

Preliminary Examination III; Doctoral Program in Urban & Regional Planning
(Revised: April 28, 2022)

III. Research Design and Statistical Methods

Paper III pertains to Research Design and the Application of Basic Statistical Methods. Material covered under research design includes problem identification, hypothesis generation, logic development, typologies of sampling design, and major issues and concepts encountered in conducting inferential research. Paper III also covers applications of basic statistical methods, including basic probability theory, data scales and appropriate tests of central tendency, and multivariate ordinary least squares regression techniques applied to cross-sectional & time-series data. Advanced multivariate techniques such as factor analysis, discriminant analysis and generalized least squares are not included in Paper III. Material included in Paper III is sufficiently covered in the Urban and Regional Planning M.S. core course URPL/SW 721–*Methods of Planning Analysis*. Taking this course is strongly recommended, but not required.

In addition to preparation for Paper III, students are expected to undertake course work on specific methods of analysis in support of their dissertation research. Such methods could include systems methods and modeling, decision analysis, risk analysis, survey research, qualitative methods, quantitative method applications in sociologic or economic analysis, as well as analytical techniques particular to specific substantive areas. A file of past questions is available for student review in the departmental office. However, student answers to previous examinations are not public information.

The references below reflect material to be covered in Paper III.

- Babbie, E. (2021). *The Practice of Social Research* (15th Edition). Wadsworth Publishing
- Creswell, J.W. and C.N. Poth (2018). *Qualitative Inquiry & Research Design: Choosing Among Five Approaches*. Los Angeles, CA: Sage. Edna
- Denzin, N.K. (2017). *The Research Act: A Theoretical Introduction to Sociological Methods*. Current Edition (first published in 1970 © Norman Denzin). New York: Routledge.
- Silva, E., P. Healey, N. Harris, and P. Vanden Broeck (eds.). 2015. *The Routledge Handbook of Planning Research Methods*. New York NY: Routledge. Edna
- Weinstein, J.A. (2010). *Applying Social Statistics: An Introduction to Quantitative Reasoning in Sociology*. New York, NY: Roman & Littlefield Publishers.