

# Course Syllabus for DS700: Foundations of Data Science



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To learn more about your professor, read his UW-Stevens Point profile (<https://www.uwsp.edu/busecon/Pages/Faculty/nbutz.aspx>) and see his welcome message ([/d2l/common/dialogs/quickLink/quickLink.d2l?ou=3886038&type=content&rcode=UWS1-12103045](#)).



## Course Description and Objectives

This course provides an introduction to data science and highlights its importance in business decision making. It provides an overview of commonly used data science tools along with spreadsheets, relational databases, statistics, and programming assignments to lay the foundation for data science applications.

- Define data science and explain its role in decision making.
- Provide examples of opportunities and challenges related to data science.
- Explain analytical competencies and various tools and techniques.
- Describe various database technologies and their strengths and weaknesses.
- Write and execute SQL statements to retrieve and manage data.
- Explain key statistical concepts that can help build a foundation for advanced courses in the program.
- Analyze data to solve basic analytics problems using Excel and R.
- Explain best practices that can improve the effectiveness of data science projects and mitigate risks associated with such projects.

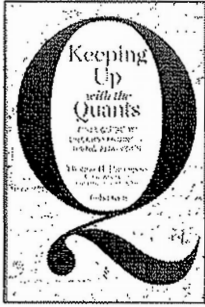


## Resources

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**Buying Textbooks:** You are free to purchase textbooks and other materials from any vendor you choose. However, the University of Wisconsin-Extension encourages you to use our preferred vendor (<http://www.bkstr.com/uwcollaborativestore/home>), because you can easily find all books for the most current offerings of this program.

## Required Textbooks:



### Keeping Up with the Quants: Your Guide to Understanding and Using Analytics

Thomas Devenport

◀ required hardcover ebook ~240 pages

#### Notes:

**Full Title:** Keeping Up with the Quants: Your Guide to Understanding and Using Analytics

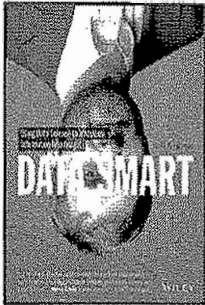
**ISBN-13** 978-1422187258

**ISBN-10** 142218725X

**Publisher:** Harvard Business Review Press

**Year:** 2013

**Length:** ~240 pages



### Data Smart: Using Data Science to Transform Information into Insights

John Foreman

◀ required paperback ebook ~432 pages

#### Notes:

**Full Title:** Data Smart: Using Data Science to Transform Information into Insights

**ISBN-13** 978-1118661468

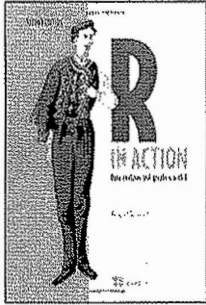
**ISBN-10** 111866146X

**Edition:** First

**Publisher:** Wiley

**Year:** 2013

**Length:** ~432 pages



## R in Action, 2nd Edition

Robert Kabacoff

📖 required paperback ~608 pages

### Notes:

**Full Title:** R in Action: Data Analysis and Graphics with R, 2nd Edition

**ISBN-13** 978-1617291388

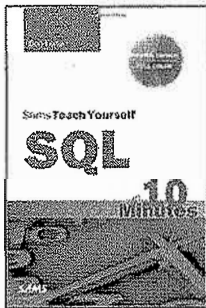
**ISBN-10** 1617291382

**Edition:** Second

**Publisher:** Manning Publications

**Year:** 2015

**Length:** ~608 pages



## SQL in 10 Minutes, Sams Teach Yourself, 4th Edition

Ben Forta

📖 required paperback ebook ~288 pages

### Notes:

**Full Title:** SQL in 10 Minutes, Sams Teach Yourself

**ISBN-13** 978-0672336072

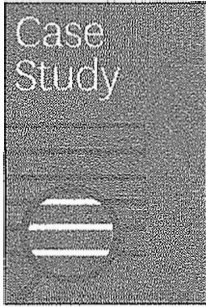
**ISBN-10** 0672336073

**Edition:** Fourth

**Publisher:** Sams Publishing

**Year:** 2012

**Length:** ~288 pages



## Fargo Health Group: Managing the Demand for Medical Examinations Using Predictive Analytics

Davit Khachatryan

📄 required pdf document 8 pages

### Notes:

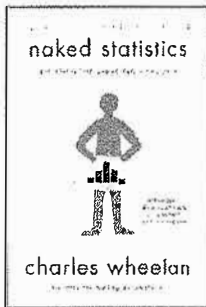
**Full Title:** Fargo Health Group: Managing the Demand for Medical Examinations Using Predictive Analytics

