

INSY 5377 Web and Social Analytics Spring 2020

INSTRUCTOR:	Jie Jennifer Zhang, Ph.D.
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WEBSITE:	https://mavspace.uta.edu/jiezhang/homepage/
CLASS TIME:	Th 7:00 - 9:50 PM
CLASS MEETING:	COBA Room 153
COURSE WEBSITE:	https://uta.instructure.com/courses/
PREREQUISITES:	BSTAT 5325 Advanced Business Statistics.
OFFICE HOURS:	T.R. 1:50 -2:50 PM or by appointment

COURSE PERSPECTIVE AND DESCRIPTION

The Internet and mobile technologies generate large volume of digital footprints of the users. Using quantitative methods to analyze those data enables managers to uncover economic relationships and to make better decisions. This course introduces the concepts, techniques, and tools of collecting and analyzing digital data on how users interface with an organization through the web and social media. The web and social data contain user “digital footprints” that describe or imply their behaviors, experiences, and attitudes. Analyzing these web (click)stream data and social media data serves the purposes of strengthening customer relationship management, improving online marketing (e.g. advertising, recommendation, pricing), and increasing the bottom line. The course will consist of lectures, case studies, hands-on exercises, and projects.

REQUIRED TEXT AND READINGS:

1. Coursepack: You may purchase the Harvard Business School cases from the Harvard web site <https://hbsp.harvard.edu/import/696200>.
2. “Web Analytics Demystified: A Marketer’s Guide to Understanding How Your Web Site Affects your Business” by Eric T. Peterson (Author) Publisher: Celilo Group Media and CafePress; 1 edition (2004), ISBN-10: 0974358428.
3. “Mining the Social Web: Data Mining Facebook, Twitter, LinkedIn, Google+, GitHub, and More”, Matthew A. Russell, ISBN-10: 1449367615, ISBN-13: 978-1449367619.
4. Additional readings or links to be posted later.
5. You are also required to install such software and packages such as SAS, R, Python, BeautifulSoup, and bring a laptop for the workshops specified on the course schedule (Instructions on how to purchase a discounted SAS license and how to install it are posted at the course website).

You are expected to read all required materials before a class and actively participate in class discussion and avoid losing credit for class participation.

COURSE REQUIREMENTS: Students are expected to attend class regularly, *arrive on time*, *silence all sound generating devices* (cell phones, pagers, PDAs, etc.) and *remove headphones* (music or cell phone, wired or wireless). Failure to abide by this policy will negatively affect the student's attendance/participation grade.

EVALUATION

Group work:

- Case Presentation: Students will work in teams to analyze the cases with the concepts and theories introduced in class. Each team is requested to present one of those cases to the class. Each team chooses a list of preferred cases to present during team orientation, and the final assignment will be determined by the instructor. Team members will share the same grade unless adjusted according to the superior/inferior performance of an individual relative to the team. You will not receive a score for your case presentation if you do not show up.
- Project: a group project including a report and a presentation will be due at the end of the semester. Under the guidance of the instructor, each team self-selects a business problem to analyze with data. The goal is to derive managerial insights/guidelines based on the data analytics. More details will be given.

Individual work:

- In-class Data Analytic Exercises: There will be open-ended data analytics based assignments administered in-class.
- Class attendance, participation and quizzes: You are required to attend all lectures. There will be in-class quizzes, covering the topics and materials of the class (textbooks, cases, readings, etc. outlined in the schedule below).
- Exam: There will be a midterm exam and a final exam. Each student should work independently on the tests.

Your overall grade will be calculated as the weighted average of the scores computed according to the following distribution:

Case Presentation	10
Project Progressive Report	1
Project Presentation	6
Project Report	10
In-class Data Analytic Exercises	28
Class Attendance, Participation and Quizzes	10
Midterm	15
Final Exam	20

Total	100

Grades:

A = 90.00 -100

B = 80.00 - 89.99

C = 70.00 - 79.99

D = 60.00 - 69.99

F = 0 - 59.99

If you have any question concerning a grade you receive on an assignment or exam, it is your responsibility to inform the instructor within one week after the grades are posted. Grades will not be discussed after that time.

