

UEP 305 and 305A: Urban Data Analysis

Fall 2023 This course fulfills Core Program requirement CPMS

Lecture: Tuesdays and Thursdays, 1:30-2:55pm PST in HSC202

Lab: Tuesday or Thursday 3:15-4:40pm PST in HSC203

Professor James Sadd jsadd@oxy.edu and Professor Maya Abood maya.b.abood@gmail.com

Office hours Prof. Sadd: Tues 10-11 am and 4:30 – 5:30pm; Wed 6:15-7:15PM HSC 105

Office hours Prof. Abood: Monday 6-7pm

Course Description: In this course, you will learn how to document and analyze urban and environmental problems and public policies using quantitative data. Quantitative data provide a compelling means by which we can understand the magnitude of urban problems and make comparisons on who is impacted by these problems across demographic groups, neighborhoods, cities, and countries. Quantitative data can also help identify solutions, including public policies, and then evaluate the effectiveness of those solutions. Ultimately, our task is to develop quantitative reasoning skills in order to mobilize facts in the pursuit of a more just and equitable urban society. In the words of urban geographer Elvin Wyly: "Get mad. Get data. Get to work." Or, as Daniel Patrick Moynihan once said: "You can't solve a problem until you first learn how to measure it."

Data is all around us. Using, interpreting, and understanding where it comes from is the core of numerous professions and pursuits in both the urban and environmental policy realms. This course reviews the basic foundations of statistics for social science applications. This will enable you to better understand and consume data and statistical information as well as producing statistical analyses yourself. Tools such as Microsoft Excel and Stata will be used to manage and analyze data. Through the group research project, you will put your ideas into action. UEP 305 will prepare you to conduct your senior comprehensive research projects and act as a stepping stone toward other courses focused on quantitative analysis.

Student Learning Outcomes:

1. Critically think about quantitative data: how it is used and where it comes from
2. Develop technical and statistical skills using Excel and Stata
3. Understand the research design process from a social science perspective
4. Carry out a research project focusing on topics in urban and environmental policy

Course Structure

- Two 1.5-hour lecture sessions each week
- One 1.5-hour lab session each week.
 - Attend your assigned lab day. If you have an unavoidable conflict of a serious nature and need to attend the other lab day, email BOTH Prof. Sadd and Abood. You can do this once during the semester
- Use class time effectively to get your questions answered; others will have the same questions as you.
- You should expect to spend at least twelve (12) hours a week (including in-class time and in-lab time).

Course Materials

- Textbook information & links are in the Texts and Software section below.
- **Other readings, assignments, and in-class worksheets will be posted on Moodle.** Please read all readings before the class for which it is assigned.
- **You will turn in all assignments on Moodle.** Assignments should be turned in online, on Moodle, in Microsoft Word or Excel, PDF; do not use GoogleDrive or other online storage to “share” the document

- You are responsible for turning in your own assignment except for explicit Group assignments

Texts and Software

Moore, Notz, and Fligner. The Basic Practice of Statistics. 7th Edition (or other). <https://www.amazon.com/Basic-Practice-Statistics-David-Moore/dp/146414253X>. ~\$30 used

LANE Online Statistics Education: A Multimedia Course of Study (<http://onlinestatbook.com/>). Project Leader: David M. Lane, Rice University. free: <http://onlinestatbook.com/2/index.html>

I&D. Illowsky and Dean. Introductory Statistics. free: <https://openstax.org/details/books/introductory-statistics>

- Download free: https://d3bxy9euw4e147.cloudfront.net/oscms-prodcms/media/documents/IntroductoryStatistics-OP_i6tAI7e.pdf

Other readings & articles will be posted on Moodle.

- Bring your laptop to lecture and lab with Microsoft Excel, Word, Power Point installed
- Available through Oxy lab via Parallels client: Stata
 - Install & test Parallels client access by Week 3. Scroll to Remote Computing in this link: <https://www.oxy.edu/offices-services/its/services/software>.
 - Also available for purchase for \$94/year.
- We will use some freeware toward the end of the semester

Course Requirements and Grading

Participation and Attendance	10%
Problem Sets 1-5	25%
Midterm <u>Exam</u> (take home)	25%
Group Project	
(3) timely & high quality drafts	15%
Group presentation	10%
Final paper	15%

Grading calculation:

A: 93-100; A-: 90-93; B+: 87-90; B: 83-87; B-: 80-83; C+: 77-80; C: 73-77; C-: 70-73; D+: 67-70; D: 63-67; F: 0-63.

