

Course Syllabus Part II
DSC 500 – Introduction to Data Science
3 Credit Hours

Course Resources

Course Text(s):

Data Science for Business, What you Need to Know about Data Mining and Data-Analytic Thinking (1st Edition).

Foster Provost & Tom Fawcett.

O'Reilly

ISBN-13: 978-1449361327

ISBN-10: 1449361323

The Data Science Handbook: Advice and Insights from 25 Amazing Data Scientists.

Carl Shan, Henry Wang, William Chen, and Max Song

The Data Science Bookshelf

ISBN-10: 0692434879

ISBN-13: 978-0692434871

Everybody Lies: Big Data, New Data, and What the Internet Can Tell Us About Who We Really Are

Seth Stephens-Davidowitz.

Harper Collins

ISBN-10: 0062390864

ISBN-13: 978-0062390868

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, Excel, or PowerPoint document.
- Access to GitHub account.

Course Schedule

Week	Topic	Reading Assignment
1	What is data science?	<i>Data Science Handbook</i> : Chapter 1 <i>Everybody Lies</i> : Chapters 1-4
2	The data science process/Data Science for the Individual	<i>Everybody Lies</i> : Chapters 5-8
3	Data Science for Business	<i>Data Science for Business</i> – Chapters 1-2 & 13-14 <i>Data Science Handbook</i> : Chapters 13 & 18
4	Data Science Ethics	<i>Data Science Handbook</i> : Chapters 9 & 20
5	Data Analysis: Modeling	<i>Data Science for Business</i> – Chapters 3-5 <i>Data Science Handbook</i> : Chapters 7 & 16
6	Data Analysis: Clusters	<i>Data Science for Business</i> : Chapters 6-7 <i>Data Science Handbook</i> : Chapters 10 & 23
7	Data Analysis: Probabilities	<i>Data Science for Business</i> : Chapter 9 <i>Data Science Handbook</i> : Chapters 21 & 22
8	Data Preparation & Data Quality	<i>Data Science Handbook</i> : Chapters 3 & 5
9	Data Visualization	<i>Data Science for Business</i> : Chapter 8 <i>Data Science Handbook</i> : Chapters 4 & 15
10	Big Data, Data Mining, Machine Learning & Artificial Intelligence	<i>Data Science for Business</i> : Chapters 10-12 <i>Data Science Handbook</i> : Chapters 8 & 24
11	Data Science Roles	<i>Data Science Handbook</i> : Chapters 2, 6 & 12
12	Tools & Software	No assigned book reading

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.

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.

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 or Slack to discuss with your classmates, without completing the assignment together.

Term Project

Over the course of the term, you will be working on a project proposal that has 4 milestones. Each will be submitted separately with the final project submitted the last week of the course.

Week #	Written Assignment	Discussion Responses	Exercise	Project Milestone
Week 1	X	X	X	
Week 2	X	X	X	
Week 3	X	X	X	X
Week 4	X	X	X	
Week 5	X	X	X	
Week 6	X	X	X	X
Week 7	X	X	X	
Week 8	X	X	X	
Week 9	X	X	X	X
Week 10	X	X	X	
Week 11	X	X	X	
Week 12	X	X	X	X

Grade and Point Breakdown

<u>Component:</u>	<u>Percentage</u>	<u>Point Value Each Week</u>	<u>Number of Times</u>	<u>Total</u>
Discussion Response	25%	50 Points	2 Times per Week (25 points each) 12 times	600
Written Assignment (Posted to Discussion Board)	20%	40 Points	1 Submission Per Week for 12 Weeks	480
Exercises	25%	50 Points	1 Submission 12x	600
Term Project	30%	180 Points	4 Milestones, 180 points each	720

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 10-15 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.