**Description:** Case study to enhance your understanding and appreciation of data analytics for forecasting incoming medical examination volume by healthcare organizations. The nature of the study necessitates effective teamwork on data cleaning, preparation and modeling/analysis, as well as presentation of key findings. Includes an accompanying dataset.

**Length:** 8 pages

- Purchase This Item Here [🔗 \(https://hbr.org/product/fargo-health-group-managing-the-demand-for-medical-examinations-using-predictive-analytics/BAB286-PDF-ENG\)](https://hbr.org/product/fargo-health-group-managing-the-demand-for-medical-examinations-using-predictive-analytics/BAB286-PDF-ENG)

### Recommended Textbooks:



## Naked Statistics: Stripping the Dread from the Data

Charles Wheelan

📄 recommended hardcover paperback ebook ~304 pages

### Notes:

**Full Title:** Naked Statistics: Stripping the Dread from the Data

**ISBN-13** 978-0393347777

**ISBN-10** 039334777X

**Publisher:** W. W. Norton & Company

**Edition:** First

**Year:** 2014

**Length:** ~304 pages



## Privacy in the Age of Big Data

Theresa Payton and Ted Claypoole

📖 recommended hardcover paperback ebook ~328 pages

### Notes:

**Full Title:** Privacy in the Age of Big Data: Recognizing Threats, Defending Your Rights, and Protecting Your Family

**ISBN-13** 978-1442242579

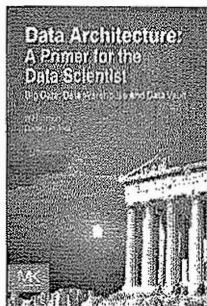
**ISBN-10** 1442242574

**Publisher:** Rowman & Littlefield Publishers

**Edition:** Reprint

**Year:** 2015

**Length:** ~328 pages



## Data Architecture: A Primer for the Data Scientist

W. H. Inmon and Dan Linstedt

📖 recommended paperback ebook ~378 pages

### Notes:

**Full Title:** Data Architecture: A Primer for the Data Scientist: Big Data, Data Warehouse and Data Vault

**ISBN-13** 978-0128020449

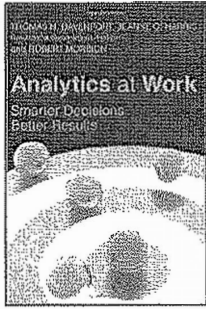
**ISBN-10** 012802044X4

**Publisher:** Morgan Kaufmann

**Edition:** First

**Year:** 2014

**Length:** ~378 pages



## **Analytics at Work: Smarter Decisions, Better Results**

Thomas H. Davenport, Jeanne G. Harris, and Robert Morison

📖 recommended hardcover ebook ~240 pages

### Notes:

**Full Title:** Analytics at Work: Smarter Decisions, Better Results

**ISBN-13** 978-1422177693

**ISBN-10** 1422177696

**Publisher:** Harvard Business Review Press

**Year:** 2010

**Length:** ~240 pages



## **Practical Data Science with R**

Nina Zumel and John Mount

📖 recommended paperback ~389 pages

### Notes:

**Full Title:** Practical Data Science with R

**ISBN-13** 978-1617291562

**ISBN-10** 1617291560

**Edition:** First

**Publisher:** Manning

**Year:** 2014

**Length:** ~389 pages



## **Technology Requirements**

You will use the following technology as part of this course:

Resource	Type	On Virtual Desktop?
Microsoft Office: Access, Excel, Word, PowerPoint	Software application	YES
SQL Server 2014	Software application	YES
R Studio	Software application	YES
Tableau	Software application	YES

**! Important!** Visit the **Technology Instructions** section for detailed information about how to gain access to technology required for this course.

