

CMGT 507 Information Management

Units: 4

Fall 2023 – 21712D Thursday, 6:00 - 9:20 pm Location: ANN L116

Instructor: Sailesh Patel

(https://www.linkedin.com/in/saileshjpatel/) **Office Hours:** Thursday, 5:00-6:00 pm or by

appointment Office: ASC 321

Contact Info: saileshp@usc.edu

I. Course Description

This course is about data analysis and visualization. It aims to help graduate students understand the principles and techniques for extracting useful information and knowledge from data and hone their data-based storytelling skills for effective and engaging communication.

In this course, we will look at how data has transformed marketing in less than 20 years. Marketing today requires the ability to blend creativity and data in an agile way. This agility is difficult, especially as new technologies and media channels enter the marketing ecosystem. In this class, we will look at how data can be used to optimize all kinds of different marketing initiatives. This class will provide a bottom-up view of how to analyze and present different types of data. The course will also give a top-down view of how Chief Marketing Officers (CMOs) view the challenges around data and new mediums like search and mobile.

As part of learning data analysis and visualization techniques, you learn to use two best-of-breed tools that are used extensively in industry. Tableau is a data visualization tool that allows for users to build compelling visualizations quickly. Rapid Miner is a "no code" data analysis tool that allows users to leverage the power of Artificial Intelligence (AI) techniques.

II. Student Learning Outcomes

By the end of this course, you should be able to do the following:

- Apply the CRISP-DM methodology in analyzing data.
- Use Rapid Miner to assess, cleanse, and analyze datasets.
- Develop a tolerance for ambiguity and nuances in marketing data.
- Examine how dominant players in media (e.g., Facebook, Google) are using AI as a competitive advantage.
- Apply AI techniques (supervised and unsupervised learning) in analyzing data sets.
- Analyze and develop strategies in digital marketing using search, social, and mobile data.
- Incorporate Shaffer's 4 Cs guidelines into data visualization.

III. Software Downloads & Tools:

Download the student version of Tableau (it works on PCs and Macs, including ones that have M1 and M2 chips) at this <u>link</u>. To get the student version of Tableau you will need to verify that you are a USC student by providing one of the following:

- USC Student ID
- Transcript showing you are enrolled in this class

Download the student version of Rapid Miner Studio at this <u>link</u>. Rapid Miner Studio works both on PCs and Macs and should work with the M1 and M2 chips.

At least one of our classes will be online only and conducted on Zoom.

The presentation decks reviewed in class will be posted on <u>Blackboard</u> after the class.

IV. Case and Readings

Some of the weekly readings will be articles from the New York Times and Wall Street Journal. To access these articles, you will need access these publications through the USC library system.

You can download the case study and Harvard Business Review readings by clicking on the Harvard Business Publishing <u>link</u>.

The approximate cost of the course pack is \$17.00. Note: You do not have to read the TIVO case in the Harvard Business Review readings. We are using anonymized data from that case for the dataset in your final project.

There are usually reading assignments and tutorial videos for you to watch every week (except for the final week). The reading materials and videos will be posted in Blackboard.

Students are expected to complete assigned readings before class and prepare for in-class discussions of the materials. Participation in discussion and response to the instructor's questions are part of the participation score. Assigned readings are not a substitute for the class, nor is the class designed to summarize the readings. You will find a lot of materials in lecture that are not there in your readings (and vice-versa).

V. Description and Assessment of Assignments & Assignment Submission Policy Student performance in this class is evaluated based on assignments (individual and group), a final group project, and class participation.

Individual and group assignments involve running statistical analysis using Rapid Miner and creating data visualizations. There are numerous group projects throughout the semester. These projects require students to work effectively in a group setting. The professor will assign the student groups.

Detailed guidelines will be distributed and explained in class later in the semester. Class participation accounts for 10% of the final grade. It consists of attendance, contributions to class discussions, substantive responses to instructor's questions, interaction with guest speakers, and good efforts in group assignments.

