

M2 D3S & SE - TSE
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SURVEY SAMPLING
PROJECT INSTRUCTIONS - 2024

First register on one of the projects on Moodle (3 students per project). You then have a report to write and a defense to prepare which will take place either on December 3 (for the M2 SE students) or 4 (for the M2 D3S students). You have to attend the whole defense session in which you are registered (either 3rd December morning, 3rd afternoon, 4th morning or 4th afternoon). Each project is in two parts. The defense will be in English for the D3S students but it could be in English or in French for the SE students.

The first part (Part I) consists in implementing some estimation methods and comparing them following the instructions given in the pdf file “Part I of the project”.

Concerning the second part (Part II), the objective is to make you discover and understand a more advanced method of survey sampling than the ones you learnt during the course. The method is either multi-stage sampling for project A, imputation methods for project B or calibration for project C. Depending on the project in which you registered (A, B or C), you have to read the corresponding slides in order to understand the method and be able to explain it in your report and during the defense. In order to illustrate the method you will present, you have to use the Canadian Labour Force Survey example (LFS) carried out by Statistics Canada (see the methodology description document for the details). You will explain how the method you present is used for this particular survey.

The report should contain an introduction, a main body and a conclusion. Insert and comment all your results, tables and plots in the main body of your report and put the code in the appendix. Your report (maximum 20 pages, plus the R code in the appendix) has to be uploaded in **pdf format** on Moodle in the survey sampling project activity no later than Wednesday 4th December (before midnight). Only pdf files are accepted and your R code has to be given in the appendix of the report (R files or html files are not allowed).

You will also have to prepare some slides for the defense. Upload your slides on Moodle by Monday 2nd December (before midnight).

The defense of each project will last 45 minutes divided in 27 minutes for presentation (9 minutes per student), 12 minutes for questions by myself (4 minutes per student) and 6 minutes for questions by the students from another group (2 minutes per student). Pay attention to balancing speaking time between parts I and II.