## Grading

Your mastery of course content is assessed using a variety of methods:

Final grades are assigned using the following scale:

<b>Assignments</b>	40%	<b>90-100%</b>	A
<b>Weekly Quizzes</b>	20%	<b>80-89%</b>	B
<b>Group Discussions</b>	15%	<b>60-79%</b>	C
<b>Final Project</b>	25%	<b>0-59%</b>	F
<b>TOTAL</b>	<b>100%</b>		

- You can see a detailed list of all quizzes, assignments, and group project deadlines in the **Course Calendar** section.
- **Quizzes:** Most weeks include a quiz of 25-30 questions covering that week's course content, readings, and videos. The quizzes are generally available on Monday and must be taken no later than 11:59 p.m. Sunday. All quizzes are timed, and you are allowed only one attempt, so please do not attempt the quiz until you have thoroughly worked through the week's material. The quizzes are graded automatically, so you should receive your score immediately.
- **Assignments:** Assignments also cover the course content, readings, and videos, and are generally posted every two to three weeks.
- **Discussions:** Discussions are your opportunity to contribute from and learn from your peers. We will engage in several discussions throughout the semester, as outlined in the Course Calendar. Note that every assessed discussion requires **two** posts: one for your original contribution to the discussion's central issues and at least **two** responses to your peers. The deadlines for these are staggered so everyone has a chance to post and respond. Your initial post counts as 75% of each discussion grade, while your replies count for the remaining 25%. In order to create a professional, open communication environment, you are expected to follow these online discussion guidelines ([/content/ds/700/fa17/sec01/81\\_01\\_Rubrics/Discussion\\_Guidelines.pdf?\\_&d2lSessionVal=M-HlxQXEUQR86LIOfZ5O1lpJ&ou=3886038](/content/ds/700/fa17/sec01/81_01_Rubrics/Discussion_Guidelines.pdf?_&d2lSessionVal=M-HlxQXEUQR86LIOfZ5O1lpJ&ou=3886038)).

- **Late Submissions (Assignments, Discussions):** You are expected to submit all evaluated work (including assignments and graded discussions) on or prior to the due date. Work submitted after the due date will be accepted and will receive partial credit. The instructor reserves the right to subtract up to 5% per day late from the final score.
- **Grading Turnaround Time (Assignments, Discussions):** Your instructor will finish grading assignments and discussion posts no later than two weeks after submission.



## Policies & Procedures

### Feedback & Communication

The instructor will provide individual feedback to help with the learning process. The instructor also encourages your feedback regarding the course content and delivery to ensure you understand the material. The instructor may also seek your feedback through surveys.

The instructor will try to respond to all student email within 24 hours.

This course uses two kinds of discussions:

- All **general, non-graded discussions** are conducted through Piazza, an online Q&A tool (</d2l/common/dialogs/quickLink/quickLink.d2l?ou=3886038&type=content&rcode=UWS1-12052447>) that allows you to communicate with your peers and instructors across multiple sections of this course. This is a great place to ask about course logistics, request assignment clarifications, or even just share useful data science resources you have found.
- **Graded discussions** that are part of your required coursework (described previously in this syllabus) are conducted here in the online course. To find these, click the **Discussions** link at the top of the page.

### Staying Current

The instructor reserves the right to make appropriate changes to the course schedule and course content at any time during the course. Often these changes are influenced by your feedback and experience and are designed to better target key skills and enhance your education.

You are strongly advised to check the learning management system several times a week to make sure all readings, assignments, and quizzes are completed on time.

### Incomplete Grades

Incompletes are given only in unusual and extreme cases.

### Academic Integrity

You are expected to maintain high standards of ethical conduct and academic integrity during the course. Any student found to have committed acts of academic dishonesty such as cheating, plagiarizing, copying from other students, allowing others to copy from you, copying from the Internet, and disrupting the class may result in disciplinary action including a failing grade.