Assignment Submission Policy

Students will receive details about each assignment separately. All assignments need to be completed and handed in on time (by 4 pm of the due date) to avoid a grade reduction (10% reduction from the original point). If unable to turn in an assignment due to illness or a personal emergency, s/he must provide written documentation that will allow him/her to be excused or discuss the situation with the instructor in a timely manner.

VI. Grading a. Breakdown of Grade

Assignment	Points	% of Grade
Week 3: Individual Assignment 1/WestJet Case Analysis	25	2.5%
Week 4: Individual Assignment 2/Tableau (Music Sales & Connecting to Excel)	35	2.5%
Week 6: Group Assignment 1/Data Leaders (Group + Individual Presentation Grades)	150	15.0%
Week 7: Individual Assignment 3/Rapid Miner (Data Cleansing)	50	5%
Week 8: Group Assignment 2/Segmentation	100	10%
Week 9: Individual Assignment 4/Linear Regression	100	10%
Week 10: Individual Assignment 5/Prediction Models	100	10%
Week 12: Individual Assignment 6/Search Marketing	40	5%
Week 15: Group Assignment 3/Final Group Project - Ecommerce (Group + Individual Presentation Grades)	300	30%
Class Participation	100	10%
TOTAL	1000	100%

b. Grading Scale

Your percentage scores on the assignments will be totaled and translated to a letter grade per the scale shown below:

94 to 100%: A	80% to 83%: B-	67% to 69%: D+
90% to 93%: A-	77% to 79%: C+	64% to 66%: D

87% to 89%: B+	74% to 76%: C	60% to 63%: D-
84% to 86%: B	70% to 73%: C-	0% to 59%: F

<u>Note:</u> At the end of the semester, the total points will NOT be rounded up if your score is on the borderline between two different grades. For example, if you have 896 points, your score translates to 89.6%, which will be a B+. The score will not be rounded up to 90.0% or an A- grade.

c. Grading Standards

	C. Grauing Standards
Letter Grade	Description
A	Excellent; demonstrates extraordinarily high achievement; comprehensive knowledge and understanding of subject matter; all expectations met and exceeded.
В	Good; moderately broad knowledge and understanding of subject matter; explicitly or implicitly demonstrates good, if not thorough, understanding; only minor substantive shortcomings.
С	Satisfactory/Fair; reasonable knowledge and understanding of subject matter; most expectations are met; despite any shortcomings, demonstrates a basic level of understanding.
D	Marginal; minimal knowledge and understanding of subject matter; more than one significant shortcoming; deficiencies indicate only the most rudimentary level of understanding.
F	Failing; unacceptably low level of knowledge and understanding of subject matter; deficiencies indicate lack of understanding.

d. Grading Timeline

Grading Timeframe and Missing or Inaccurate Score Inquiries/Disputes

For effective learning, students should receive timely feedback on assignments and exams. Therefore, every attempt will be made to grade assignments/exams and post grades within two weeks. Scores for all assignments and exams are regularly updated on Blackboard. You are responsible for notifying the instructor within one (1) week of a score posting if you think a score is missing or inaccurate. Moreover, you only have this period of time to contest a score on an assignment/exam. If you fail to inquire/notify the instructor of any discrepancy, missing score, or contest a score within one week of the date the score is posted, no further changes will be made.

e. Late Work

When assignment deadlines are missed, the late assignment will incur a 10% penalty per late day for the first two days. After that, the penalty will increase to 20% per day for days 3-6. You are responsible for knowing the due dates and meeting the deadlines.

Important note to students: Be advised that this syllabus is subject to change - and probably will change - based on the progress of the class, events, and/or guest speaker availability, where relevant. Students should consult the Registration Calendar for dates regarding add/drop deadlines, fees, grading options, etc.

