



UNIVERSITY OF SAN FRANCISCO
CHANGE THE WORLD FROM HERE

Modeling I

MSDS 598 (2 units)

Spring 2022

M 6:30pm - 9:30pm 01/24/22 - 03/12/22 HR 136

Instructor Information

Michael Ruddy
mruddy@usfca.edu
Office Hours: 12pm - 1pm
Office Location: Virtual

Course Description

This hands-on course offers an applied, practical introduction to statistical modeling with data. Students use open-source software to explore, implement and interpret statistical models to gain insights from data.

Course Learning Outcomes

- Understand the foundational ideas of elementary statistics including random variables, distributions, and hypothesis testing.
- Understand statistical models and the role they play in data-driven decision making.
- Use Python to obtain and prepare data for statistical analysis.
- Use Python to implement an appropriate statistical model on a data set.
- Give a contextually appropriate interpretation of a model and communicate conclusions resulting from the analysis.

Assignments

Grading Breakdown and Grading Policies

- **Participation** (20%): Students are expected to attend each class lecture unless they have a valid university-approved excuse. Similarly students are required to stay home if they have flu-like symptoms, or any other symptoms associated with COVID-19. Students are expected to participate in any in-class work/activities and to follow the Code of Conduct (below). All completion-graded work also falls in this category.
- **Assignments** (30%): Throughout the course I will assign homework. Homework is expected to be completed *individually*. All outside discussion/help should be disclosed upon turning in the assignment; otherwise this is considered cheating. Most homeworks will involve submitting a Jupyter notebook that is **neatly** and **appropriately** formatted. Late penalties are 10%/20%/50% for homework turned in less than one day/two days/one week late.
- **Quizzes** (20%): Quizzes will be conducted periodically via Canvas. These will be timed quizzes without access to outside resources (**not** open book) during scheduled class time.
- **Final Assignment** (30%): The final assignment will be similar to a long-form homework assignment that incorporates all of the concepts discussed in the course with a pre-determined real-world dataset. This may be completed in groups no larger than 3, but your group must be communicated to me before **February 19th**. The notebook submitted must follow strict formatting (guidelines to come) and you may be asked to also submit additional materials (such as an essay or presentation).

Code of Conduct

As students will often be asked to share and discuss their work, and work on assignments with their peers, the code of conduct **MUST** be followed. Students are expected to be highly respectful of their peers during and outside of class to help foster an inclusive environment where everyone is comfortable making mistakes and contributing. When working as a group, it is every group member's responsibility to make sure everyone has input and understands the answers given.

Texts and Supplies

Laptop in class

Required or recommended?: Required

Course Schedule

Day	Date	Event
Monday	1/24/2022	First Day of Class
Monday	1/31/2022	
Monday	2/7/2022	
Monday	2/14/2022	
Monday	2/21/2022	President's Day Holiday (No Classes)
Monday	2/28/2022	
Monday	3/7/2022	

Program Learning Outcomes

Certificate courses at the Data Institute provide a learning experience for those seeking to increase their breadth and depth of knowledge of data science tools and techniques.

Attendance Policy

Students are expected to attend each class lecture synchronously unless they have a valid university-approved excuse. Students are required to be attend remotely (or make-up their work later) if they have flu-like symptoms, or any other symptoms associated with COVID-19.

University Policies

Credit-hour Policy

One unit of credit in lecture, seminar, and discussion work approximates one hour of direct faculty instruction (or 50 minutes plus a break) and a minimum of two hours of out-of-class student work per week through one 15-week semester. For further details, see [USF's Credit Hour Policy](#).

Students with Disabilities

The University of San Francisco is committed to providing equal access to students with disabilities. If you are a student with a disability, or if you think you may have a disability, please contact Student Disability Services (SDS) at sds@usfca.edu or (415) 422-2613, to speak with a disability specialist. (All communication with SDS is private and confidential.) If you are determined eligible for accommodations, please request that your accommodation letter be sent to me as soon as possible; students are encouraged to contact SDS at the beginning of the semester, as accommodations are not retroactive. Once I have been notified by SDS of your accommodations we can discuss your accommodations and ensure your access to this class or clinical setting. For more information please visit the SDS website: <https://www.usfca.edu/student-disability-services>.

Behavioral Expectations

All students are expected to behave in accordance with the Student Conduct Code and other University policies (see the USF [Fogcutter](#)). Students whose behavior is disruptive or who fail to comply with the instructor may be dismissed from the class for the remainder of the class period and may need to meet with the instructor or Dean prior to returning to the next class period. If necessary, referrals may also be made to the Student Conduct process for violations of the Student Conduct Code.