Regular attendance and active participation is expected. Active, engaged and significant participation is also part of this grade, and you will receive credit according to your contributions of this type. This includes asking thoughtful questions, contributing to class discussion, replying when WEask for ideas or responses. The content of this class is highly linear, requiring you to learn and practice skills in order to do assignments and lab projects in order. However, if there is a medical or family emergency, please let me know as soon as possible via email or in person. If you must miss class due to an official Oxy event (this does not include athletics), or choose to for reasons of faith or conscience, please let me know as early in the semester as possible.

- You may be absent from a class – “lecture” or “lab” session - twice without any explanation required. Being late to a class is counted as ½ of a class absence – see “Class Attendance” below.
- If you have a 3rd or 4th absence, you will lose credit at the rate of 2% of your final course grade per absence. If you miss more than 4 class meetings, you likely will not pass the course – seniors aspiring to graduate take note.

About attendance: (“Eighty percent of success is showing up” quote attributed to Woody Allen) You deserve an explanation of my rationale on attendance and its role in the course. The content of each class and lab meeting is essential to the learning goals and mastery of the subject; missed classes/activities cannot “made up” in a way that is comparable to being present. Reliable and on-time attendance is not only crucial for success in this class, it will be for the rest of your professional life, do not expect me to be flexible on this aspect of your grade. On time attendance in class is expected– “on time” means you are at your desk, ready to begin class at the required time, not walking in at that time or slightly after. This class meets just over 30 times during the semester, and if you miss more than 10% of those times you cannot pass the class.

We understand that things come up - a health or medical issue, family emergency, or a similar situation, and we recognize that these life issues can sometimes arise unexpectedly. Here is what is allowed - ***you can be absent twice for any reason, be they “for reasons of faith and conscience without academic consequence”, illness, athletics competition or artistic performance, conference attendance, field trip for another course, or participation in another activity important to you.*** This is your own business; you do not have to justify it to me as all we are doing is keeping score. If your absence from class results in your missing an assignment due date, see the late assignment policy described below.

It is professionally courteous to notify email BOTH Prof. Sadd and Abood of an absence as far in advance as possible. Please do so by email and will work with you to help me help you get back on track with the rest of the class.

GUIDANCE ON COVID

Masks are optional in this class. If you have clear COVID symptoms (persistent and deep cough, sore throat, runny nose) or a positive COVID-19 test you should not come to class. Please notify me immediately by email and include a phone number where WE can reach you, and we will formulate a plan for you to continue in the class without physical attendance.. The most recent guidance from the College is <https://www.oxy.edu/back-oxy>

Being "late" means not seated and ready to work at the scheduled time that the class begins – so we agree on the definition of “time” please use the National NIST Internet Time Signal as the standard (<https://www.time.gov/>). If you slip into the room just at the start of class, or are minute or two late, you are late. My advice is to heed the old adage “if you are early, you are on time; if you are on time, you are late."

Turn in all assignments via email attachments in Microsoft Word or Excel, PDF format

All assignments are due by 1:30pm PST (class time) on the day they are due, unless noted otherwise.

You can work together on assignments (except Midterm and Final). However, you are individually responsible for turning in your own assignment. For Group Project assignments, you will turn in one assignment per group, and each student will receive the group grade for that portion of the assignment.

Late Assignment Policy

Timely submission of all assignments (including group project drafts) are crucial for UEP 305, since the material builds on itself. Late assignments also derail faculty’s ability to provide timely grading and necessary comments on your project drafts. If you miss an in-class assignment or lab assignment, you must make up that work and turn it in within two days of your absence

in order to receive credit, and you can do this a maximum of three times during the semester. Not all in-class assignments and quizzes are announced in advance, so you should have a “note-taking partner” to brief you on what you miss.

