

COURSE SYLLABUS
IST652 – Scripting for Data Analysis

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Week/Lecture	Topic	Required Reading and Assignment
1	Data Pipeline and Python Language Basics	Required Readings Python for Everybody, Chapters 1, 2, 3, 5, and 8. Data Science: A Kaggle Walk-through: Introduction.
2	Booleans and Dictionaries	Required Readings Python for Everybody, Chapters 6, 7 and 10. Data Exploration: A Kaggle Walk-through – Understanding the Data.
3	Exploring and Transforming Data for Structured Data	Required Readings Python for Everybody, Chapters 3, 4, and 9. Assignment Lab 1* QUIZ ONE will open at end of week
4	Arrays, Functions, and Categorical Summarization	Required Readings Python for Everybody, Chapter 4. Cleaning the Data: A Kaggle Walk-through. Python NumPy Tutorial (Scroll down in the tutorial to see the part for NumPy.) Assignment Lab 2*

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Week/Lecture	Topic	Required Reading and Assignment
5	Stacking and Unstacking Data	Required Readings Wide and Narrow Data The Wide and Long Data Format for Repeated Measures Data Data Science: A Kaggle Walkthrough – Transforming the Data Assignment Homework 1*
6	Semi-structured Data	Required Readings Python for Everybody, Chapters 12 and 13 MDN Web Docs: HTML W3Schools HTML Element Reference Dominos: Data-Driven Decision Making at the World's Largest Pizza Delivery Chain Assignment Project Proposal*
7	Mongo Database, JSON From RSS	Required Readings NoSQL Databases: An Overview Pymongo—API Documentation PyMongo Tutorial JSON Encoder and Decoder <u>XML</u> vs. JSON. Assignment Lab 3* QUIZ TWO will open at end of week

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Week/Lecture	Topic	Required Reading and Assignment
8	Processing Twitter and Facebook	Required Readings Twitter Developer Documentation Tweepy Python Tutorial Tweepy Search API Mining Twitter Data With Python (Part 1: Collecting Data) Data Science: A Kaggle Walkthrough - Adding New Data Assignment Homework 2*
9	Unstructured Data	Required Readings Python for Everybody, Chapter 11 Regular Expression Documentation Data Science: A Kaggle Walkthrough – Creating a Model
10	Network Structures	Required Readings 8 Ways to Help Your Tweets Go Viral Python NetworkX Package Tutorial Assignment Final Project Report* Final Project Presentations
11	Presentations	Final Project Presentations

* Due 24 hours before the live session