

SYLLABUS (UPDATED OCTOBER 21)

PUBLIC POLICY 604
STATISTICAL ANALYSIS
FALL 2021

INSTRUCTOR

Yusuke Kuwayama

Email: kuwayama@umbc.edu

Pronouns: he/him/his

OFFICE HOURS (VIRTUAL)

Mondays, 1 – 2 pm;

Tuesdays, Noon – 1 pm;

Or by appointment.

Zoom Meeting ID: 945 503 3539.

LEARNING OBJECTIVE

This course provides an introduction to statistical analysis in the social sciences, ranging from simple descriptive statistics to multiple regression analysis, with a focus on use in applied policy research. Students will learn to frame quantitative research questions, organize and analyze data, apply statistical analysis to policy questions, and coherently report and display results.

COURSE MATERIALS

1. Daniels, Lisa, and Nicholas Minot. (2020). *An Introduction to Statistics and Data Analysis Using Stata*. Thousand Oaks, CA: SAGE Publications.
2. Stata/MP 17: Students are expected to have Stata installed on a computer and should have access to this computer during class. Free download for UMBC graduate students at: <https://wiki.umbc.edu/display/faq/Software>.
3. Blackboard: Problem sets, datasets, lecture slides, and other course materials will be posted on the course page in Blackboard.

COURSE REQUIREMENTS

1. **CITI training (10 points):** These training modules address the design and conduct of human subjects research. Take the course at: <http://research.umbc.edu/human-subjects-use-training-2/>.
2. **Problem sets (6 x 5 points each; lowest score will be dropped):** Problem sets will guide students through statistical analysis exercises. Students are encouraged to work collaboratively but each student must submit their own original assignment. Problem sets are always due at the beginning of class. No late problem sets are accepted (ever) but missed problem sets can count towards your lowest scores dropped.
3. **Midterm exam (30 points):** The exam will test mastery of theory and execution of research design, statistical terms, foundational statistical tools, and interpretation of results.
4. **Final project (35 points):** Independent statistical analysis project to demonstrate mastery of course concepts and ability to communicate results in writing.

ACADEMIC INTEGRITY

Academic integrity is an important value at UMBC. By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. These principles and policies apply in both face-to-face and online classes. Resources for students about academic integrity at UMBC are available at <https://academicconduct.umbc.edu/resources-for-students/>.

COVID-19 SAFETY PROTOCOLS AND COMPLIANCE

UMBC has set clear expectations for masking while on campus that include the requirement that you must wear a face mask that covers your nose and mouth in all classrooms regardless of your vaccination status. This is to protect your health and safety as well as the health and safety of your classmates, instructor, and the university community. Anyone attending class without a mask or wearing one improperly will be asked by the instructor to put on a mask or fix their mask in the appropriate position. Any student that refuses to comply with this directive will be asked to leave the classroom immediately and failure to do so will result in the instructor requesting the assistance of the University Police. Students who refuse to wear masks may be referred to Student Conduct and Community Standards and may face disciplinary action for violations of the Code of Student Conduct, specifically, Rule 2: Behavior Which Jeopardizes the Health or Safety of Self or Others and Rule 16: Failure to Comply with the Request of a University Official. UMBC's on-campus safety protocols, including masking requirements, are subject to change in response to the evolving situation with Covid-19.

TRAUMA-INFORMED PEDAGOGY

Diminished mental health can interfere with optimal academic performance. The source of symptoms might be related to your course work; if so, please speak with me. However, problems with other parts of your life can also contribute to decreased academic performance. UMBC provides cost-free and confidential mental health services through the Counseling Center to help you manage personal challenges that threaten your personal or academic well-being. Remember, getting help is a smart and courageous thing to do—for yourself and for those who care about you. The UMBC Counseling Center is in the Student Development & Success Center (between Chesapeake and Susquehanna Halls). Phone: 410-455-2472. Hours: Monday-Friday 8:30am-5:00pm.

ACCESSIBILITY AND DISABILITY ACCOMMODATIONS, GUIDANCE, AND RESOURCES

Accommodations for students with disabilities are provided for all students with a qualified disability under the Americans with Disabilities Act (ADA & ADA AAA) and Section 504 of the Rehabilitation Act who request and are eligible for accommodations. The Office of Student Disability Services (SDS) is the UMBC department designated to coordinate accommodations that would create equal access for students when barriers to participation exist in University courses, programs, or activities.

If you have a documented disability and need to request academic accommodations in your courses, please refer to the SDS website at sds.umbc.edu for registration information and office procedures.

SDS email: disAbility@umbc.edu

SDS phone: (410) 455-2459

If you will be using SDS approved accommodations in this class, please contact me (instructor) to discuss implementation of the accommodations.

