

## **MKT 615 – Data-driven Storytelling for Marketers**

**Professor:** Davide Proserpio (first half) and Dinesh Puranam (second half)

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**Office hours:** Thursday 12 pm – 2 pm, 4 pm -6 pm, or by appointment (to be scheduled via email).

**Course website:** <https://github.com/dadepro/mkt-615>

### **Class Hours and Locations**

Wednesday 2 pm – 5 pm in TBD

This class will be in a hybrid format. I expect most of the students to attend in person (as long as they are compliant with USC policy about vaccination), but there will be a Zoom option for those students that cannot attend in person due to travel restrictions or personal circumstances. The Zoom links will be posted on Blackboard.

### **Course Description**

Research and writing papers usually take a long time and it is common to have a paper going through a review process for several years. Implementing a good and efficient workflow doesn't only make research easier and efficient, but it is essential when working on multiple projects with multiple co-authors for several years. In this class, we will cover practical tools and skills that will benefit your research and future career. We will cover topics like version control and project management, data collection, storage, cleaning, and visualization using tools such as GitHub, R (and RStudio), and MySQL. In short, we will cover things that I wish someone had taught me when I was starting out in graduate school.

Please bring your laptops to class. This will be a very hands-on course. We'll be working through lecture notes together in class and you'll be running code on your own machines.

### **Software requirements**

#### **R and RStudio**

<https://www.r-project.org/>

<https://www.rstudio.com/products/rstudio/>

#### **Git and Github**

<https://git-scm.com/downloads>

<https://github.com/>

## MySQL Client

Mac: <https://www.sequelpro.com/>

Windows: <https://www.mysql.com/products/workbench/>

## Textbook and readings

There is no set book for this course. The lecture slides are detailed and self-contained. However, there are several books and courses from which borrow material for this course. Each of these books/courses is freely available online:

- [Grant McDermott's EC 607](#) course to whom I dedicate a special thank you for sharing the course material
- [Data Visualization: A practical introduction](#), Kieran Healy
- [R for Data Science](#), Garrett Grolemund and Hadley Wickham
- [Advanced R](#), Hadley Wickham
- [Geocomputation](#) with R, Robin Lovelace, Jakub Nowosad and Jannes Muenchow
- [Spatial Data Science](#), Edzer Pebesma and Roger Bivand
- [R Markdown: The Definitive Guide](#) (Yihui Xie, JJ Allaire, and Garret Grolemund)

## Lectures outline

1. Intro to the course
2. GitHub
3. The shell
4. R language basics
5. Data manipulation & data viz (tidyverse, data.table, ggplot)
6. Data storage: MySQL

## Course notes and attendance

Please note that the professor reserves the right to make changes to this syllabus at any time throughout the semester. Changes to this syllabus – if any – will be announced and explained in class.

Attending the classes is an important part of learning. Your understanding of the course materials will be at a different level if you participate in the classes. It is the responsibility of the student to make up for missed lectures and discussion sections by meeting with a classmate to review what was discussed on the missed day, and by asking the professor questions during office hours regarding missed material.

## Grading Policies

The various components of the course grade are weighted as follows:

ASSIGNMENTS	POINTS
2 x homework assignments	50%
1 x project	40%
1 x short presentation	10%

The project involves the analysis of a dataset of your choice using the tools we learned in class

- You will present your data analysis on October 6
- Where can I find datasets?
  - [Google dataset search engine](#)
  - [Kaggle](#)
  - All Marketing Science papers come with replication code and data
  - You can scrape it yourself (advanced, we probably won't have time to cover scraping)
  - Ask me (Airbnb, Yelp, Expedia)

Short presentation of a R package/tool related to the lectures (I will provide a list among which to choose)

All assignments must be submitted using RMarkdown:

- Website: <https://rmarkdown.rstudio.com>
- Cheatsheet: <https://github.com/rstudio/cheatsheets/raw/master/rmarkdown-2.0.pdf>,  
<https://www.rstudio.com/wp-content/uploads/2015/02/rmarkdown-cheatsheet.pdf>
- Book: [R Markdown: The Definitive Guide](#) (Yihui Xie, JJ Allaire, and Garrett Grolemund)

Generally speaking, letter grade guidelines (which CAN change slightly, depending on overall class performance) are approximately as follows: “A” grades (A, A-) start at 90; “B” grades (B-, B, B+) start at 80; “C” grades (C-, C, C+) start at 70; “D” grades (D-, D, D+) start at 60; “F” grades (F) start at 59 or below. The grade ranges given in this paragraph are approximations only and are subject to change in situations where class averages on the various assignments are unusually high or low (because “relative performance” is an important aspect of the course grade). We will explain this further in class.