VII. Schedule of Class Meetings

Week 1 August 24 Topic(s): Course Introduction	 Topics Review of course syllabus and instructor introduction. History of data in marketing
Week 2 August 31 Topic(s): Data in Marketing and Tableau	Topics Introduction to CRISP DM Data Privacy Introduction to Tableau Readings See Blackboard for Readings
Week 3 September 7 Topic(s): Tableau and Data Visualization Best Practices	Topics Amazon Case Tableau Data Visualization Best Practices (#makeovermonday) Dashboards Groups assigned by Instructor Readings • See Blackboard for Readings

	See Blackboard for Tableau videos
	Individual Assignment 1
	Amazon Analysis due on September 7 th by 4pm PDT
Week 4	<u>Topics</u>
September 14	Data Analysis Frameworks (KPIs)
	Introduction to AI
Topic(s):	Group Work Time
KPIs & Intro to	
AI	Readings
	See readings in Blackboard
	200 20110 60
	Individual Assignment 2 and 3 (Due by 4 pm PDT on September 14 th)
	Connecting Excel to Tableau
	Music Sales Assignment
Week 5	
	Topics Introduction to Panid Minor
September 21	Introduction to Rapid Miner
	Unsupervised Learning
Topic(s):	- Segmentation (cluster analysis)
Rapid Miner,	- ChatGPT and LLMs
Segmentation, and	Group Work Time
LLMs	
	How companies dominate with Data and AI
	Readings - See Blackboard for Readings
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Week 6 September 28	Topics How companies dominate with Data and AI
Topic(s): Data Leaders Presentations	Readings - See Blackboard for Readings Group Assignment 1 Group presentation deck is due by 4 pm PDT on September 28 th
	Group Presentation 1 ■ Each group presentation is no more than 10 minutes long

	Each member of the group must present at least one slide
	See readings in Blackboard
	See readings in Blackboard
Week 7	<u>Topics</u>
October 5	Linear Regression
	Readings
Topic(s): Linear	See readings in Blackboard
Regression	
	Individual Assignment 4
	Data Cleansing Assignment due by 4 pm PDT on October 5 th
Week 8	Fall Recess
October 12	No Class this week
Week 9	<u>Topics</u>
October 19	Logistic Regression
Tonio(s):	Readings
Topic(s): Logistic	See readings in Blackboard
Regression	211 10000000000000000000000000000000000
	Group Assignment 2
	Segmentation Assignment due by 4 pm PDT on October 19 th
W 1 10	m ·
Week 10 October 26	Topics Prodiction Models
October 20	Prediction Models This class will be ONLINE ONLY. I will be traveling for work this
Topics(s):	This class will be ONLINE ONLY - I will be traveling for work this week.
Prediction	WCCK.
Models	Readings
	See readings in Blackboard

<u>Individual Assignment 5</u>
Linear Regression Assignment due by 4 pm PDT on October 26 th

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Week 11	Topics
November 2	Introduction to Organic Search
	Google Trends
Topic(s):	Group Work Time
Organic	
Search	Readings
	Relevant materials are posted in Blackboard.
	Individual Assignment 6
	Prediction Models Assignment is due by 4 pm PDT on November 2 nd
	The state of the s
Week 12	Paid search
November 9	Cost Per Click
1,0,0112,01	Cost Per Acquisition
Topic(s): Paid	Lifetime Value
Search	Elletine value
Scaren	Readings
	Relevant materials are posted in Blackboard.
Week 13	
November 16	Topics
	Mobile and Geolocation
Topic(s): Mobile	Group Project Work
1 ()	
	Readings
	Relevant materials are posted in Blackboard.
	Individual Assignment 7
	Search Marketing Assignment due by 4 pm PDT on November 8 th
	Search Marketing Assignment due by Apin 121 on November 6
Week 14	Thanksgiving Break
November 23	No Class this week

Week 15 November 30	Group Assignment 4 - Group presentation deck is due by 4 pm PDT on November 30 th
Topic(s): Final Group Presentations	 Group Presentation Each group presentation is no more than 10 minutes long Each member should roughly present the same number of slides.

VII. Policies and Procedures

Additional Policies

There is no make-up for missed classes; use of smartphone/social media and laptop for non-class related issues should be kept to a minimum.

