

CSE – 41296, SID 131199, SP18
UC San Diego Extension

LEAN Big Data Analytics: A Data Manager's Guide for Data Transformation Success

Course Number: CSE-41296, Section ID: 131199
Course Dates: 04/03/2018 - 06/09/2018
(9 weeks)

Instructor Information

Name: Dr. James C Meng,
Email: mengjc@ucsd.edu

Communication Policy

You may contact me preferably by email or by phone (202 412 5456 cell) or by email during my office hours. During office hours, I will respond within 24 hours. Outside of office hours, I will answer your emails within 48 hours or less of receiving them.

Course Description (CSE 41296):

This course provides the end-to-end system engineering steps from organization's business objectives, business processes, data governance, change management, data integration and analytics to gain decision making business intelligence. This course is specifically designed to avoid known mistakes in past data transformation efforts.

Commented [KL1]: These 2 yellow sections need to be written into a one-paragraph course description, as it will appear on our website. All the content is here, it just needs to be reorganized by combining description and scope.

Course Objectives:

First objective is to equip students with an ability to manage their businesses analytics using practical automation tools. The objective is NOT IT skill development, rather, this course will focus on critical thinking on management solutions development.

Second objective is to develop students' understanding of how large organizations gain insights from their own wealth of execution data. Students will develop insights into what, when and how business insights can be effectively gleaned from planning and execution data by using the most widely accepted automation tools taught by leading data industry practitioners.

Bachelor Degrees or work experience managing or using data.

Course Scope:

Data Science incorporates varying elements and builds on techniques and theories from many fields, including signal processing, mathematics, statistics, probability models, computer programming, engineering analysis, pattern recognition and learning and cloud computing. All for the goal of extracting meaning from data and for businesses creating Business Insights. This course will not address any of the above aspects; instead, we will focus on the end-to-end steps starting from business missions, to data standardization, data governance, and data processing to visualize business insights. Lecture topics include the steps from defining the business objective, linking them to relevant data, finding and interpreting diverse data sources; managing large amounts of data with hardware, software diversity and bandwidth constraints; merging data sources together, ensuring consistency of data-sets; relating to performance metrics, creating visualizations to aid understanding of data; finally communicating the data insights and findings for decision makers.

Course Prerequisites:

Bachelor Degrees or work experience in managing or using data.

Learning Outcomes (how will you measure students' understanding of the concepts?)

By the end of this course, you will be able to:

- Recognize gaps, blind spots and key missing enablers in your organization's previous push for data transformation.
- Construct a data transformation plan with requirements and roadmaps.
- Devising and implementing step-by-step data transformation without falling into both technical and organizational traps.
- Invest in the right automation tools for the purpose and unique requirements of your organization at lower costs without reinvestments years later.
- Gain business insights for decision makers timely and actionable that your organization never had before.

Course Materials and Textbooks

Suggested and required reading materials can be found within the weekly lessons in Blackboard as PDF files or web links.

Commented [KL2]: You still need to address this section. Understand/learn are NOT specific/measurable learning outcomes. What do you want students to be able to do/make/build as a result of what they learn in your course? How will they show you this in your assessments? Then, write the Learning outcomes using verbs from Bloom's taxonomy(right side).

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Course Schedule

Lesson/ Week	Topics	Assignments w/due dates
1 April 2	Lecture 1: Business Data Science, What is? Its Trends & Why Bother? Scope & Expectation of Learning Lecture 2: Business Mission Objectives, Vision & Strategy drive Business Analytics	
2 April 9	Lecture 3: Linking Business Missions with Business Mission Objectives Lecture 4: Business Data Integration	
3 April 16	Lecture 5: Business Data Standardization Lecture 6: Business Data Architecture & Rationalization	
4 April 23	Lecture 7: System Engineering Discipline for LEAN Data Analytics Lecture 8: Data Transformation Case Study 1: EFG	Assignment 1 Due 5/2/18
5 April 30	Guest Speaker: Automation Tool Lab 1: SAP Speaker on Enterprise and Analytics & Tool Tutorials	
6 May 7	Lecture 9: Management of Change for Data Transformation Lecture 10: Data Governance & CDO	
7 May 14	Guest Speaker: Automation Tool Lab 2: Collibra Speaker Data Integration & Governance & Tool Tutorials	
8 May 21	Lecture 11: Data Innovations for Digital Transformation Lecture 12: Data Manager's Artificial Intelligence & Machine Learning	
9 May 28	Guest Speaker: Automation Tool Lab 3: IBM Speaker on Cognitive Computing and WATSON Tool Tutorial	Assignment 2 Due 6/4/18
10 June 4	Lecture 13: Decision Making & Business Data Visualization Lecture 14: Data Managers' Guide For Lean Data Transformation.	Bonus Points Team Research Paper: Due date 6/9/2018 (last day of class)

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Grades

Letter grades are based on the UC San Diego Extension Grading Scale (<https://extension.ucsd.edu/student-resources/academic-information>) . Your final course grade is based on the percentage of points you have earned.