### Accessibility Accommodations

Students with documented disabilities have the right to request information and necessary accommodations from their University, as stipulated within Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Students interested in requesting academic accommodations must contact the Accessibility Services office at their home campus to begin the application process. Please be advised that the eligibility determination process and, once approved, implementation of accommodation services could take several weeks. It is important for students to be proactive and initiate the process early in order to ensure that accommodations are in place by the time they will be needed.



Lesson	Topics	To Dos	Dates
1 9/5-9/10	<ul style="list-style-type: none"> <li>• Introduction, syllabus review, course policies</li> <li>• Define data science and data scientist</li> <li>• Define common terms associated with data science</li> </ul>	<p><b>Read:</b></p> <ul style="list-style-type: none"> <li>• Data Scientist: The Sexiest Job of the 21st Century</li> </ul> <p><b>Watch:</b></p> <ul style="list-style-type: none"> <li>• Introduction to course and instructor</li> <li>• Presentation: Introduction to Data Science</li> <li>• Interview with Dr. Sasi Pillay</li> <li>• Data Science: Where are we going?</li> <li>• Where do Quants Add Value to Your Business</li> </ul> <p><b>Submit:</b></p> <ul style="list-style-type: none"> <li>• Self-Introduction</li> <li>• Self-Assessment Quiz</li> <li>• Beginning of Course Survey</li> <li>• Quiz 01</li> </ul>	<p><b>All:</b></p> <p><b>AVAILABLE</b> Sep 5, 2017</p> <p><b>DUE</b> Sep 10, 2017</p>
2 9/11-9/17	<ul style="list-style-type: none"> <li>• Discuss data growth and its causes</li> <li>• Discuss opportunities related to big data</li> <li>• Analyze examples of data applications</li> <li>• Discuss data related risks and ways to mitigate them</li> </ul>	<p><b>Read:</b></p> <ul style="list-style-type: none"> <li>• The Rise of Big Data</li> </ul> <p><b>Watch:</b></p> <ul style="list-style-type: none"> <li>• Presentation: Data Science Challenges and Opportunities</li> <li>• Interview with Adam Hardy</li> <li>• Kenneth Cukier on Big Data</li> <li>• Kenneth Cukier: Big Data is Better Data</li> <li>• Neha Kothari, Senior Data Scientist at LinkedIn</li> </ul> <p><b>Submit:</b></p> <ul style="list-style-type: none"> <li>• Quiz 02</li> </ul>	<p><b>Quiz:</b></p> <p><b>DUE</b> Sep 17, 2017</p>
3 9/18-9/24	<ul style="list-style-type: none"> <li>• Define analytics</li> <li>• Discuss the types of analytics and their role in decision making</li> <li>• Describe the uses of analytic thinking</li> <li>• Discuss the steps of analytics</li> </ul>	<p><b>Read:</b></p> <ul style="list-style-type: none"> <li>• Keeping Up With The Quants: Chapters 1-2</li> <li>• Competing on Analytics</li> </ul> <p><b>Watch:</b></p> <ul style="list-style-type: none"> <li>• Presentation: Analytics Process</li> <li>• Tom Davenport: Analytics and Good</li> </ul>	<p><b>Quiz:</b></p> <p><b>DUE</b> Sep 24, 2017</p>