All assignments should be posted to Moodle. They will be marked down one letter grade (e.g., from B to C) for each 24-period that they are late. For example, as assignment due at 1:30PM on Sept 16 that is turned in at 1:32 or on Sept 16, or at 1:30 on Sept 17 is late and marked down one letter grade. If it is turned in at 1:32 on Sept 17 it would be marked down one letter grade

Class Topics by Week

See Moodle “Reading Schedule” for weekly reading schedule

Week	Date	Lecture Topic	Assignments
1	29-Aug	Course Intro	
1	31-Aug	Types of Research and Variables	Introduce Group Project
1	Lab	Excel: Basics and More	
2	5-Sep	Descriptive Statistics -	
2	7-Sep	Variance and Standard Deviation, Normal Distributions	Hand out Assignment 1
2	Lab	Excel: Charts and Descriptives	Assign Literature Review
3	12-Sep	Sampling and Standard Normal Calcs.	
3	14-Sep	Central Limit Theorem & Confidence Intervals-	Assignment 1 due Hand out Assignment 2
3	Lab	Excel: Pivot Tables, conditional formatting, variance & SD	
4	19-Sep	Scatter Plots and Correlation-	Literature Review Due
4	21-Sep	Confirm/Assign Group Projects	
4	Lab	Excel: Scatter plots; correlations	
5	26-Sep	Regression Intro	Assignment 2 due
5	28-Sep	Regression continued	
5	Lab	Excel: Regression & Interpretation	
6	3-Oct	Data reliability & misuse	Group Project Proposal due

6	5-Oct	Designing ethical research projects & where to access data	Hand out Assignment 3
6	Lab	Excel: Data Management	
7	10-Oct	NO CLASS - FALL BREAK	
7	12-Oct	Midterm Review	Assignment 3 due Midterm assigned
7	Lab	Work on your midterm	
8	17-Oct	Introduction to geospatial analysis and GIS	
8	19-Oct	Practical examples of GIS	Midterm due
8	Lab	Accessing and analyzing spatial data	
9ad	24-Oct	Binary and Count dependent variables	
ad9	26-Oct	Statistical Tests and Hypotheses: z-test	Hand out Assignment 4
9ad	Lab	Stata: Intro	
10	31-Oct	Statistical Tests and Hypotheses: t-test	
10	2-Nov	Regression inference	Group Project Descriptive Analysis due
10	Lab	Stata: regression	
11	7-Nov	Two-sample T statistics	Assignment 4 due
11	9-Nov	Chi Squared tests	
11	Lab	Stata: data management	
12	14-Nov	Chi Squared tests	Group Project Methods and Results draft due
12	16-Nov	ANOVA	
12	Lab	Stata: Significance Tests	
13	21-Nov	Case studies of data for advocacy, policy making, and academic research	

13	23-Nov	THANKSGIVING
13	Lab	THANKSGIVING No Lab
14	28-Nov	Group Project Presentations
14	30-Nov	Group Project Presentations
14	Lab	Group Project Presentations
Group Project Final Paper Due Dec 6 at 1:30PM		

How to conduct yourself in class: Class meetings are a professional setting and the time for you to learn, work with others and receive feedback in realtime. They require your entire attention, so it is expected that you do not text or use your phone during class time (calls, email or web searching), and do not leave class to use it. You are welcome to bring a beverage to class, but refrain from eating. Please tell me how you wish to be addressed. Please address us as “Dr. Sadd” or “Professor Sadd” or “Professor Abood”. Do not address me generically as “Professor” - it is just as disrespectful as if We addressed you impersonally as “Student”. The reason for these rules is to help you learn soft skills that prepare you for the world outside of college, where these behaviors can help you succeed, or cause people to pre-judge you to your detriment. Your adherence to these rules/guidelines is part of the calculation for class participation.

Everyone gets a break: Fairness is fundamental to my teaching. We value your ideas, opinions and preferences, and will consider them seriously in making my decisions. Each of you will be treated equally, as individuals, and with respect. In a semester-long course, things happen in our lives. For this reason, everyone is entitled one “break”. We will not define this too specifically at this time, but if you feel you “need a break”, contact me and together we will decide what your “break” should be. Examples include allowing more time for an assignment that is due, allowing you to redo an assignment without penalty, or something similar depending on the circumstances. You cannot “skip” an assignment. We will be fair and understanding with you, but also must be fair to the entire class. Everyone gets a break – just one.

