

POP77004/77082 — Applied Statistical Analysis II

Module Information	
Module Code	POP77004/POP77082
Module Title	Applied Statistical Analysis II/Quantitative Methods II
Department	Political Science
Module Personnel	Dr Jeffrey Ziegler
Academic Year	2026–27
Credit Weighting	10 credits
Semester	Semester 2
Contact Hours	I will hold office hours for individual 15-min meetings, please sign up! If you cannot attend regular office hours, please contact me via email.

Module Content	
Module Description	This course extends what you did in the previous term by focusing on non-linear model forms for the outcome variable. These are typically called "generalized linear models" (GLMs), although for historical reasons people in the social sciences call them "maximum likelihood models". The principle we will care about is how to adapt the standard linear model that you know so that a broader class of outcome variables can be accommodated. These include: counts, dichotomous outcomes, bounded variables, and more. There is a strong theoretical basis for the models that we will use. Also, the bulk of the learning in the course will take place outside of the classroom by reading, practicing using statistical software, replicating the work of others, and doing problem sets.
Module Learning Aims	<i>The broad aims of the module (optional)</i>
Learning Outcomes	<i>List the key learning outcomes</i>
Indicative Reading / Resources	Readings: This is a list of interesting and pertinent books that will be used during the course. You

Module Content

	need to consult them occasionally, but you do not need to purchase them. I will provide the assigned readings in PDF format on the course website. • Eliason, Scott (1993). Maximum likelihood estimation: Logic and practice. Sage Publications. • Dunteman, George H., and Moon-Ho R. Ho (2006). An introduction to generalized linear models. Sage Publications. • Faraway, Jon (2016). Extending the linear model with R. Chapman & Hall/CRC. • Gill, Jeff, and Michelle Torres (2019). Generalized linear models: A united approach. Sage Publications. • Greene, William H (2012). Econometric analysis. Pearson Education. • Long, John S (1997). Regression models for categorical and limited dependent variables. Sage Publications.
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Assessment

Assessment Components	Problem Sets 50%, Mid-Term Exam 25%, Replication Project 25%, Reassessment Examination 100%
Assessment Details	

Additional Information

Prerequisites	POP77003 (Applied Statistical Analysis I)
Co-requisites	
Any other information	N/A