Attendance and Punctuality

Graduate school is, in many ways, preparation or refinement for successful professional lives. Professional success depends on a range of skills and behaviors; one foundational behavior is showing up on time and alert. So, come to class. Come to class on time. When you are here, be here. Not being here (i.e., being absent or being late) will accumulate penalties. You are allowed one absence without penalty. Thereafter, each first unexcused absence costs 2% of the total grade (being late counts as half an absence). Being absent from more than three classes opens the possibility for more stringent penalties (e.g., the highest grade to be earned is a C).

Participation

Each student must contribute to the learning in this class. In most class sessions, you must speak, ask questions, and argue respectfully. To do so, you must prepare well: read the assigned materials before class; read, view, or listen to other relevant and interesting content; think. Staying silent is poor behavior. Silence is especially unacceptable when we have guest speakers. It sets a poor impression of being disengaged. Judgment of participation is based on the instructors' aggregate impressions gained throughout the semester. If you participate frequently and enthusiastically, you will earn the full score. You will not earn the full score by merely attending classes. Attending classes and participating only occasionally will result in a mediocre score (e.g., half of the possible score). You will earn zero if you are absent, disengaged, or disrespectful.

AI/ChatGPT Usage - DO NOT USE

• The use of generative AI tools (such as ChatGPT, DALL-E, etc.) are not permitted

- in this class; therefore, any use of AI tools for work in this class may be considered a violation of USC's Academic Integrity Policy and Student Conduct Code, since the work is not your own. The use of unauthorized AI tools will result in [insert the penalty here].
- Intellectual honesty is vital to an academic community and for my fair evaluation of your work. All work submitted in this course must be your own, completed in accordance with the University's academic regulations. You may not engage in unauthorized collaboration or make use of ChatGPT or other AI composition software.

Communication

Students are encouraged to contact the instructor outside of class through email or Zoom. The instructor normally reply to emails within 48 hours.

Land Acknowledgement Statements [*Source*: Nick Cull and PhD Critical Mediations Group]

- "I wish to acknowledge that USC occupies traditional and unceded land of the Gabrielino/Tongva/Kizh people. I honor both the path they have shown in caring for this place for the generations to come and their ongoing struggle for recognition and justice." [Personal Statement]
- "USC's Annenberg School for Communication and Journalism acknowledges that it occupies the traditional, ancestral and unceded territory of the people now known as the Gabrielino/Tongva/Kizh people whose struggle continues." [Letterhead/digital communications]
- "USC's Annenberg School for Communication and Journalism acknowledges that it occupies unceded land of the people now organized as the Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrieleño Band of Mission Indians Kizh Nation, Gabrielino/Tongva Nation of the Greater Los Angeles Basin, Gabrielino-Tongva Tribe and Gabrielino Tongva Indians of California Tribal Council. We acknowledge their elders' past, present, and future. We call attention to the history of settler colonialism in this place, to the ongoing struggles for recognition and justice and to the living culture of the indigenous people of this region. We acknowledge the many indigenous peoples also residing in this place, including other peoples indigenous to the greater Los Angeles area, to California, to the Americas, and the wider world, who share a history of conquest, violence and enslavement. To learn more about the indigenous history of our region go to https://native-land.ca/ and https://mila.ss.ucla.edu/." [written statement; syllabus].

Diversity, Equity, and Inclusion

My priority as your professor is to ensure a safe, respectful education environment
where all students can learn and thrive. The University does not tolerate any form of
protected class (e.g., race, disability, ethnicity, sex, gender identity, sexual orientation,
religion, pregnancy, etc.) discrimination or harassment (including sexual assault,
dating and domestic violence, stalking) or related retaliation... [see Sample Syllabus
Language for more; USC Office for Equity, Equal Opportunity, and Title IX]

