DA 702 Applied Big Data

Course Description
Big data concepts, tools and methods. Students will be exposed to big data principles as well as learn about information technology innovation in organizations. Students will also be introduced to multiple tools and statistical concepts related to the contemporary analysis of big data.

Learning Outcomes
By the end of this course students should be able to understand how information technology can be used to drive organizational innovation, and how Big Data can play a role in that process. Students should be able to explain the difference between unstructured data and structured data, and NoSQL databases and relational databases. Students should also understand the concept of Massive Parallel Processing, and be familiar with tools such as the Hadoop Distributed File System (HFDS), MapReduce, Amazon Web Services, and IBM BigInsights. An introductory working knowledge of statistical packages such as SPSS, R, and AMOS statistical tools should also be achieved.

Course Materials
There are no required books for this course. Course materials have been compiled and are available in WebCampus. We will be using an Udemy course. Details will be provided the first day. Below is a list of books that would be valuable for someone interested in Big Data and organizational innovation.

Digital Exhaust: What Everyone Should Know About Big Data, Digitization and Digitally Driven Innovation (FT Press Analytics) Hardcover – December 1, 2014: ISBN-10: 0133837963

Analytics in a Big Data World: The Essential Guide to Data Science and its Applications (Wiley and SAS Business Series) Hardcover – May 19, 2014: ISBN-10: 1118892704

Applied Business Analytics: Integrating Business Process, Big Data, and Advanced Analytics (FT Press Analytics) 1st Edition: ISBN-10: 0133481506

Hadoop: The Definitive Guide Third Edition: ISBN-10: 1449311520

IBM SPSS Statistics 19 Guide to Data Analysis 1st Edition: ISBN-10: 0321748417

Beginning R: The Statistical Programming Language 1st Edition: ISBN-10: 111816430X

Internet of Things (A Hands-on-Approach) Paperback – August 9, 2014: ISBN-10: 0996025510

NoSQL Distilled: A Brief Guide to the Emerging World of Polyglot Persistence: ISBN-10: 0321826620

Library Resources:
Patrick Griffis Email: patrick.griffis@unlv.edu Phone: 895-2231

Assignments:

Deliverable	Percentage
Courses/Exercises (Ten- 2 points each)	20%
Technology Update (Two 5 points each)	10%
Exam 1	20%
Exam 2	20%
Final Project	20%
Participation and Professionalism*	10%

* To combat instances of freeloading a team assessment will be administered at the end of the class. The assessment must be submitted to receive a participation and professionalism grade.

Courses/Exercises: These will vary in structure. Some will be from Big Data University and you will be able to print a certificate and/or add a badge to your LinkedIn profile. Others will be from Amazon Web Services, Qwiklabs, or Udemy. Although there is room for variation on the selection of courses, proof of completion will be required to receive credit.

Technology Updates: Each student is expected to complete a one-page report on some new technology that utilizes big data for organizational innovation. Students may get these updates from the popular press, recognized internet sources, etc. The updates should emphasize the role of big data and its benefits/consequences to the organization and society. Students are also expected to informally present this update to the class. The presentation should be approximately 5 minutes. The presentation due dates will be alphabetical and appear in Web Campus. A copy of the article you use for your report should be attached to the submission. In addition, an electronic copy of your submission should be submitted in Web Campus by 11:55pm the night of your presentation. Late submissions will not be accepted.

Final Project: Student groups should propose a big data collection process and analysis (sources, tools, statistical concepts, etc.) that can be used to solve a business problem, or to create an innovation that could lead to a new venture. Successfully conducting the analysis will be a significant bonus.

Class Professionalism & Participation: Students will be evaluated based on their level of professionalism in class and in class-related activities outside of class. Professionalism includes, but is not limited to, arriving to class on time, paying attention during course lectures and guest presentations, etc. Class participation involves participation during lectures, and guest presentations. Here are some additional pointers regarding participation:

If you almost never speak out in class or miss several classes, you will receive a participation grade of 5 or lower. If you rarely say anything inspired, your participation grade will be in the 8-10 range (depending on how "occasionally" and how well prepared you are). "Inspiration" - the path to a "15" participation grade – involves such actions as:
· applying conceptual material from the readings, lectures, or guest presentations
· doing a bit of outside reading and applying it in the discussion
· integrating comments from previous lectures or presentations
· reaching back to something said previously that is pertinent to the discussion at the moment
· taking substantive issue with a classmate's analysis
· pulling together material from several places
· drawing parallels from previous lectures and discussion
· tying in briefly an experience you have had that is relevant to the discussion
· generally demonstrating that you have carefully read and understood the assigned readings and lectures
· not dominating class discussion

Class Conduct and Related Policies:

Grading of Individual versus Group Work: Team members will receive a collective grade for their team deliverables (i.e., if the team earns an A on one of the components of the business plan then each of the team members receives that grade on this deliverable in the grading spread sheet). If a team member is found to be shirking their responsibilities then steps will be taken to change their behavior and, if that fails, then they will be graded separately for the team deliverables. A team assessment will be administered at semesters end and grades will be adjusted accordingly.

Late Assignments: Late assignments will be allowed only in cases of unavoidable personal or family emergencies and the student must notify me as soon as possible. In all other cases there will be a significant reduction in points for late assignments.

Late or Absent from Class: Though I will not literally take a "roll" each day, I will generally monitor attendance and timeliness for class and this will be factored into the participation score.

Grade Appeals: If you believe there was a mistake made in the grading of one of your assignments please notify me promptly and I will determine whether a review of the assignment is warranted.

University Policies

Academic Misconduct—Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution.
An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the *Student Academic Misconduct Policy* (approved December 9, 2005) located at: https://www.unlv.edu/studentconduct/student-conduct.

Copyright—The University requires all members of the University Community to familiarize themselves **with** and to follow copyright and fair use requirements. **You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws.** Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: http://www.unlv.edu/provost/copyright.

Disability Resource Center (DRC)—The UNLV Disability Resource Center (SSC-A 143, http://drc.unlv.edu/, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

Religious Holidays Policy—Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor **within** the first 14 calendar days of the course for fall and spring courses (excepting modular courses), or **within** the first 7 calendar days of the course for summer and modular courses**,** of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: http://catalog.unlv.edu/content.php?catoid=6&navoid=531.

Transparency in Learning and Teaching—The University encourages application of the transparency method of constructing assignments for student success. Please see these two links for further information:

https://www.unlv.edu/provost/teachingandlearning

https://www.unlv.edu/provost/transparency

Incomplete Grades—The grade of I—Incomplete—can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student's control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving "I" grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

Library Resources

Students may consult with a librarian on research needs. For this class, the subject librarian is available here: https://www.library.unlv.edu/contact/librarians_by_subject. UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at https://www.library.unlv.edu/.

Tutoring and Coaching—The Academic Success Center (ASC) provides tutoring, academic success coaching and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, visit http://www.unlv.edu/asc or call 702-895-3177. The ASC building is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of the SSC (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TEB second floor.

UNLV Writing Center—One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: http://writingcenter.unlv.edu/.

Rebelmail—By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. **Emailing within WebCampus is acceptable.**

Final Examinations—The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at: http://www.unlv.edu/registrar/calendars.