

# STATISTICAL METHODS AND APPLICATIONS (SMA)

Academic year 2018-2019

Curriculum OFFICIAL STATISTICS

| Educational Activities                                     |  | Ects | Year | Term |
|--|--|------|------|------|
| <b>Characterizing Mandatory Courses</b>                    |  |      |      |      |
|  | 1. Stochastic processes  | 9    | 1    | 1    |
|  | 2. Bayesian modelling  | 6    | 1    | 1    |
|  | 3. Sample surveys  | 9    | 1    | 2    |
|  | 4. Data management in official statistics                          | 9    | 1    | 2    |
|  | 5. Data quality and other issues in official statistics            | 6    | 1    | 2    |
|  | 6. Spatial statistics and statistical tools for environmental data | 6    | 2    | 1    |
|  | 7. Advanced economic statistics                                    | 6    | 2    | 1    |
| <b>Supplementary Elective Courses</b>                      |  |      |      |      |
| Choose one course for a total of 9 ECTS                    | - Advances in data analysis and statistical modelling              | 9    | 2    | 1    |
|  | - Financial econometrics   | 9    | 2    | 2    |
| Choose one course for a total of 6 ECTS                    | - Algorithms and data structures                                   | 6    | 1    | 2    |
|  | - Big data analytics   | 6    | 2    | 2    |
|  | - Big data for official statistics                                 | 6    | 1    | 1    |
|  | - Computational statistics   | 6    | 2    | 2    |
|  | - Efficiency and productivity analysis                             | 6    | 2    | 2    |
|  | - International demography   | 6    | 2    | 1    |
|  | - Survey methodology   | 6    | 2    | 2    |
| <b>Other educational activities</b>                        |  |      |      |      |
| Choose from the list of available exams at Sapienza        | 11. Free-choice exam   | 9    | 1    | 1    |
|  | 12. Internship/Stage   | 9    | 1    | 2    |
| Choose from the displayed activities for a total of 6 ECTS | • Laboratory of stochastic processes                               | 3    | 1    | 1    |
|  | • Laboratory of statistical decisions                              | 3    | 1    | 1    |
|  | • Laboratory of financial and monetary statistics                  | 3    | 1    | 2    |
|  | • Laboratory of machine learning                                   | 3    | 1    | 2    |
|  | • Case studies and statistical consulting                          | 3    | 2    | 1    |
|  | • Complementary activities   | 3    | 1    | 1    |
|  | • Complementary activities   | 6    | 1    | 1    |
| Master Thesis  |  | 30   |      |      |