100% = A+ (pass) ↓	77-79% = C+(pass) ↓	67-69% = D+ (no pass) ↓
93-99% = A	73-76% = C	63-66% = D
90-92% = A-	70-72% = C-	60-62% = D-
87-89% = B+		59 and below = F
83-86% = B		
80-82% = B-		

Weighted Grading Criteria

Participation (short essays and discussion board):	20%
Homework Assignments:	80%
Team Research Paper (team of 4 +)	20% (Extra Bonus Points)
TOTAL	100%

You can check your point total through the Course Menu in Blackboard at any time by clicking **Tools>My Grades**.

Grading Policies (menus):

Late Policy:

An assignment is considered late if it is posted or sent after the due date/time. If the assignment is 1-3 days late, 5-number of points will be subtracted from the total score if an assignment is submitted more than 72 hours (3 days) after the due date/time. The assignment will receive a score of 0 and no feedback if it is submitted more than one week after the due date/time.

Late assignments will be accepted at the discretion of the instructor and cannot be accepted more than 1 week late

Homework assignments are due on the dates posted on the course schedule and are submitted in class. I am more than willing to work with you on an individual level if extreme difficulties are encountered. Late homework will be accepted via e-mail **only on the next day (by midnight)** after the due date for only 50% max credit, unless e-mail confirmation from the instructor prior to the start of the class allows for another arrangement. If a student is absent and can't physically submit an assignment in person the homework will be accepted via e-mail for full credit if received by the start of the class.

Team Research Paper is due on last day of course specified on course schedule; the final project can be dropped off up to one week prior to the scheduled class for full credit if student cannot attend final class. No final projects will be accepted after the final class unless e-mail confirmation from the instructor prior to the start of the class allows for another arrangement.

*Please communicate with me early and often unless due to a verifiable medical or family emergency. Expect and plan for contingencies and technical problems (they WILL happen!).

File Naming/Format:

File naming: Last Name_first initial_assignment_due date (e.g. Kelley_E_HW1_June 15.docx)
File Format: Please submit Microsoft Word documents only. Please to not submit XYZ documents.

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Blackboard: Accessing the Course

This course will be available to you in Blackboard beginning on the published Course Start date, and not before. If you enroll/register for this course on or after the course start date, you will NOT have immediate access to the course in Blackboard. You will need to wait up to 48 hours for our system to process your enrollment and to place this course into your Blackboard account.

Your UC San Diego Extension Blackboard (<https://ucsdextension.blackboard.com>) login and password are the email address(all lower case) that you used to create your MyExtension Account.

If you cannot login to Blackboard:

CHECK: your email for an enrollment confirmation, which should include the Term/Course, Section ID/Start Date Number. If you have not received such a confirmation for this course, our systems may not have completely processed your enrollment in the course (This can take up to 48 hours). Thus, you have yet to be placed into Blackboard.

CHECK: your MyExtension Account and see if the course appears in your record. If the course does appear in your MyExtension account, you may still need to wait 48 hours for Blackboard to recognize you AND for the Course to appear in Blackboard.

CONTACT: Student Services (unex-reg@ucsd.edu/ 858-534-3400) to discuss the status of your enrollment. Have your Student ID number and the course information available.

If you can login to Blackboard using the email address you provided to Extension:

And you have received an enrollment confirmation

And the course appears in your MyExtension Account (my courses)

BUT this Course does not appear in Blackboard under My Courses 48 hours after you enrolled in the course:

CONTACT: Online Learning (unex-onlinelearning@ucsd.edu/858-246-1040)

Student Resources for Online Courses

On any Blackboard screen, there are tabs across the top and one is called the Student Tab. There is information on how to get started as a student and who to contact if you encounter any problems. There are also videos and written instructions on how to do some of the most common things in Blackboard. Another one of these tabs is called FAQ (Frequently Asked Questions). If you click on the Students Category (on the left), you can find step-by-step directions for everything from sending email to uploading your assignments to posting a reply on the discussion board. You are strongly encouraged to search these resources for answers before contacting the instructor.