Tips on how to succeed - spend LESS time studying and get better grades:

- Attend all class meetings, and on time.
- Keep up with the class; do not fall behind; the further behind you are, the harder it is to catch up.
- Take good class notes. You will often have the lecture recording, but you should also create a set of written notes (preferably hand written so you can include sketches) – this is not to create busywork for you, it is because research in cognition and learning shows that people who take notes, and then within a day or two reread, edit, and recopy the notes remember significantly more information and understand it better than those who passively listen the lectures alone. This must be done every class day to get the benefits, and it takes only about 15-30 minutes. Doing this, you are studying for the first time, and will have notes that later you can actually read.
- Keep up with the reading; We assume that you have done the reading during the week it is assigned and are ready to discuss and ask questions when we meet. You will bring any questions to class for discussion. This material is part of the course and you must understand it.
- Create a study group – this consists of maximum 3 people who meet regularly to go over the course material and quiz one another on it, and recopying your notes together. Most people think they understand course material better than

they actually do, and this is a way to discover what you need to review. In that context, the quizzers learn as much as the quizzed, so it is in everyone's interest to do this.

- Check your Oxy email account at least twice a day, preferably before lecture or lab begins, as important information and assignments will be delivered this way and email is an official mode of coursework communications at this College – use your “@oxy.edu” account for all class purposes.
- If you need help with a writing assignment, the Writing Center <https://www.oxy.edu/academics/student-success/writing-center> has advisors and faculty writing specialists that can help you in person or via web-conference. You have the option of one-on-one meetings, and eTutoring feedback where you submit an essay draft and it is returned within 48 hours.
 - Peer writing advisors appointments are available Sun-Thu noon to 10PM PST
 - Faculty writing specialists are available Mon-Fri 12:30PM to 7PM PST

Academic Integrity is a shared community value. It is built around trust and respect between members of the Occidental Community, and embodies a commitment to honesty and integrity in every aspect of one's academic life. All members of the Occidental community are committed to uphold the highest degree of academic integrity. Unless stipulated otherwise, the academic work done for all assignments is expected to be the student's own; students are expected to give proper credit to the ideas and work of others. Signing the Academic Integrity Commitment at the beginning of every semester represents a student's affirmation to uphold the shared values of honesty and integrity. When signing the Integrity Commitment associated with work in a course, students are affirming that they have not cheated, plagiarized, fabricated, or falsified information; nor assisted others in these actions.

[Link](#) to Student Handbook (which includes the framing of the commitment, definitions of Academic Ethics, and Process for alleged violations of the commitment).

Civil Rights & Title IX statement ([Link to Civil Rights & Title IX Office](#))

In the event that you write or speak about having experienced discrimination or harassment on the basis of a protected characteristic or sexual misconduct (including sexual assault, dating/domestic violence, stalking, sexual exploitation or any other form of sexual and/or gender-based harassment), as a designated Responsible Employee, We must inform the Civil Rights & Title IX Office. They will contact you to let you know about resources and support services at Oxy, as well as reporting options both on and off-campus. You have no obligation to respond to the Civil Rights & Title IX Office or to meet with them to discuss support services and reporting options.

If you do not want the Civil Rights & Title IX Office contacted, instead of disclosing this information to your instructor, either through conversation or a class assignment, you can speak confidentially with:

- Oxy's Survivor Advocate, Project SAFE (survivoradvocate@oxy.edu)
- Emmons Counseling (For appointments, call: 323-259-2657)
- Rev. Dr. Susan Young, Office of Religious and Spiritual Life (young@oxy.edu)

- *Oxy 24/7 Confidential Hotline (323-341-4141)*

The College's civil rights policies, along with additional resources, can be found at:

<https://www.oxy.edu/civil-rights-title-ix>. If you would like to contact the Civil Rights & Title IX Office directly, you may email Civil Rights & Title IX Coordinator afulcher@oxy.edu or 323-259-1338.

Language on Special Accommodations/Learning Differences ([Link to Disability Services](#))

- *All academic and housing accommodation requests are managed by Disability Services & Student Support (DSSS). It is a student's responsibility to contact DSSS if they need accommodations or additional support. Any student who has, or thinks they may have, a physical, learning, or psychological disability may contact Disability Services at accessibility@oxy.edu to learn about available services and support. More information is available at <http://www.oxy.edu/disability-services>.*

Accommodations for Reasons of Faith and Conscience ([Link to the policy in Catalog](#))

- *Consistent with Occidental College's commitment to creating an academic community that is respectful of and welcoming to persons of differing backgrounds, we believe that students should be excused from class for reasons of faith and conscience without academic consequence. While it is not feasible to schedule coursework around all days of conviction for a class as a whole, faculty will honor requests from individual students to reschedule coursework, to be absent from classes that conflict with the identified days. Information about this process is available on the ORSL website: <https://www.oxy.edu/student-life/resources-support/orsl/academic-accommodations>*