- The university values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive and welcoming. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, please notify the instructor as soon as possible.
- As your professor, I hold the fundamental belief that everyone in the class is fully capable of engaging and mastering the material. My goal is to meet everyone at least halfway in the learning process. Our classroom should be an inclusive space, where ideas, questions, and misconceptions can be discussed with respect. There is usually more than one way to see and solve a problem and we will all be richer if we can be open to multiple paths to knowledge. I look forward to getting to know you all, as individuals and as a learning community.
- As your instructor, I am committed to creating a classroom environment that welcomes
 all students, regardless of race, gender, religious beliefs, etc. We all have implicit
 biases, and I will try to continually examine my judgments, words, and actions to keep
 my biases in check and treat everyone fairly. I hope that you will do the same, that you
 will let me know if there is anything I can do to make sure everyone is encouraged to
 succeed in this class.
- The topics that we're covering in this class are often difficult, not just intellectually but emotionally. While I expect there to be rigorous discussion and even disagreement in the course of our class discussions, I ask that you engage in discussion with care and empathy for the other members in the classroom. Aim to disagree without becoming disagreeable. In this class we will not shy away from the uncomfortable. Critically examining and assessing our most basic assumptions and values is not just one of the tasks of philosophy but is an activity vital to living an authentic life. I urge you to have the courage to be uncomfortable in this class. In exchange for your courage, I will work to ensure a classroom environment that supports your taking these intellectual and emotional risks.

Student Name and Pronouns

Policy: USC students can change their name or gender pronouns online through myUSC. Student choices may reflect nicknames, middle names, or names that better align with their gender identities.

Resources: Gender-Inclusive Use of Student Names and Pronouns (<u>USC Center for Excellence in Teaching Resources</u>); Gender Neutral Pronouns (<u>LGBTQ+Student Center</u>)

- A critical part of building a learning environment that is inclusive of sexual orientation and gender identity is asking and correctly using someone's name and pronouns. You can add your pronouns in the myUSC system. Names and pronouns may change during the term, so feel free at any point to let me know that you would like to be addressed differently. As a community, we will strive to address each other with the names and pronouns identified. If we make mistakes or are corrected, we will briefly apologize and correct ourselves.
- I will gladly honor your request to address you by your chosen name or gender pronoun. Please advise me of this at any point in the semester so I can make the appropriate changes. If I accidentally use an incorrect gender pronoun when addressing you, please feel free to let me know, in whatever manner makes you comfortable, what pronouns you use so that I can make every effort to correct that error.

• It is important to establish mechanisms to acknowledge and support individuals' self-identification. One way we can support self-identification is by honoring the name and pronouns that each of us go by. In this classroom, we seek to refer to people by the names they go by.

Statement on Academic Conduct and Support Systems

Academic Integrity Policy:

The School of Communication maintains a commitment to the highest standards of ethical conduct and academic excellence. Any student found responsible for plagiarism, fabrication, cheating on examinations, or purchasing papers or other assignments will be reported to the Office of Student Judicial Affairs and Community Standards and may be dismissed from the School of Communication. There are no exceptions to the school's policy.

Academic Conduct:

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, "Behavior Violating University Standards" policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

In addition, it is assumed that the work you submit for this course is work you have produced entirely by yourself and has not been previously produced by you for submission in another course without the approval of the instructor.

Emergency Preparedness/Course Continuity in a Crisis

In case of a declared emergency if travel to campus is not feasible, USC executive leadership will announce an electronic way for instructors to teach students in their residence halls or homes using a combination of Blackboard, teleconferencing, and other technologies. See the university's site on Campus Safety and Emergency Preparedness.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call studenthealth.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 - 24/7 on call suicide prevention lifeline.org

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press "0" after hours – 24/7 on call studenthealth.usc.edu/sexual-assault Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED) - (213) 740-5086 | Title IX – (213) 821-8298 equity.usc.edu, titleix.usc.edu

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298 usc-advocate.symplicity.com/care report

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

The Office of Disability Services and Programs - (213) 740-0776 dsp.usc.edu Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test-taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Campus Support and Intervention - (213) 821-4710 campussupport.usc.edu

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101 diversity.usc.edu

Information on events, programs, and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call dps.usc.edu, emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call

dps.usc.edu

Non-emergency assistance or information.

Annenberg Student Success Fund

https://annenberg.usc.edu/current-students/resources/additional-funding-resources

The Annenberg Student Success Fund is a donor-funded financial aid account available to USC Annenberg undergraduate and graduate students for non-tuition expenses related to extra- and co-curricular programs and opportunities.