DESCRIPTIONS OF MAJOR ASSIGNMENTS AND EXAMINATIONS WITH DUE DATES:

Jan 23	First day of class
Feb 5	Census Date
Mar 26	Midterm Exam
Apr 3	Last day to drop class
May 7	Last day of class
May 14	Final exam

NO MAKE-UP EXAMS: **If you miss a test without a valid excuse, then your grade for that exam will be zero.** If you miss a test with a valid excuse and provide proper documentation to the instructor, your final exam grade will be used as the grade for the missed exam. Documentation must be given to your instructor no later than one week following the missed exam, and this policy will apply to only one missed exam. A grade of zero will be given for any subsequent missed exams. Examples of valid excuses are serious illness, death in the direct family, and participation in University sponsored events. Examples of valid documentation are a doctor's note, death certificate or funeral program, memo from the UTA Athletic Dept, etc. *No makeup exams will be given under any circumstance.*

INCOMPLETE GRADES: Instructors are not obligated to give "incomplete" grades. A grade of Incomplete will only be given under extraordinary unforeseen circumstances, at the instructor's discretion, for students who have completed more than 90% of the course and cannot complete the remaining requirements. Poor performance, absences, and travel are not considered sufficient grounds for incompletes.

GRADE GRIEVANCES: Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current undergraduate catalog. See http://wweb.uta.edu/catalog/content/general/academic_regulations.aspx#18.

ACADEMIC INTEGRITY: All students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

Instructors may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents' Rule

50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

DROP POLICY: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wweb.uta.edu/ao/fao/>).

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located at the back of the classroom. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

THE INSTRUCTOR RESERVES THE RIGHT TO MAKE CHANGES TO THE SYLLABUS AS NECESSARY. IT IS THE STUDENT'S RESPONSIBILITY TO BE AWARE OF THESE CHANGES.

Tentative Course Schedule

Week	Date	Topics	Subjects
1	Jan 23	Introduction	Introduction, Objective & Expectations Big data and business Analytics
2	Jan 30	Web Analytics I	Click Stream and Web Log Web Metrics Workshop: Review of Basic Statistics Team orientation form due
3	Feb 6	Web Analytics II	Web Metrics Workshop: Econometrics model and in-class data analytics Introduction to SAS (Library, Data steps, Proc, etc.)
4	Feb 13	Digital Advertising I	Link Analysis and Web Search How Search Works? Web search engine Page ranking Search engine marketing Case 1: Air France Case
5	Feb 20	Digital Advertising II	Managing Digital Advertising Workshop: Air France Internet Marketing Case Analyses in class via Excel
6	Feb 27	Social Media	Workshop: Air France Internet Marketing Case Analyses in class via Excel Case 2: Tripadvisor Case
7	Mar 5	Social Media Data Collection I.	History of Social media Basics of Social media and business models Trends in social and digital marketing Paid/Earned/Owned media and Inbound/Outbound Case 3: HubSpot case
8	Mar 12	Spring break	
9	Mar 19	Social Media Data Collection II.	Collecting social media data using APIs Workshop: collecting tweets by hash tags, user, or keyword using R packages Collecting social media data through web scrawling Workshop: collecting web contents using BeautifulSoup in Python Big Data analytics and sentiment analysis Project Progress Report due
10	Mar 26	Catch up and review	Midterm exam
11	Apr 2	Social Media Marketing and Analytics	Workshop: Text Mining of user-generated content (UGC) using R packages

12	Apr 9	Social Media Marketing and Analytics	Workshop: Social network analysis using NodeXL , Gephi , or UCINET Case 4: Ford Fiesta
13	Apr 16	Social Network Analytics	Case 5: Minnesota Wild Case and Facebook Insights Data Analytics
14	Apr 23	Mobile Analytics I	Mobile path to purchase, location based advertising, mobile advertising, cross-device synergies, mobile commerce, and mobile apps. Case 6: Bank of America Mobile Banking Case
15	Apr 30	Mobile Analytics II	Binary Model Workshop: mobile services adoption (binary choice model estimation using SAS)
16	May 7	Project presentation	Project Report due
17	May 14, 8:15- 10:45 p.m.: Final Exam		