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|  | | | SYLLABUS | |
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| POLS 8500 | | Special Topics in Research Methods | | |
| Fall 2020 | | Modelling Dependence in Time and Space | | |
| Baldwin 102 | | Monday, 6:30-9:15 | | |
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| **Course Description and Prerequisites** | | | | |
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| Introduction to the common methods for social and policy analysis with a focus on application of methods such as analysis of variance and regression, to tasks including policy analysis, evaluation and survey research; emphasis on the performance of social and policy analysis, although some statistical theory is introduced. **Prerequisites:** Graduate classification and approval of MPSA or MPIA director; STAT 303 or equivalent. | | | | |
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| **Learning Outcomes or Course Objectives** | | | | |
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| Students will be able to:  Diagnose autocorrelation in time series, cross-sectional, and time-series cross-sectional data  Model and interpret dependence structures in this data  Engage in the subfield’s latest methodological debates over modelling dependence | | | | |
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| **Instructor Information** | | | | |
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| Dr. Garrett N. Vande Kamp |  | | | |
| garrettvandekamp@uga.edu |  | | | |
| Baldwin 409 |  | | | |
| W 2:00 – 4:00 |  | | | |
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| **Textbook and/or Resource Material** | | | | |
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| Textbooks*:* The following textbooks are good introductions to dynamic and spatial regression models. The Instructor’s required text are bolded.  Time Series:  **Pickup, Mark. 2015. *Introduction to Time Series Analysis.* Quantitative Applications in the Social Sciences. Thousand Oaks, CA: SAGE Publishing.**  Box-Steffensmeier, Janet M., John R. Freeman, Matthew P. Hitt, Jon C. W. Pevehouse. 2014. *Time Series Analysis for the Social Sciences.* Analytical Methods for Social Research. Cambridge: Cambridge University Press.  Spatial:  **Darmofal, David. 2015. *Spatial Analysis for the Social Sciences.* Analytical Methods for Social Research. Cambridge: Cambridge University Press.**  Elhorst, J. Paul. 2014. *Spatial Econometrics: From Cross-Sectional Data to Spatial Panels*. Springer.  Ward, Michael D. and Kristian S. Gleditsch. 2018. *Spatial Regression Models*, Second Edition. Quantitative Applications in the Social Sciences. Thousand Oaks, CA: SAGE Publishing.  Software: STATA 16, IC. StataCorp. (A six-month license will satisfy the requirements for this course)  In addition, journal articles will be required reading during the semester. They can be accessed through the university’s resources available freely to students. | | | | |
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| **Class Format and Attendance Policy** | | | | |
| In light of COVID-19, class will be held in a HyFlex format. Students are invited to attend class either in-person or online, where classes will be streamed simultaneously. Should class enrollment remain constant, the classroom will be large enough to accommodate all students in-person simultaneously. Should enrollment increase, a transition to alternating class attendance may become necessary. Students can always opt to attend online and do not need an accommodation to do so. Additionally, students are required to do so when they might feel they have symptoms of COVID-19.  After Thanksgiving Break, classes will transition entirely online.  Attendance is mandatory, as recorded lectures will not be posted online. Each student will have one unexcused absence for the class. Each subsequent absence will result in a 5% reduction in the student’s final grade. University-excused absences will not be subject to this penalty. | | | | |
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| **Grading Policies and Grading Scale** | | | | |
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| Homework 40%  Final Exam 30%  Research Paper 30% | | | | A = 90-100  B = 80-89  C = 70-79  D = 60-69  F < 60 |
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| **Homework**: Students will assigned homework to learn to implement the techniques discussed in class. Homework will be graded for participation. Students should be prepared to present the results of their homework assignment to the entire class. Students can discuss homework assignments with anyone but must have a unique, completed assignment ready to present.  **Research Paper**: Students will write a research paper on a topic of their choice that is related to their research agenda and employs the quantitative methods learned in this class. Ideally, students should produce a paper that can either be used in their dissertation or be submitted to a peer-reviewed journal. This paper may be one written for another class, given that the student has permission from other instructor(s) the student is currently taking classes with. This paper cannot be coauthored with a professor or another student in this class.  **Final Exam**: Students will have an online, open-book final exam. | | | | |
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| **Coronavirus Information for Students** | | | | |
