

# UNIVERSITÀ DEGLI STUDI DI MILANO-BICOCCA

# **SYLLABUS DEL CORSO**

# Laboratorio di Informatica

2324-1-E4101B004

### 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:

- 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 discuss how to tackle and solve some problems. Some videos will provide the necessary notions on SAS and R. Lectures will be neither recorded nor streamed.

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 (at the PC) some short SAS programs to solve some problems. Moreover, there will be a multiple choice guiz to assess the knowledge of R.

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

Beware that you must be registered via "segreterie online" to take the exam. If you are not registered, you will not allowed to take the exam. No exceptions will be made.

#### **Textbooks and Reading Materials**

Semester	
Second	
Teaching language	
Italian	
Sustainable Development Goals	

• "The Little SAS Book, SAS Institute