Your grade will not be based on a mandated target, but on your performance.

## Classroom Policies for online attendees

1. Class attendance and participation is important in developing a coherent view of the materials covered in the course. Unless accommodated as described in (b) below, attendance and active participation is expected at the synchronous Zoom class sessions.
  - a. Students are expected to have cameras on during the synchronous Zoom sessions, and preferably use headsets or earphones to ensure the best audio quality. *Please advise me if you have circumstances under which you will not be able to meet these expectations.*
  - b. For students who are located in a time zone where the synchronous class sessions or exams fall outside the window of 8 a.m. to 10 p.m. in your local time zone, please contact me. You will not be penalized for not attending the live Zoom class sessions. The Zoom sessions will be recorded and posted on Blackboard, and you will be responsible for watching the recorded sessions. Exams and other synchronous assessments will be scheduled for students to be able to complete the assessment between 8 a.m. and 10 p.m. in your local time zone.

2. During synchronous Zoom sessions, the following netiquette is expected, as if you were in a physical classroom.

a. Please do:

- i. Log into class early or promptly
- ii. Arrange to attend class where there is a reliable internet connection and without distractions
- iii. Dress respectfully. Video conference business meetings are and will be the norm, so practice your professional telepresence.
- iv. If you use a virtual background, please keep it respectfully professional.
- v. Display both your first and last name during video conferencing and synchronous class meetings.
- vi. Respectfully minimize distractions by muting and or turning off video if necessary and when appropriate.
- vii. Engage in appropriate tone and language with instructors and classmates.

b. Please try not to:

- i. Engage in a simultaneous activity not related to the class.
- ii. Interact with persons who are not part of the class during the class session.
- iii. Leave frequently or not be on camera for extended periods of time.
- iv. Have other persons or pets in view of the camera.

3. All Zoom sessions will be recorded and posted in the Blackboard Course pages.

Technology requirements for attending the class via Zoom

The following equipment and system requirements are recommended to successfully participate in this online course:

- Computer with webcam
- Earphones or headset
- Reliable (preferably high speed) Internet connection
- Current operating system for Windows or Mac
- Current browser
  - Google Chrome
  - Firefox
  - Internet Explorer (not recommended)
  - Safari (Mac)

For technical support please see:

- **USC Systems** (Blackboard, USC Login, MyUSC, USC Gmail, GoogleApps)

For assistance with your USC login or other USC systems, please call +1 (213) 740-5555 or email [Consult@usc.edu](mailto:Consult@usc.edu). They are open Mon – Fri 9:30am – 5pm and weekends from 8am - 5pm (all Pacific time).

- **Zoom Video Web Conferencing System** (MarshallTALK)

For assistance using Zoom, go to [Zoom Support Page](#). You may also call +1 (888) 799-9666 ext. 2. They are available 24/7.

- **Marshall Systems** (MyMarshall, Marshall Outlook email)

For assistance with Marshall systems you can call +1 (213) 740-3000 Mon-Fri 8am-6pm (Pacific), email [HelpDesk@marshall.usc.edu](mailto:HelpDesk@marshall.usc.edu), or use our self-help service portal as shown below. The portal allows you to get immediate assistance by searching for the information you need. You can also use it to chat with a technician or input a request. To access the service portal, follow these steps:

- On a computer or mobile device, go to [MyMarshall Home Page](#) and click the “**Help**” link on the upper right.
- Log in using your Marshall username and password (If you don’t know your Marshall login please follow the onscreen instructions pertaining to login issues)

If your computer does not have Microsoft Word, Office 365 package is available to you free of charge and allows you to install Word, Excel, PowerPoint, Outlook, OneNote, Publisher, and Access on up to 5 PCs or Macs and Office apps on other mobile devices including tablets. Office 365 also includes unlimited cloud storage on OneDrive. To download Office 365 log into your student (University) email through a web browser, choose Settings (top right corner), and select software. If you have further questions or need help with the software, please contact the USC ITS service portal.

## MARSHALL GUIDELINES

### Add/Drop Process

Most Marshall classes are open enrollment (R-clearance) through the Add deadline. If there is an open seat, students can add the class using Web Registration. If the class is full, students will need to continue checking the Schedule of Classes ([classes.usc.edu](http://classes.usc.edu)) to see if a space becomes available. Students who do not attend the first two class sessions (for classes that meet twice per week) or the first class meeting (for classes that meet once per week) may be dropped from the course if they do not notify the instructor prior to their absence.

See the “Academic Records and Registrar” website for specific add/drop and related deadlines. (<https://arr.usc.edu/>). Please also refer to <https://arr.usc.edu/calendar/> if you intend to drop a class – that link will give you deadlines to drop without a “W” on your transcript.