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| Face Coverings, Social Distancing, and Sanitation:  Effective July 15, 2020, the University of Georgia—along with all University System of Georgia (USG) institutions—requires all faculty, staff, students and visitors to wear an appropriate face covering while inside campus facilities/buildings where six feet social distancing may not always be possible. Face covering use is in addition to and is not a substitute for social distancing. Anyone not using a face covering when required will be asked to wear one or must leave the area. Reasonable accommodations may be made for those who are unable to wear a face covering for documented health reasons. Students seeking an accommodation related to face coverings should contact Disability Services at <https://drc.uga.edu/>.  In all public spaces in Baldwin Hall (including stairwells, halls, offices, bathrooms, classrooms, and labs), please maintain six feet between you and others. The seating capacity in your classroom has been modified to allow for social distancing. Please sit in designated, marked seats. In all public spaces, including classrooms, you should not remove signage or re-arrange furniture, even if it appears that furniture is not being used. To help maintain distance, please keep right, where possible. If you enter/exit through the front doors of Baldwin, please follow the signs (and traffic) directing you through a specific set of doors.  If you want to spend some time chatting with someone, please take it outside or online. We are also requesting that you enter and exit Baldwin without delay, staying outside of the building as long as practicable before your class begins and then leaving once your class if finished.  Cleaning and disinfecting of public spaces are important to reduce the risk of exposure to COVID-19. Classrooms are only being cleaned once-per-day. There are sanitation wipes/buckets and stands in proximity to your classroom. Prior to heading in to class, you should take a wipe from the station and wipe down all high-touch surfaces associated with your seat. You should help further slow the spread of the virus by frequently washing your hands. Bathrooms will be cleaned frequently during the day. On occasions that bathrooms are closed for cleaning, you may need to use those on other floors or in other buildings. Please be conscious of the density of traffic in bathrooms and practice social distancing.  DawgCheck:  Please perform a quick symptom check each weekday on DawgCheck—on the UGA app or website—whether you feel sick or not. It will help health providers monitor the health situation on campus: https://dawgcheck.uga.edu/  What do I do if I have symptoms?  Students showing symptoms should self-isolate and schedule an appointment with the University Health Center by calling 706-542-1162 (Monday-Friday, 8 a.m.-5 p.m.). Please DO NOT walk-in. For emergencies and after-hours care, see https://www.uhs.uga.edu/info/emergencies.  What do I do if I am notified that I have been exposed?  Students who learn they have been directly exposed to COVID-19 but are not showing symptoms should self-quarantine for 14 days consistent with Department of Public Health (DPH) and Centers for Disease Control and Prevention (CDC) guidelines. Please correspond with your instructor via email, with a cc: to Student Care & Outreach at sco@uga.edu, to coordinate continuing your coursework while self-quarantined. If you develop symptoms, you should contact the University Health Center to make an appointment to be tested. You should continue to monitor your symptoms daily on DawgCheck.  How do I get a test?  Students who are demonstrating symptoms of COVID-19 should call the University Health Center. UHC is offering testing by appointment for students; appointments may be booked by calling 706-542-1162.  UGA will also be recruiting asymptomatic students to participate in surveillance tests. Students living in residence halls, Greek housing and off-campus apartment complexes are encouraged to participate.  What do I do if I test positive?  Any student with a positive COVID-19 test is required to report the test in DawgCheck and should self-isolate immediately. Students should not attend classes in-person until the isolation period is completed. Once you report the positive test through DawgCheck, UGA Student Care and Outreach will follow up with you. | | | | |
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| **Mental Health and Wellness Resources** | | | | |
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| * *If you or someone you know needs assistance, you are encouraged to contact Student Care and Outreach in the Division of Student Affairs at 706-542-7774 or visit*[*https://sco.uga.edu*](https://sco.uga.edu/)*. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services.* * *UGA has several resources for a student seeking mental health services (*[*https://www.uhs.uga.edu/bewelluga/bewelluga*](https://www.uhs.uga.edu/bewelluga/bewelluga)*) or crisis support (*[*https://www.uhs.uga.edu/info/emergencies*](https://www.uhs.uga.edu/info/emergencies)*).* * *If you need help managing stress anxiety, relationships, etc., please visit BeWellUGA (*[*https://www.uhs.uga.edu/bewelluga/bewelluga*](https://www.uhs.uga.edu/bewelluga/bewelluga)*) for a list of FREE workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center.* * *Additional resources can be accessed through the UGA App.* | | | | |
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| **Academic Integrity** | | | | |
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| UGA Student Honor Code: "I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others."  In this course, academic dishonesty could include plagiarism and unauthorized assistance. A Culture of Honesty, the University's policy and procedures for handling cases of suspected dishonesty, can be found at [www.uga.edu/ovpi](http://www.uga.edu/ovpi) . | | | | |