Lesson	Topics	To Dos	Dates
4 9/25-10/1	<ul style="list-style-type: none"> <li>Explain key statistical and machine learning concepts</li> <li>Discuss data cleaning techniques</li> <li>Explain common statistical mistakes and analytics best practices</li> <li>Explore R and R Studio environments</li> <li>Perform basic data analysis in Excel and R</li> </ul>	<p>Judgment</p> <p><b>Practice:</b></p> <ul style="list-style-type: none"> <li>Activity: Review Analytic Thinking Example</li> </ul> <p><b>Submit:</b></p> <ul style="list-style-type: none"> <li>Quiz 03</li> </ul> <p><b>Read:</b></p> <ul style="list-style-type: none"> <li>Keeping Up With The Quants: Chapter 3</li> <li>R in Action: Chapters 1, 2, 4</li> <li>Data Smart: Chapter 1</li> <li>Use and Misuse of Statistics</li> <li>Discussion 1</li> <li>Assignment 1</li> </ul> <p><b>Watch:</b></p> <ul style="list-style-type: none"> <li>Presentation: Statistics and Machine Learning Overview</li> <li>Introduction to R</li> <li>Summary Data in R</li> </ul> <p><b>Practice:</b></p> <ul style="list-style-type: none"> <li>Activities: Develop R Skills, Develop Excel Skills</li> </ul> <p><b>Submit:</b></p> <ul style="list-style-type: none"> <li>Quiz 04</li> </ul>	<p><b>Quiz:</b></p> <p><b>DUE</b> Oct 1, 2017</p>
5 10/2-10/8	<ul style="list-style-type: none"> <li>Explain the purpose of visual analytics</li> <li>Discuss best practices in visual analytics</li> <li>Compare various types of visualizations</li> <li>Discuss various tools available for visual analytics</li> <li>Perform visual analytics using Tableau and R</li> </ul>	<p><b>Read:</b></p> <ul style="list-style-type: none"> <li>Keeping Up With The Quants: Chapter 4</li> <li>R in Action: Chapters 3, 6, 11</li> <li>Visual Analysis Best Practices</li> </ul> <p><b>Watch:</b></p> <ul style="list-style-type: none"> <li>Presentation: Visual Analytics</li> <li>Basic Plots in R</li> <li>Using ggplot2 in R</li> <li>Introduction to Tableau</li> <li>Mapping in Tableau</li> <li>Word Clouds in R</li> </ul> <p><b>Practice:</b></p> <ul style="list-style-type: none"> <li>Activities: Create a Word Cloud, Create Visualizations</li> </ul> <p><b>Submit:</b></p> <ul style="list-style-type: none"> <li>Quiz 05</li> </ul>	<p><b>Quiz:</b></p> <p><b>DUE</b> Oct 8, 2017</p> <p><b>Discussion 1:</b></p> <p>Post <b>DUE</b> Oct 6, 2017</p> <p>Reply <b>DUE</b> Oct 8, 2017</p> <p><b>Assignment 1:</b></p> <p><b>DUE</b> Oct 8, 2017</p>

Lesson	Topics	To Dos	Dates
6 10/9-10/15	<ul style="list-style-type: none"> <li>• Discuss linear and multiple regression models</li> <li>• Discuss evaluation of regression models</li> <li>• Perform linear and multiple regression in Excel and R</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion 1</li> <li>• Assignment 1</li> </ul> <p><b>Read:</b></p> <ul style="list-style-type: none"> <li>• Data Smart: Chapter 6</li> <li>• R in Action: Chapters 8, 13.1, 17.2, 17.6</li> </ul> <p><b>Watch:</b></p> <ul style="list-style-type: none"> <li>• Presentation: Regression</li> <li>• Linear Regression in Excel</li> </ul> <p><b>Practice:</b></p> <ul style="list-style-type: none"> <li>• Activities: Predicting Pregnant Customers, Predicting Personal Income</li> </ul> <p><b>Submit:</b></p> <ul style="list-style-type: none"> <li>• Quiz 06</li> </ul>	<p><b>Quiz:</b></p> <p><b>DUE</b> Oct 15, 2017</p>
7 10/16-10/22	<ul style="list-style-type: none"> <li>• Discuss binary classification</li> <li>• Discuss validation of binary classification models</li> <li>• Perform cluster analysis using K-Means in Excel and R</li> <li>• Perform logistic regression in R</li> </ul>	<p><b>Read:</b></p> <ul style="list-style-type: none"> <li>• R in Action: Chapters 13.2, 17.2</li> <li>• Discussion 2</li> <li>• Assignment 2</li> </ul> <p><b>Watch:</b></p> <ul style="list-style-type: none"> <li>• Presentation: Classification</li> <li>• K-Means Clustering in R</li> <li>• Logistic Regression in R</li> </ul> <p><b>Practice:</b></p> <ul style="list-style-type: none"> <li>• Activity: Logistic Regression in R</li> </ul> <p><b>Submit:</b></p> <ul style="list-style-type: none"> <li>• Quiz 07</li> </ul>	<p><b>Quiz:</b></p> <p><b>DUE</b> Oct 22, 2017</p>
8 10/23-10/29	<ul style="list-style-type: none"> <li>• Discuss the purpose of forecasting</li> <li>• Compare various types of time series components</li> <li>• Explain various time series forecasting methods</li> <li>• Discuss evaluation criteria of forecasting models</li> <li>• Perform forecasting</li> </ul>	<p><b>Read:</b></p> <ul style="list-style-type: none"> <li>• Data Smart: Chapter 8</li> <li>• R in Action: Chapters 15, 18</li> </ul> <p><b>Watch:</b></p> <ul style="list-style-type: none"> <li>• Presentation: Forecasting</li> <li>• Demonstration: Forecasting</li> <li>• Demonstration: ARIMA Guidance</li> </ul> <p><b>Practice:</b></p> <ul style="list-style-type: none"> <li>• Activity: Build a Forecasting Model</li> </ul>	<p><b>Quiz:</b></p> <p><b>DUE</b> Oct 29, 2017</p> <p><b>Discussion 2:</b></p> <p>Post <b>DUE</b> Oct 27, 2017 Reply <b>DUE</b> Oct 29, 2017</p> <p><b>Assignment 2:</b></p> <p><b>DUE</b> Oct 29, 2017</p>

