SOCIOL 213B: Applied Event History Analysis. Winter 2026

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Course meeting	**Office Hours**
M 12-2:50pm	W 8:45–9:45am in Haines 241C
Bunche 2150	Questions can also be posted on Piazza

Schedule of topics. Note holidays are 1/19 (MLK) and 2/16 (Presidents' Day). Thus we have only 8 meetings. Below is a tentative schedule of topics.

Part 1: Survival analysis with events as outcomes.

1. Basics of survival analysis and maximum likelihood. Exponential model in math.

2. Exponential model in software. Proportional hazards.

3. Beyond the Exponential: Gompertz, Weibull, Cox.

4. Competing risks, non-ignorable censoring, and other complications.

Part 2: Causal inference with events as treatments.

1. Causal inference for survival outcomes

2. Event history treatments with non-survival outcomes (longitudinal inverse probability weighting, marginal structural models)

3. Event history treatments with survival outcomes

4. Causal inference in staggered adoption panels

Course description. Seminar, three hours. Introduction to regression-like analyses in which outcome is time to event. Topics include logit models for discrete-time event history models; piecewise exponential hazards models; proportional hazards; nonproportional hazards; parametric survival models. We will also cover events that unfold over time as causal treatment variables. S/U or letter grading.

Learning goals. Students will learn to

- define key components of survival analysis (e.g., censoring)

- state the assumptions required for a survival model

- translate from survival models to predicted quantities of interest

- apply causal inference methods where events are treatments that unfold over time

Who should take this course? The course is a good fit for PhD students in sociology, statistics, political science, economics, and other social sciences.

Prerequisite. Familiarity with basic probability and statistics (e.g., random variables, expectation, confidence intervals). We will begin by reviewing maximum likelihood estimation, so students who are unsure of their preparation can attend week 1 and see if they are comfortable with the material.

Instructional format. Lecture with in-class exercises.

Course readings. Readings will be available online for free. Some readings will be PDF lecture notes from a textbook draft in progress. Starting in week 2, we will also discuss a published journal article each week that applies the course content in a research study. See the course website for an updated schedule of readings and topics.

Statistical software. You can use any statistical software you prefer. I use R and will best be able to support you in R. In addition to R, we will attempt to provide Stata support where possible. Not all

algorithms are available in Stata. If you are fluent in another software, you are welcome to use that. The focus of this course is on conceptual ideas, not a programming language.

Typesetting. While typesetting in LaTeX is a useful skill, it is not required. You may handwrite any assignment and upload a scanned copy. Whether you typeset or handwrite will not affect your grade.

Grading. Letter grade or Satisfactory / Unsatisfactory. Grades will be determined by:

1) Problem sets   65%
2) Class participation   25%
3) Leading discussion   10%

For details, see Assignments.

Late work. There will be a 0.5% per hour penalty for late work, applied automatically in BruinLearn.

Academic integrity. Each student in this course is expected to abide by the UCLA Academic Integrity policies. Any work submitted by a student in this course for academic credit must be the student's own work.

Statement on accessible education.[1] Your access in this course is important to me. If you are already registered with the Center for Accessible Education (CAE), please request your Letter of Accommodation in the Student Portal. If you are seeking registration with the CAE, please submit your request for accommodations via the CAE website. Students with disabilities requiring academic accommodations should submit their request for accommodations as soon as possible, as it may take up to two weeks to review the request. For more information, please visit the CAE website (www.cae.ucla.edu), visit the CAE at A255 Murphy Hall, or contact them by phone at (310) 825-1501.

Assignments

1) Problem sets. Problem sets are due every Friday by 5pm. They will involve a combination of content questions (e.g., T/F, multiple choice), math, and coding to analyze data. The answer key will be posted each week after the deadline.

2) Class participation. Class sessions will involve discussion, lecture, and in-class exercises. If you participate, you can expect to receive full participation credit. If you are absent from class, talk to me and we can find a way for you to carry out the activity for the day independently on your own time for credit.

3) Leading discussion. Starting in Week 2, we will discuss a published paper in each class session. Each student will be responsible as a discussion leader for one of the weeks.

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[1]This statement is based on guidelines from the Center for Accessible Education.