JOINT PROGRAM IN SURVEY METHODOLOGY

Introduction to Survey Estimation

Monday, April 06, 2026 - Friday, April 17, 2026.

Workshop for JPSM, University of Maryland

DAVID MORGANSTEIN

Senior Statistician and Vice President at Westat, now retired.

Past President American Statistical Association

SUNGHEE LEE

Research Associate Professor at the Survey Research Center, University of Michigan

COURSE OBJECTIVES

This short course provides an introductory exposure to producing estimates of population parameters from sample surveys. It will examine the uncertainty of estimates resulting from sampling, through presentation of how sampling errors of survey statistics vary as a function of sample design and weighting procedures.

The course discusses procedures for estimating descriptive statistics like means, percentages, population totals, quantiles as well as model parameters from sample surveys. It also examines statistical procedures used in comparing subgroups on attributes measured in the survey.

The course presents inferential issues that arise in moving from sample-based statistics to describing the target population of the survey. It also describes how to compute the sampling errors of survey estimates and how to make inferences from them to the population. It describes current practices in weight adjustments and in the presentation and description of estimates made from sample surveys. Practical exercises during the short course reinforce the lecture materials and handouts.

WHO SHOULD ATTEND

Researchers and analysts who need to produce statistical estimates based upon data collected via complex sample surveys and who need to make inferences about those estimates. The types of estimates to be discussed include: totals, means, percentages,

quantiles and model parameters. The elements of complex sample designs to be examined include: unequal weights, clustered, stratified and multi-stage designs.

Attendees will benefit the most after the session if they have access on their job to software that computes sampling errors for estimates from complex survey data. Such software will be needed to implement the course concepts in their work. The course will provide an overview on software options.

THE INSTRUCTORS

DAVID MORGANSTEIN, now retired, was a Senior Statistician and Vice President at Westat where he was the Director of its Statistical Group. He has over 40 years of experience in sample design and variance estimation. He is one of the developers of WesVar a program for computing sampling errors, and a faculty member of the Joint Program for Survey Methods. He is a fellow of the American Statistical Association and recipient of its Founders Award. He is an elected member of the International Statistical Institute.

SUNGHEE LEE is Research Associate Professor at the Survey Research Center, University of Michigan. She received her Ph.D. in Survey Methodology from Joint Program in Survey Methodology, University of Maryland in 2004 and has over 30 years of experience in survey research including sampling and estimations. She is an associate editor of Journal of Survey Statistics and Methodology and an ad-hoc reviewer for Survey Methodology, Journal of Official Statistics, Public Opinion Quarterly, Journal of American Statistical Association among others. Her research interest focuses on inclusivity in research data through improved sampling and measurement.

CALCULATOR
Attendees should have scientific calculators or similar device to use in numerical exercises.

SPREADSHEET SOFTWARE
Registrants would find it beneficial to have a laptop or device that has spreadsheet software such as MS Excel.

COURSE MATERIALS

Registrants will be provided with a course lecture notebook.

COURSE SCHEDULE:

The course will be in an Online Format from April 06 to April 17, 2026. Participants would have online access to the course packet (slides) and to the recorded lectures where is presented in 4 sections Monday - Thursday. (We would have the entire week 1 recordings available online and participants could watch them at their own pace, with a recommended viewing of 1 1/2 hours per day for each of the four days).

Friday 04/10. and Friday 04/17 would be a 1:00 hour live group online discussion with the instructors (**10:00AM – 12:00PM EST**).