

**Title of the course:** Data Analytics for Decision Making.

**Instructor:** Carlo Drago (University Niccolò Cusano, Rome)

**Aims of the course:**

Students will learn the necessary skills and knowledge to use data analytics in decision-making contexts through this course in Data Analytics for Decision Making. The course aims to achieve the following objectives:

1. Functional comprehension of Data Analytics processes: the students will gain an understanding of the fundamentals of data analytics, including how data is collected, processed, analyzed, and interpreted.
2. Data Analytics Skills: To provide students with hands-on experience with data analytics tools and software, enabling them to analyze and interpret complex data.
3. Decision Making Integration: Demonstrate how different domains and industries can effectively integrate data analytics with decision-making processes.
4. Ethical Considerations: Providing students with an understanding of the importance of privacy and consent in dealing with and analyzing data ethically.
5. Future Look: Students will prepare for a dynamic and rapidly evolving field by exploring the future trends and potential of data analytics.

After completing this course, students should be able to use data analytics to inform and improve decision-making processes, have a better understanding of the ethics of handling data, and be prepared to continue to learn and adapt in this ever-evolving field.

**Structure:** It is thought to develop a first part in which there is an explanation of the concepts very practical and very concrete also using the R language (which need to installed or used on a portable version in advance to the course). A second part more practical follows.

**Topics:** Data and Big Data, Data Analysis, Data Cleaning and Pre-processing, Decision-Making,

**Assignments:** two type of assignments are thought to be proposed: assignments based on practical cases to be solved (relevant scenario to be considered) and also practical exercises to be solved by computer. A student without computer will be capable also to respond to the assignments (tentative) yet the use of a computer is encouraged.

**Technical Prerequisites:** A working version of the R software is useful and necessary to the replication of the exercises. A RStudio version is useful but not strictly necessary.