Lesson	Topics	To Dos	Dates
	in Excel and R	<b>Submit:</b> <ul style="list-style-type: none"> <li>• Quiz 08</li> <li>• Discussion 2</li> <li>• Assignment 2</li> </ul>	
9 10/30-11/5	<ul style="list-style-type: none"> <li>• Describe the purpose and concept of relational databases</li> <li>• Explain fundamental definitions of and properties related to databases</li> <li>• Explain normalization and its purpose</li> <li>• Perform normalization (from UNF to 3NF)</li> <li>• Describe the origin and purpose of SQL</li> <li>• Write and perform SQL syntax</li> </ul>	<b>Read:</b> <ul style="list-style-type: none"> <li>• SQL in 10 Minutes: Chapters 1-10</li> </ul> <b>Watch:</b> <ul style="list-style-type: none"> <li>• Presentation: Relational Databases and SQL</li> </ul> <b>Practice:</b> <ul style="list-style-type: none"> <li>• Activity: Normalization Practice</li> </ul> <b>Submit:</b> <ul style="list-style-type: none"> <li>• Quiz 09</li> </ul>	<b>Quiz:</b> <b>DUE</b> Nov 5, 2017
10 11/6-11/12	<ul style="list-style-type: none"> <li>• Discuss SQL JOIN statements</li> <li>• Discuss conditional statements and loops</li> <li>• Discuss DDL statements</li> <li>• Execute SQL statement in SQL Server 2014</li> </ul>	<b>Read:</b> <ul style="list-style-type: none"> <li>• SQL in 10 Minutes: Chapters 11-22</li> <li>• Discussion 3</li> <li>• Assignment 3</li> <li>• Final Project instructions</li> </ul> <b>Watch:</b> <ul style="list-style-type: none"> <li>• Presentation: SQL Statements</li> <li>• Demonstration: SQL Server Overview</li> <li>• Demonstration: SQL Statements</li> </ul> <b>Practice:</b> <ul style="list-style-type: none"> <li>• Activity: SQL Statements</li> </ul> <b>Submit:</b> <ul style="list-style-type: none"> <li>• Quiz 10</li> </ul>	<b>Quiz:</b> <b>DUE</b> Nov 12, 2017
11 11/13-11/19	<ul style="list-style-type: none"> <li>• Discuss Advanced SQL Server operations (Indexes, Triggers, and Stored</li> </ul>	<b>Read:</b> <ul style="list-style-type: none"> <li>• Big Data and its Technical Challenges</li> <li>• Type of NoSQL Databases and its</li> </ul>	<b>Quiz 11:</b> <b>DUE</b> Nov 19, 2017 <b>Discussion 3:</b>

