each part of the data science life cycle, address ethical issues, and have clear reproducibility in your results.** **Respond to and review peer work in written form. Practice communicating clearly between data science group members.**	
11/27/24	**13**	**Wednesday**	**THANKSGIVING**		
11/28/24	**13**	**Thursday**	**THANKSGIVING**		
12/03/24	**14**	**Tuesday**	**Final Projects**	**Each group will present their results.**	
12/04/24	14	Wednesday	NO LAB		
12/05/24	**14**	**Thursday**	**Final Projects**	**Each group will present their results.**	
12/11/24 – 12/14/24			**FINAL EXAMS**	**Final projects are due 12/14/24**	**Complete a full cycle data science report that uses referencing to make the results reproducible and more formal writing to describe the process, ethics, results, and conclusions.**