

Maximum Likelihood Methods for the Social Sciences

CSSS/POLS 510

Social scientists often use Maximum Likelihood Estimators (MLEs) to build regression models that fit the behavior of their data

In CSSS/POLS 510, you will learn to:

Apply or develop MLEs for your data

Create beautiful graphics to explore substantive findings using easy to understand quantities of interest

Select models using appropriate goodness-of-fit tools

Foundational for many CSSS courses:
Hierarchical, Bayesian, Social Networksv...

TOPICS

MLE Estimation & Fitting

Binary, Ordinal & Multinomial Data

Bounded & Unbounded Counts

Overdispersed & Zero-inflated Data

Dealing with Missing Data

MW 4:30–5:50

Prof Christopher Adolph

QUESTIONS?

cadolph@uw.edu

COURSE MATERIALS

[faculty.washington.edu/
cadolph/mle](http://faculty.washington.edu/cadolph/mle)

PREREQUISITES

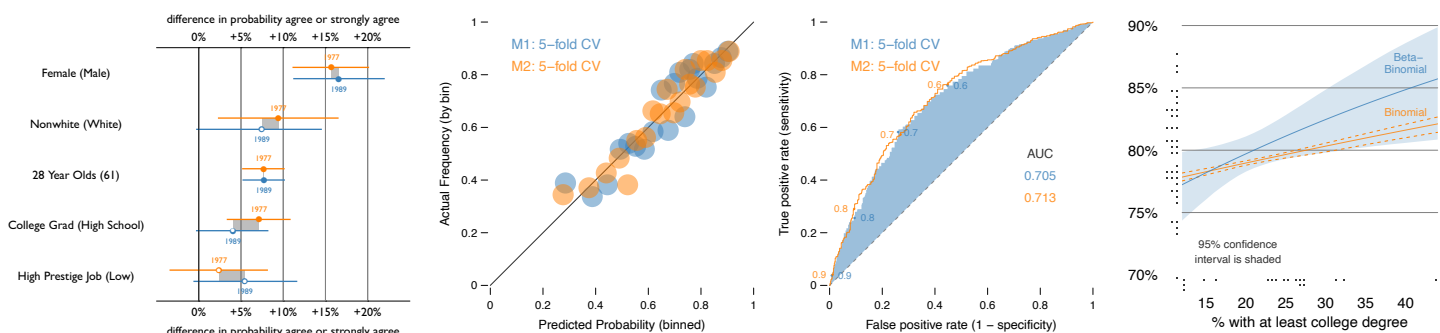
Introductory applied statistics as provided by a graduate sequence at the level of POLS 501/503 or SOC 504/505

INCLUDES

labs & sample code

applied homeworks

final projects



CSSS 508

Introduction to R for Social Scientists

Tuesdays 4:30 - 6:20 (RAI 121)

1 credit course

SLN 13563

Instructor: Ethan Ancell

Course Description and Goals:

Familiarizes students with the R environment for statistical computing (<http://www.r-project.org>). R is a freely available, multi-platform, and powerful program for analysis and graphics similar to S-PLUS. Covers the basics of organizing, managing, and manipulating social science data; basic applications; introduction to programming; links to other major statistical packages.

Prior Knowledge and Info to Know:

This course does not assume you have any prior programming experience with R or any other language. This course will help you prepare you for CSSS, STAT, or other departments' methods courses so that you can focus on the methods they cover more than the coding itself.

**Interested? Register now for
Fall Quarter 2026!**



[Visit our Website](#)

[Contact Us](#)

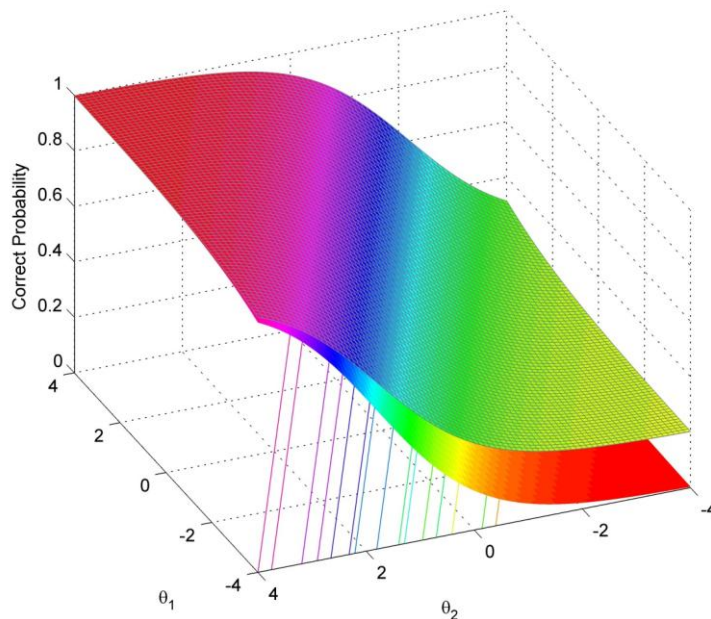
CS&SS/EDPSY COURSE OFFERING • AUTUMN QUARTER 2026

Statistical Models for Assessments and Scales: Item Response Theory

CS&SS 591/EDPSY 591 Item Response Theory I • 3 CR

Wednesdays, 2:00-4:20 pm, MLR 411

Instructor: Chun Wang



Item Response Theory (IRT) was first born from L. L. Thurstone's (1925) paper, entitled "*A Method of Scaling Psychological and Educational Tests*." In it, he offered a solution to a problem of great interest at the time: how to place the items of the Binet and Simon (1905) test of children's mental development on an age-graded scale. In the past century, IRT measurement models have seen great development, and they have been widely used for aptitude assessment, large-scale educational assessment, personality and psychopathology scales, and patient reported outcome measures. During this course, you will have the opportunity to learn basic models of IRT and the application of IRT methods to survey construction, identification of culturally biased items, evaluation of large language models (LLM), etc.

For add code, email: csss@uw.edu/edcodes@uw.edu