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| **Syllabus as a Contract** | | | | |
| This syllabus is a contract between the professor and the individual student. Every student in this class receives an identical syllabus; therefore, every student in this class will be taught and evaluated in the same manner. This syllabus is unique to this class; therefore, the students in this class may not be taught and evaluated as students in other sections of this class, past or present, even if taught by the same professor. | | | | |
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| **A Word of Thanks** | | | | |
| I appreciate the help of my peers who contributed to the creation of this syllabus: Scott Cook, Guy Whitten, Clayton Webb, and Andrew Philips.  That being said, this syllabus and the course materials referenced in it is the intellectual property of the instructor and subject to copyright law. Do not reproduce any course materials without explicit written permission. | | | | |

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| **Tentative Course Calendar** |
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| **Modelling Dependence in a Single Dimension**  **Week 1: Review and Notation**  Pickup, Chapter 1  Darmofal, Chapter 2  Fingleton, Bernard. "Spatial autoregression." *Geographical Analysis* 41(4): 385-391.  **Week 2: Autocorrelation: Diagnosis and Hotfixes**  Pickup, Chapter 2-3  Darmofal, Chapters 5  **Week 3: Dynamic Regression Models**  Pickup, Chapter 4  Achen, Christopher H. 2000. “Why lagged dependent variables can suppress the explanatory power of other independent variables.” Unpublished Manuscript.  Keele, Luke, and Nathan J. Kelly. 2006. “Dynamic models for dynamic theories: The ins and outs of lagged dependent variables.” *Political Analysis* 14(2): 186-205.  **Week 4: ARMA Framework**  Pickup, Chapter 5.  Wilkins, Arjun S. 2018. "To lag or not to lag?: Re-evaluating the use of lagged dependent variables in regression analysis." *Political Science Research and Methods* 6(2): 393-411.  **Week 5: Spatial Regression Models**  Darmofal, Chapter 6  Cook, Scott J., Seung-Ho An, and Nathan Favero. 2019. “Beyond Policy Diffusion: Spatial Econometric Models of Public Administration,” *Journal of Public Administration Research and Theory* 29(4): 591-608.  Neumayer, Eric and Thomas Plumper. 2016. “W.” *Political Science Research and Methods* 4(1): 175-193.  Vande Kamp, Garrett N. N.D. "The Multiplicative Interactions Framework for Spatial Regression Models: Theory, Bias, and Interpretation." Unpublished Manuscript.  **Week 6: Stationarity**  Pickup Chapter 6  Darmofal Chapter 7  Fingleton, Bernard. 1999. "Spurious spatial regression: some Monte Carlo results with a spatial unit root and spatial cointegration." *Journal of regional science* 39(1): 1-19.  **Week 7: Cointegration**  De Boef, Suzanna and Luke Keele. 2008. “Taking time seriously.” *American Journal of Political Science*: 52(1): 184-200.  Grant, Taylor, and Matthew J. Lebo. 2016. "Error correction methods with political time series." *Political Analysis* 24(1): 3-30.  Philips, Andrew Q. 2018. "Have your cake and eat it too? Cointegration and dynamic inference from autoregressive distributed lag models." *American Journal of Political* *Science* 62(1): 230-244.  **Modelling Dependence in Multiple Dimensions**  **Week 8-9: Unobserved Effects**  Clark, Tom S., and Linzer, Drew A., 2015. “Should I use fixed or random effects?” *Political Science Research and Methods* 3(2):399-408.  Bell, Andrew, and Jones, Kelvyn. 2015. “Explaining fixed effects: Random effects modeling of time-series crosssectional and panel data.” *Political Science Research and Methods* 3(1):133-153.  Arceneaux, Kevin, and David W. Nickerson. 2009. “Modeling certainty with clustered data: A comparison of methods.” *Political Analysis* 17(2):177-190.  Esarey, Justin, and Andrew Menger. 2019. "Practical and effective approaches to dealing with clustered data." *Political Science Research and Methods* 7(3): 541-559.  **Week 10: Modelling Dependence in TSCS Data**  Darmofal, Chapter 8  Plümper, Thomas and Vera E. Troeger. 2018. “Not so Harmless After All: The Fixed-Effects Model.” *Political Analysis* 27(1), 21-45, with  Vande Kamp, Garrett N. 2020. "Measurement Error and the Specification of the Weights Matrix in Spatial Regression Models." *Political Analysis* 28(2): 284-292.  **Week 11: Dependence in Non-Normally Distributed Data**  Cook, Scott J., Jude C. Hays, and Robert J. Franzese. 2020. “Fixed Effects in Rare Events Data: A Penalized Maximum Likelihood Approach,” *Political Science Research and Methods*. 8(1): 92-105.  Carter, David B. and Curtis S. Signorino. 2010. “Back to the future: Modeling time dependence in binary data.” *Political Analysis* 18(3):271-292.  Beck, Nathaniel, David Epstein, Simon Jackman, and Sharyn O’Halloran. 2001. “Alternative Models of Dynamics in Binary Time-Series-Cross-Section Models: The Example of State Failure.” Institute for Social and Economic Research and Policy Working Papers, Columbia University.  Franzese, Robert J., Jude C. Hays, and Scott J. Cook. 2016. “Spatial- and Spatiotemporal-Autoregressive Probit Models of Interdependent Binary Outcomes,” *Political Science Research and Methods* 4(1): 151-173.  **Week 12-13: Flex Weeks**  **Week 14: Final Exam**  The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary. |
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