Course Syllabus Part II
DSC 530– Data Exploration and Analysis
3 Credit Hours

Course Resources

Course Text:
Think Stats: Exploratory Data Analysis.
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O'Reilly Media
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Required Resources:
In this course, you will need to be able to:

- Access the Internet.
- Access Cyberactive.
- Collaborate Online via Video and Voice.
- Collaborate while writing a single document.
- Submit a Word Document.
- Access to GitHub account.
- Python programming environment using PyCharm, Anaconda, and Jupyter Notebook

Course Schedule

Week	Topic
1	Data Science Process & Preparing for Exploratory Data Analysis
2	Python Basics, Data Quality, Traditional Data Profiling vs Exploratory Data Analysis
3	Chapter 1 (Exploratory Data Analysis) & Chapter 2 (Distributions)
4	Chapter 3 (Probability Mass Functions) & Chapter 4 (Cumulative Distribution Functions)
5	Chapter 5 (Modeling Distributions) & Chapter 6 (Probability Density Functions)
6	Chapter 7 (Relationships between Variables) & Chapter 8 (Estimation)
7	Chapter 9 (Hypothesis Testing) & Chapter 10 (Linear Least Squares)
8	Chapter 11 (Regression)
9	Chapter 12 (Time Series Analysis)
10	Chapter 13 (Survival Analysis)
11	Chapter 14 (Analytical Methods) & Data Modeling Basics
12	Term Project

Course Activities

In this section of the syllabus, I will describe what we will be doing in each of the activities for each week. Specifically, I will be describing your deliverables – those items you need to submit

at or before the deadline. You can find more detail on grading criteria for each category by viewing its detailed rubric.

Written Assignments
Each week, you will be assigned a written assignment aligning to the weekly reading and topics, which is due to the discussion board. This post must be 500 words minimum and contain at least two credible sources. It should be written with an introduction, body and conclusion and cited references.

Exercises
Each week, you will be assigned an exercise or series of exercises based on the weekly topic to complete and submit to the assignment link. These are not group assignments to complete and should be done on your own. However, if you have questions about a specific method or function, you are encouraged to use the discussion board to discuss with your classmates, without completing the assignment together.

Discussion
Each week, you will be making 2 discussion posts in the specified forums. These two posts can either be responses to a fellow classmate or they can be something you found interesting in the reading/homework or something you didn't understand or agree with.

Each post must be a minimum of 250 words and contain at least one credible source. These responses should be "substantive" which means more than, "Neat!" or "Good job!" They should also not contain jargon or be a post that boils down to you reposting the same thing you're commenting on in a different way.

Quizzes
Each week, there will be a short 10-15 question quiz. The weekly quiz is not timed and is open book and open note.

Term Project
Over the course of the term, you will be working on a project that takes you through the exploratory data analysis (EDA) process. You will need to select a dataset and apply various methods, functions and analysis to the dataset you choose throughout the course and then summarize your findings with a written summary and presentation of the data. A key outcome of the project will be a list of questions that you initially came up with when starting your analysis of the data. There will be milestones along the course to ensure you are staying on track for the final deliverable.

Grade and Point Breakdown

Component:	Percentage	Point Value	Number of Times	Total
Discussion	30%	60 Points	2 Times per Week for 12 Weeks	720
Written Assignment	20%	40 Points	1 Submission Per Week for 12 Weeks	480
Exercises	20%	40 Points	1 Submission Per Week for 12 Weeks	480
Quizzes	10%	20 Points	1 Quiz Per Week for 12 Weeks	240
Term Project	20%	480 Points	1 Submission for Term	480
			Total Points	2400

Late Work

Late work is not accepted unless arrangements are made with the instructor for *very* special, unavoidable circumstances. If you do not alert the professor before or shortly after something that will make you late, the chances of special arrangements are much lower. If in doubt, please email as soon as possible.

Participation

Students are expected to login often and contribute to the class on a regular basis, including posting to the discussion board, submitting assignments, and participating in group activities as required. If you have specific participation requirements related to your educational funding or student status, you are expected to monitor your own participation to ensure you are in compliance with those requirements.

Expectations for Students

- Students should expect to spend approximately 10-12 hours per week to complete the activities and assignments in this course.
- Students will log in as often as needed to complete their assignments and progress through the course.
- Students will treat their classmates and the instructor with respect and courtesy.
- Students are responsible for keeping current with the reading assignments and coming to class prepared to discuss the work assigned.
- Students are responsible for knowing what assignments are due and when.
- Students will submit only their own work and will not commit plagiarism or other acts of academic dishonesty.
- Students will contact the instructor as soon as personal problems arise that may affect the student's ability to complete assignments on time.

Expectations for Faculty

- The instructor will treat all students with respect and courtesy.
- The instructor will make grading criteria clear and follow the criteria scrupulously in evaluating student work.
- The instructor will provide feedback about student work within 6 days of due dates (or 24 hours prior to the next due date)—feedback that helps the student learn and improve.
- The instructor will respond to all student messages within 48 hours.