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Course Structure in Blackboard (<https://ucsdextension.blackboard.com>)

The materials for this course are organized within the following items on UC San Diego Extension's Blackboard Course Menu, located on the left side of Course Page. If you are enrolled in multiple courses, you will first need to Select the My Courses Tab(across the top), Select This Course (right), the Menu for this course will appear (left).

Announcements	<p>Section Information:</p> <p>Announcements: and reminders from your instructor. You should receive an email notification from Blackboard each time your instructor posts a new announcement. (yourinstructor's email <do-not-reply@blackboard.com></p>
Introduction	<p>Introduction/Welcome to the course from the instructor, your Instructor's Bio & Photo.</p> <p>Blackboard Course Organization Chart from the syllabus.</p>
Syllabus	<p>This document as a PDF attachment:</p> <p>Note: Refer to the syllabus often, especially if you are new to online learning or Blackboard.</p>
Lessons	<p>Multiple Lesson Folders, which contain:</p> <ul style="list-style-type: none"> weekly audio lectures accompanied by PPT slides learning activities/practice *Discussion Board Assignments (may appear in distinct menu item) *Assignments/assessments (may appear in distinct menu item)
Discussion Board	<p>Discussion board assignments, prompts(topics) pertaining to the course, are located within this menu item.</p> <p>Check the schedule of weekly assignments for due dates (post a reply to the prompt AND respond to the posts of your classmates).</p> <p>Check the syllabus for specific directions (number of posts and replies) and grading criteria (quality of your "discussion" postings).</p> <p>*May appear within lesson folders.</p>
Assignments	<p>This item will NOT appear if your instructor has integrated the assignments into the lessons. Refer to the Schedule of Course topics for more information.</p> <p>Please complete the Course Instructor Evaluation in your MyExtension Account during the last week of the Course (available until the Course End Date).</p>
Resources	<p>Additional readings and handouts (identified as Enrichment in this syllabus) and external web site links are here.</p>
Contacts	<p>Contact information for the instructor, student services, and online learning support is listed here.</p>
Tools	<p>Check your grades (My Grades) or access the Blackboard User Manual here.</p>

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Netiquette: In an online course, the majority of our communication takes place in the course forums. However, when we have a need for communication that is private, whether personal, interpersonal, or professional, we will use individual email or telephone. Our primary means of communication is written. The written language has many advantages: more opportunity for reasoned thought, more ability to go in-depth, and more time to think through an issue before posting a comment. However, written communication also has certain disadvantages, such as a lack of the face-to-face signaling that occurs through body language, intonation, pausing, facial expressions, and gestures. As a result, please be aware of the possibility of miscommunication and compose your comments in a positive, supportive, and constructive manner.

Academic Policies and Procedures: Please refer to UC San Diego Extension's website (Student Resources tab) for specific details about academic policies and procedures. <https://extension.ucsd.edu/>

MyExtension: Your MyExtension account is your student records portal. Login to MyExtension to enroll in a course, drop a course, request verification of enrollment, request official transcripts and more.

Campus Emergencies: In the event of an emergency, information will be posted at UC San Diego Extension (<http://extension.ucsd.edu/>). Extension students must access the website to find out the status of the emergency situation. Email and or phone lines may not be accessible. Information will be updated online as the situation progresses and an ALL CLEAR will be posted once the situation is resolved.

Code of Conduct : All participants in a course at UC San Diego Extension are bound by the University of California Code of Conduct, found at [Student Code of Conduct](#).

Academic Integrity Policy: The University is an institution of learning, research, and scholarship predicated on the existence of an environment of honesty and integrity. As members of the academic community, faculty, students, and administrative officials share responsibility for maintaining this environment. It is essential that all members of the academic community subscribe to the ideal of academic honesty and integrity and accept individual responsibility for their work. Academic dishonesty is unacceptable and will not be tolerated at the University of California. Cheating, forgery, dishonest conduct, plagiarism, and collusion in dishonest activities erode the University's educational, research, and social roles.

If students who knowingly or intentionally conduct or help another student perform dishonest conduct, acts of cheating, or plagiarism will be subject to disciplinary action at the discretion of UC San Diego Extension.

Please refer to UC San Diego Extension website to view this policy: <https://extension.ucsd.edu/>

Disability Services

If you need support or assistance because of a disability, you may be eligible for accommodations or services through UC San Diego Extension Student Services Disability Coordinator.

Phone: 858-822-1366

Email: unex-ssd@ucsd.edu

Extension's Disability Coordinator (DSC) will work with your instructor to make any necessary accommodations. Please note that it is your responsibility to initiate contact with the Disability Coordinator.

For more information, visit <https://extension.ucsd.edu/student-resources/Services-for-Students-with-Disabilities>