



PhD SCHOOL IN STATISTICS
Department of Statistical Sciences

Specialist Course

XXV cycle

SAMPLING THEORY

Pier Francesco Perri

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Aula Uggé

Schedule:

15	November	2010	11.15-13.15
16	November	2010	9.00-11.00
17	November	2010	11.15-13.15

Program:

www.stat.unipd.it/phd/courses_2010

Sampling Theory

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Course Description

The short course aims at providing to the students basic notions on sampling from finite population. The problem of the estimation of the population mean will be discussed starting from sampling with varying probabilities and emphasis will be also given to the use of auxiliary variables at the estimation stage through the regression method. Some recent contributions will be also discussed.

Objectives

- First and second order inclusion probabilities
- Sampling with varying probabilities and some selection schemes
- Estimation of the population mean through Horvitz-Thompson estimator
- Cluster sampling and two stage sampling
- Ratio and regression methods of estimation. The optimality of the regression estimator

Course Schedule

15 Novembre 2010 11:15-13:15
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17 Novembre 2010 11:15-13:15

Bibliography

Cochran, W.G. (1977). Sampling Techniques. John Wiley & Sons, New York

Diana G., Perri P.F. (2010). Improved estimators of the population mean for missing data. Communications in Statistics – Theory and Methods, 39, 3245-3251

Diana G., Perri P.F. (2007). Estimation of finite population mean using multi-auxiliary information. Metron, LXV, 99-112

Särndal, C.-E., Swensson, B., Wretman, J. (1992). Model Assisted Survey Sampling. Springer, Berlin