SEXUAL ASSAULT, SEXUAL HARASSMENT, AND GENDER BASED VIOLENCE AND DISCRIMINATION

[UMBC Policy](#) and Federal law (Title IX) prohibit discrimination and harassment on the basis of sex, sexual orientation, and gender identity in University programs and activities. Any student who is impacted by sexual harassment, sexual assault, domestic violence, dating violence, stalking, sexual exploitation, gender discrimination, pregnancy discrimination, gender-based harassment or retaliation should contact the [University's Title IX Coordinator](#) to make a report and/or access support and resources:

Mikhel A. Kushner, Title IX Coordinator (she/they)
410-455-1250 (direct line), kushner@umbc.edu

You can access support and resources even if you do not want to take any further action. You will not be forced to file a formal complaint or police report. Please be aware that the University may take action on its own if essential to protect the safety of the community.

If you are interested in or thinking about making a report, please use the [Online Reporting/Referral Form](#). Please note that, if you report anonymously, the University's ability to respond will be limited.

Notice that Faculty are Responsible Employees with Mandatory Reporting Obligations:

All faculty members are considered *Responsible Employees*, per [UMBC's Policy on Sexual Misconduct, Sexual Harassment, and Gender Discrimination](#). Faculty are therefore required to report any/all available information regarding conduct falling under the Policy and violations of the Policy to the Title IX Coordinator, even if a student discloses an experience that occurred before attending UMBC and/or an incident that only involves people not affiliated with UMBC. Reports are required regardless of the amount of detail provided and even in instances where support has already been offered or received.

While faculty members want encourage you to share information related to your life experiences through discussion and written work, students should understand that faculty are required to report *past and present* sexual assault, domestic and interpersonal violence, stalking, and gender discrimination that is shared with them to the Title IX Coordinator so that the University can inform students of their [rights, resources and support](#). While you are encouraged to do so, you are not obligated to respond to outreach conducted as a result of a report to the Title IX Coordinator.

If you need to speak with someone in confidence, who does not have an obligation to report to the Title IX Coordinator, UMBC has a number of [Confidential Resources](#) available to support you:

- [The Counseling Center](#) (Main Campus): 410-455-2472 / After-Hours 410-455-3230 [Monday – Friday; 8:30 a.m. – 5 p.m.]
- [Center for Counseling and Consultation](#) (Shady Grove Campus): 301-738-6273 (Messages checked hourly) [Online Appointment Request Form](#)
- [University Health Services](#): 410-455-2542 [Monday – Friday 8:30 a.m. – 5 p.m.]
- Pastoral Counseling via [Interfaith Center](#): 410-455-3657; interfaith@umbc.edu [7 days a week; Fall and Spring 7 a.m. – 11 p.m.; Summer and Winter 8 a.m. – 8 p.m.]

Other Resources:

- [Women's Center](#) (for students of all genders): 410-455-2714; womenscenter@umbc.edu. [Monday – Thursday 9:30am-6pm and Friday 9:30am-4pm]

- [Shady Grove Student Resources](#), [Maryland Resources](#), [National Resources](#).

Child Abuse and Neglect:

Please note that Maryland law and [UMBC policy](#) require that faculty report all disclosures or suspicions of child abuse or neglect to the Department of Social Services and/or the police.

DISCLAIMER

This syllabus may need to be updated throughout the semester for many reasons. Policies, deadlines, and assignments may change. I will clearly communicate all such changes to you and the most up-to-date syllabus will always be posted on Blackboard.

COURSE SCHEDULE, READINGS, & DUE DATES

Week #	Date	Topics	Readings	Due
1	September 1	Introduction to statistical analysis		
2	September 8	Introduction to Stata	D & M: Chapters 1 – 5	<i>CITI training certificate</i>
3	September 15	Descriptive statistics	D & M: Chapter 6	<i>Problem Set #1</i>
4	September 22	The normal distribution; sampling distributions	D & M: Chapter 7	
5	September 29	Introduction to hypothesis testing		<i>Problem Set #2</i>
6	October 6	One-sample t-tests	D & M: Chapter 8	
7	October 13	Catch up and midterm exam prep		<i>Problem Set #3</i>
8	October 20	MIDTERM EXAM		
9	October 27	Two-sample t-tests	D & M: Chapter 9	
10	November 3	Analysis of Variance (ANOVA)	D & M: Chapter 10	<i>Problem Set #4</i>
11	November 10	The chi-squared test	D & M: Chapter 11	
12	November 17	Linear regression I	D & M: Chapter 12	<i>Problem Set #5</i>
13	November 24	Linear regression II	D & M: Chapter 13	
14	December 1	WORKSHOP FOR FINAL PROJECTS		<i>Problem Set #6</i>
15	December 8	WORKSHOP FOR FINAL PROJECTS		