### Academic Integrity and Conduct

Students are expected to make themselves aware of and abide by the University community’s standards of behavior as articulated in the [Student Conduct Code](#). 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” <https://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, <https://policy.usc.edu/scientific-misconduct>.

Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>. Failure to adhere to the academic conduct standards set

forth by these guidelines and our programs will not be tolerated by the USC Marshall community and can lead to dismissal.

It is a violation of USC's Academic Integrity Policies to share course materials with others without permission from the instructor. No student may record any lecture, class discussion or meeting with me without my prior express written permission. The word "record" or the act of recording includes, but is not limited to, any and all means by which sound or visual images can be stored, duplicated or retransmitted whether by an electro-mechanical, analog, digital, wire, electronic or other device or any other means of signal encoding. I reserve all rights, including copyright, to my lectures, course syllabi and related materials, including summaries, PowerPoints, prior exams, answer keys, and all supplementary course materials available to the students enrolled in my class whether posted on Blackboard or otherwise. They may not be reproduced, distributed, copied, or disseminated in any media or in any form, including but not limited to all course note-sharing websites. Exceptions are made for students who have made prior arrangements with DSP and me.

Students are expected to be familiar with USC's Academic Integrity Policies (i.e., copying, fraudulent possession of an exam, plagiarism, submission of purchased papers, submitting the same assignment to more than one instructor) and be aware of recommended sanctions (i.e., F for the course, suspension or expulsion) associated with violating such policies. See Appendix A in the SCAMPUS Guidebook for more detail.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity <http://equity.usc.edu/> or to the Department of Public Safety <http://dps.usc.edu/contact/report/>. This is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report or can initiate the report on behalf of another person. Relationship and Sexual Violence Prevention and Services (RSVP) <https://engemannshc.usc.edu/rsvp/> provides 24/7 confidential support, and the sexual assault resource center webpage <https://sarc.usc.edu/reporting-options/> describes reporting options and other resources.

## Support Systems

Counseling and Mental Health - (213) 740-9355– 24/7 on call

<https://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

[suicidepreventionlifeline.org](https://suicidepreventionlifeline.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

<https://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](http://equity.usc.edu), [titleix.usc.edu](http://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

[https://usc-advocate.symplicity.com/care\\_report/](https://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](http://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 is committed to making reasonable accommodations to assist individuals with disabilities in reaching their academic potential. If you have a disability which may impact your performance, attendance, or grades in this course and require accommodations, you must first register with the Office of Disability Services and Programs ([www.usc.edu/disability](http://www.usc.edu/disability)). DSP provides certification for students with disabilities and helps arrange the relevant accommodations. Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to your TA) as early in the semester as possible. DSP is located in GFS (Grace Ford Salvatori Hall) 120 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776. Email: [ability@usc.edu](mailto:ability@usc.edu).

USC Campus Support and Intervention - (213) 821-4710

<https://uscsa.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](http://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](http://dps.usc.edu), [emergency.usc.edu](http://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](http://dps.usc.edu) Non-emergency assistance or information.

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## **Emergency Preparedness/Course Continuity**

In case of a declared emergency if travel to campus is not feasible, the USC Emergency Information web site (<http://emergency.usc.edu/>) will provide safety and other information, including electronic means by which instructors will conduct class using a combination of Blackboard, teleconferencing, and other technologies.

Please access our course site on Blackboard, where the course syllabus and many other important documents will be posted. Whether or not you use Blackboard regularly, these preparations will be crucial in an emergency. USC's Blackboard learning management system and support information is available at [blackboard.usc.edu](http://blackboard.usc.edu).

## **Incomplete Grades**

A mark of IN (incomplete) may be assigned when work is not completed because of a documented illness or other “emergency” that occurs after the 12th week of the semester (or the twelfth week equivalent for any course that is scheduled for less than 15 weeks).

An “emergency” is defined as a serious documented illness, or an unforeseen situation that is beyond the student’s control, that prevents a student from completing the semester. Prior to the 12th week, the student still has the option of dropping the class. Arrangements for completing an IN must be initiated by the student and agreed to by the instructor prior to the final examination. If an Incomplete is assigned as the student’s grade, the instructor is required to fill out an “Assignment of an In-complete (IN) and Requirements for Completion” form which specifies to the student and to the department the work remaining to be done, the procedures for its completion, the grade in the course to date, and the weight to be assigned to work remaining to be done when the final grade is computed. Both the instructor and student must sign the form with a copy of the form filed in the department. Class work to complete the course must be completed within one calendar year from the date the IN was assigned. The IN mark will be converted to an F grade should the course not be completed within the time allowed.