Academic Integrity

As a Jesuit institution committed to cura personalis—the care and education of the whole person—USF has an obligation to embody and foster the values of honesty and integrity. USF upholds the standards of honesty and integrity from all members of the academic community. All students are expected to know and adhere to the [University's Honor Code](#).

- Plagiarism -- intentionally or unintentionally representing the words or ideas of another person as your own; failure to properly cite references; manufacturing references.
- Working with another person when independent work is required.
- Submission of the same paper in more than one course without the specific permission of each instructor.
- Submitting a paper written by another person or obtained from the internet.

Counseling and Psychological Services

Counseling and Psychological Services (CAPS) is a great source of support for issues of sadness, anxiety, loneliness, college adjustment, relationship struggles, and others not

requiring medical intervention. CAPS offers online workshop series open to all students; consultations and referrals; and extensive [website resources](#). In addition, CAPS All Hours “warmline” can be contacted by calling (855) 531-0761 or students can use the peer-led Crisis Textline by texting HOME to 741741. CAPS also offers remote individual and group teletherapy to students residing within California. (State regulations prevent provision of therapy across state lines.) The student may choose to talk either by video or telephone and can engage in Single Session Therapy (SST), brief ongoing therapy, or group therapy. There are no fees for services. Please call (415) 422-6352 to make an appointment. Visit usfca.edu/caps for more details. Students seeking off campus mental health services can also receive information and support from Case Management (part of the Office of the Dean of Students); visit <https://myusf.usfca.edu/dean-of-students/ocrs> for further information.

Confidentiality, Mandatory Reporting, and Sexual Assaults

As an employee of USF, one of my responsibilities is to help create a safe learning and working community at USF. I have mandatory reporting responsibilities related to my role as a faculty member. I am required to share any disclosure or notice of information regarding sexual misconduct (including sexual harassment, sexual assault, dating or domestic violence, and stalking). In the event I become aware of any of these behaviors I will share this information, including any names, with the Title IX Office in order to connect our students to the best resources and information about how the University can support you. Further information and resources may be found at <https://myusf.usfca.edu/title-ix>.

- To report any sexual misconduct, students may contact the [Title IX coordinator](#) at jvarga@usfca.edu or (415) 422-4563 or use the [Online Reporting Form](#).
- Students may speak to someone confidentially or report a sexual assault confidentially by contacting [Counseling and Psychological Services](#) at (415) 422-6352. Speaking with a licensed clinician at CAPS does not generate a report to the Title IX or any other university office.
- For an off-campus resource, contact San Francisco Women Against Rape ([SFWAR](#)) at (415) 647-7273 or www.sfwar.org.

Learning, Writing, and Speaking Centers

The Learning, Writing, and Speaking Centers at USF provide individualized support to assist you in better understanding course material and to aid you on your path to success. Services are free and include one-on-one tutoring, group tutoring, and one-on-one Academic Skills Coaching appointments to discuss effective study strategies. The Learning Center supports over 80 courses each semester. The Writing Center helps students develop writing skills in rhetoric, organization, style, and structure, through one-on-one interactive conferences. The Speaking Center helps students prepare for public speaking - including speeches, oral presentations, team presentations, and visual

aid demonstrations. International students may also contact the Centers to learn more about communicating with professors and general academic study skills. The Learning, Writing, and Speaking Centers are located on the Lower Level of Gleeson Library. Please contact them at (415) 422-6713 for further assistance or visit <https://myusf.usfca.edu/lwsc> to make an appointment.

Communication

All course communications, like all other USF communications, will be sent to your USF official email address. You are therefore strongly encouraged to monitor that email account.

Gleeson Library

Looking for help with a research paper or project? Set up a consultation with a Librarian or get 24/7 research help [online](#).

Additional USF Resources

USF Food Pantry

The USF Food Pantry is a short-term resource for those experiencing food insecurity. Food insecurity is a common issue across college campuses nationwide that impacts the overall health and wellbeing of students. The food pantry, located on the basement level of the Gleeson Library in room G04, is a resource where all registered USF students can receive food and toiletries. Items are available on a first-come, first-serve basis, and the pantry utilizes a QR code for check-in. For more information and the current schedule, visit the [USF food pantry website](#). If you have further questions, please contact the Pantry Coordinator at usfpantry@usfca.edu or 415-422-4099 (during business hours Monday thru Friday from 9:00am - 5:00pm). You can find out about additional food security resources through the [USF food insecurity resource page](#) and the [CalFresh resources site](#).