

**COURSE TITLE**

**Editing and Imputation of Survey Data**

**DURATION**

**1.5 day**

**INSTRUCTOR 1**

**Wesley Yung, Assistant Director, Statistics Canada, CANADA**



**BIOGRAPHICAL SKETCH**

Wesley Yung obtained his Ph.D in Statistics in 1996 at Carleton University and is currently an Assistant Director in the Business Survey Methods Division of Statistics Canada. Areas under his supervision include the Tax Data and annual and sub-annual business survey programs. He has over 15 years experience with business surveys at Statistics Canada. During this period, he has been involved in many aspects of business surveys such as frame development, stratification, allocation, edit, imputation and estimation. More recently, he has been heavily involved in integrating administrative data into the Business Statistics program at Statistics Canada.

**INSTRUCTOR 2**

**Jean-François Beaumont, Chief Research, Statistics Canada, Canada**



**BIOGRAPHICAL SKETCH**

Jean-François Beaumont is a Chief in the Statistical Research and Innovation Division at Statistics Canada. He has been working in the Agency for the last 16 years and has been instrumental in the development of SEVANI, the System for the Estimation of Variance due to Nonresponse and Imputation. He has given courses on nonresponse and imputation in a number of occasions in different countries. Jean-François has also authored several papers on imputation in scientific journals. His other current research interests and activities include: nonresponse weighting, bootstrap variance estimation and inference, outlier-robust estimation and weighting approaches to finite population inference.

**COURSE DESCRIPTION**

Surveys and censuses conducted by national statistical agencies, research institutes and other survey organizations suffer from various degrees of nonresponse even under ideal conditions. In order to try to alleviate the problems caused by nonresponse, editing and imputation methods are usually applied. Since the process of editing and imputation is time and resource intensive, care must be exercised in controlling the efficiency as well as the effectiveness of the methods. Evaluation of such methods and their impact on the survey outputs will be highlighted. Examples will be provided to illustrate the material presented.

**SYLLABUS**

1. Context
2. Planning
3. Editing
4. Error Localization
5. Frameworks
6. Nonresponse Treatment Methods
7. Imputation Introduction
8. Imputation
9. Variance Estimation
10. Empirical Comparisons
11. Imputation Software
12. Summary

**TARGET AUDIENCE**

This short course is intended to survey statisticians who are facing missing and inconsistent responses that are dealt with through editing and imputation. The main objectives are:

- I) To gain some knowledge of methods frequently used in practice to treat inconsistent responses and missing values in surveys;
- II) To understand important concepts related to nonresponse so as to be able
  - i) to better identify potential problems that may occur in practice and
  - ii) to choose appropriate tools to improve the treatment strategy used in real applications.