UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Programming Language Laboratory (blended)

2021-1-E4102B004

Learning objectives

This course will introduce the SAS system and R, with a special focus on their programming languages, to allow the student to acquire the necessary knowledge and skills to use SAS and R to analyze data.

Knowledge and understanding

This course will provide the basic knowledge and understanding on:

- Structured programming
- Managing tabular data in SAS (dataset)
- Managing tabular data in R (data frame)
- Data analysis in SAS

Ability to apply knowledge and understanding

At the end of the course the students will be able to:

- Write basic SAS programs for data analysis
- Write basic R programs for data analysis

Contents

Introduction to SAS

Managing data with SAS

Introduction to R

Detailed program

Introduction to SAS, Data step e Proc step. import, Proc print

Proc contents, Proc Means, output, maxid

Proc Freq

ODS

Proc Sort, Merge

Proc Format

Introduction to R: syntax and a comparison with SAS

Prerequisites

None

Teaching methods

The course is taught in blended e-learning.

The lectures are in a computer lab and are dedicated to introducing the notions on SAS and R, and to discuss how to tackle and solve some problems. During the Covid19 emergency, those lectures will be via synchronous videoconferences.

There are several exercises via e-learning, where the acquired knowledge is applied to solve some problems on tabular data.

Assessment methods

Written exam consisting of writing some short SAS and R programs at the PC, to solve some problems. This will not change during the emergency.

The grading is based on correctness, completeness, simplicity of the proposed solution.

Textbooks and Reading Materials

- “The Little SAS Book, SAS Institute

Semester

Second

Teaching language

Italian