POL 605: Research Design and Methods: Linear Models and Causal Inference

Tom Mustillo, Ph.D.                  Office Hours: (or by appointment)                  Class Time & Location:
BRNG 2228                             TBA                                          Th, 2:30-5:20
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COURSE DESCRIPTION:

This course builds upon your experience in POL501 (in which you encountered descriptive
statistics, probability theory, and some topics in research design) and treats the fundamentals of
regression-based modeling in political science. After two weeks of setting the context and review, we
build our knowledge upon a foundation of the univariate regression model (that is, using one variable
to predict another) and then move to multivariate regression (that is, using multiple variables to
predict another). To deal with the fact that the world does not often conform to the assumptions of
these simple approaches, we then deal with adaptations we can make to these models, as when we
attempt to treat non-linear relationships. The course concludes over several weeks in which we treat
extensions of or alternatives to the linear framework, thereby introducing you in a very cursory
fashion to topics which are covered in more depth in our POL606 offerings on Advanced
Quantitative Techniques.

TEACHING METHODS:

We’ll operate in three modes. First, you’ll use textbook and lecture to learn the material
as a substantive topic unto itself. Second, you’ll grapple with applications of the methods by
reading, critiquing, and discussing articles from our discipline’s journals. Third, since there is no
substitute for putting pencil to paper (as it were), we will incorporate experiential learning and
practice by analyzing real data via classroom examples, homework problem sets, and replications
of previously published works.

READINGS AND SOFTWARE

- Articles are available as pdfs at the course website (https://mycourses.purdue.edu)
- The main text is: Dougherty, Christopher. 2011. Introduction to Econometrics. Fourth
- Stata 12 is available in the lab on the second floor. I highly recommend you purchase a
  six-month license for “Small Stata 12” for $32.
REQUIREMENTS AND GRADING:

25% Midterm Exam  
25% Final Exam  
25% Research Project  
25% Homework and other similar items

Grading Scale: I will assign grades according to the scale below and without rounding.

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Incomplete are rarely given, and then only if at least 75% of the work has been completed at a passing level, and extreme circumstances prevent completion of the remaining work.

Late Penalties for Work with Deadlines: Whenever a due date appears, the assignment is due at the start of class unless an alternative due date and time is reported. Any assignment turned in later that day is penalized 5%. Then, as of midnight, there is an additional 5% per day penalty; weekends count.

Attendance is required. I don’t distinguish between excused and unexcused absences. Each student is allowed 1 absence without consequence.

Details of Purdue’s Grief Absence Policy are at: http://www.purdue.edu/odos/services/griefabsencepolicyforstudents.php

Petition for a grief absence in the Office of the Dean of Students.

Student Withdrawal from class must be done in accordance with the policies and timeline at: http://www.purdue.edu/us/current/adddrop.shtml

GENERAL COURSE POLICIES:

Phones and other electronic devices must be silenced and put away during class, unless the professor indicates otherwise.

Computers in class can be a tempting distraction. You are free to use them, but I encourage you to tilt the screen down when not in active use and to sit in the front of the room if you use one.

Revisions to the syllabus can cause confusion; however, circumstances may arise which require them.
ACADEMIC INTEGRITY:

- The University Policy on Academic Dishonesty reads: “Purdue prohibits "dishonesty in connection with any University activity. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty." [Part 5, Section III-B-2-a, University Regulations] Furthermore, the University Senate has stipulated that "the commitment of acts of cheating, lying, and deceit in any of their diverse forms (such as the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest." [University Senate Document 72-18, December 15, 1972]

- The Purdue student guide to Academic Integrity can be found at: http://www.purdue.edu/odos/aboutodos/academicintegrity.php

- I will comply with the procedures and recommendations of the Office of the Dean of Students. Specifically:
  - I will carefully proctor all exams and quizzes.
  - I will be attentive to whether or not your written submissions are your own work and whether, if you use somebody else’s work either directly or indirectly, you properly attribute credit to that person.
  - I report all conduct violations to the Office of the Dean of Students.
  - The existence of evidence consistent with acts of academic dishonestly will result in putative grading, as described at the link above, and per the discretion of the professor.

STUDENT SERVICES:

- If you have a disability that requires special academic accommodation, please make an appointment to speak with me within the first three (3) weeks of the semester in order to discuss any adjustments, as prescribed by the Disability Resource Center. It is important that we talk about this at the beginning of the semester. It is the student's responsibility to notify the Disability Resource Center (http://www.purdue.edu/drc) of an impairment/condition that may require accommodations and/or classroom modifications.

- Counseling and Psychological Services (CAPS) will assist you if life stressors are interfering with you academic or personal success. See https://www.purdue.edu/caps/.

- The Purdue Writing Lab provides free assistance to students at any stage of the writing process. See http://owl.english.purdue.edu/writinglab/.

SCHEDULE:

The schedule of the semester is available as a separate document.