Lesson	Topics	To Dos	Dates
	<p>Procedures)</p> <ul style="list-style-type: none"> <li>Describe NoSQL databases, types, and examples</li> <li>Describe the Hadoop ecosystem and its role in processing big data</li> </ul>	<p>Comparison with Relational Databases</p> <ul style="list-style-type: none"> <li>Hadoop Projects</li> </ul> <p><b>Watch:</b></p> <ul style="list-style-type: none"> <li>Presentation: Advanced SQL and Beyond SQL</li> <li>Demonstration: Stored Procedures</li> <li>No-SQL vs. SQL: Battle of the Backends</li> <li>The Future of Hadoop</li> </ul> <p><b>Practice:</b></p> <ul style="list-style-type: none"> <li>Activity: Stored Procedures</li> </ul> <p><b>Do:</b></p> <ul style="list-style-type: none"> <li>Work on final project</li> </ul> <p><b>Submit:</b></p> <ul style="list-style-type: none"> <li>Quiz 11</li> <li>Discussion 3</li> <li>Assignment 3</li> </ul>	<p>Post <b>DUE</b> Nov 17, 2017</p> <p>Reply <b>DUE</b> Nov 19, 2017</p> <p><b>Assignment 3:</b> <b>DUE</b> Nov 19, 2017</p>
<p><b>12</b> 11/20-11/26</p>	<ul style="list-style-type: none"> <li>Describe various project management concepts</li> <li>Discuss change and risk management</li> <li>Discuss uniqueness of and risks associated with data science projects</li> </ul>	<p><b>Read:</b></p> <ul style="list-style-type: none"> <li>The Science of Managing Data Science</li> <li>Why Did Your Project Fail?</li> </ul> <p><b>Watch:</b></p> <ul style="list-style-type: none"> <li>Presentation: Data Science Project Management</li> </ul> <p><b>Practice:</b></p> <ul style="list-style-type: none"> <li>Activity: Identify Project Management Best Practices</li> </ul> <p><b>Do:</b></p> <ul style="list-style-type: none"> <li>Work on final project</li> </ul> <p><b>Submit:</b></p> <ul style="list-style-type: none"> <li>Quiz 12</li> <li>Final Project: cleaned dataset, forecast output, R code file</li> </ul>	<p><b>Quiz 12:</b> <b>DUE</b> Nov 26, 2017</p> <p><b>Final Project: cleaned dataset, forecast output, R code file</b> <b>DUE</b> Nov 26, 2017</p>
<p><b>13</b> 11/27-12/3</p>	<ul style="list-style-type: none"> <li>Define Data Governance and describe its role in data science</li> <li>Discuss data quality and ways to improve it</li> <li>Describe risks</li> </ul>	<p><b>Read:</b></p> <ul style="list-style-type: none"> <li>Designing Data Governance</li> <li>Privacy, Anonymity, and Big Data in the Social Sciences</li> </ul> <p><b>Watch:</b></p> <ul style="list-style-type: none"> <li>Presentation: Data</li> </ul>	<p><b>Quiz 13:</b> <b>DUE</b> Dec 3, 2017</p>

Lesson	Topics	To Dos	Dates
14 12/4-12/17	<p>associated with data science</p> <ul style="list-style-type: none"> <li>Discuss best practices to ensure data privacy in data science projects</li> </ul> <ul style="list-style-type: none"> <li>Final Project</li> </ul>	<p>Governance - Improving Data Quality, Security, Privacy, and Compliance</p> <ul style="list-style-type: none"> <li>What's the Future of Privacy in a Big Data World?</li> <li>Data Center Tour</li> </ul> <p><b>Practice:</b></p> <ul style="list-style-type: none"> <li>Activity: Identify Data Governance Best Practices</li> </ul> <p><b>Submit:</b></p> <ul style="list-style-type: none"> <li>Quiz 13</li> </ul> <p><b>Watch:</b></p> <ul style="list-style-type: none"> <li>Presentation: Concluding Remarks</li> </ul> <p><b>Submit:</b></p> <ul style="list-style-type: none"> <li>Final Project: presentation, report</li> </ul>	<p><b>Final Project: presentation, report</b></p> <p><b>DUE</b> Dec 17, 2017</p> <p><b>LAST DAY FOR LATE SUBMISSIONS</b> Dec 19, 2017</p> <p><b>GRADED</b> Dec 22, 2017</p>