



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Big data for Healthcare: an introduction

2223-90R-MOD20

Title

Big data for healthcare: an introduction

Teacher(s)

Cristina Crocamo

Language

Short description

The aim of the course is to endow students with knowledge about the potentialities of big data for healthcare in neurosciences in order to conceive their own research questions. Big data span across different information-intensive hallmarks, resulting in the joint application of the grounding theoretical underpinnings of healthcare and computing discipline. The course envisages introducing fundamentals of big data sources that fuel digital health innovations in neurosciences to deal with challenges of real-world use cases, promoting observational, analytical, and interpretative skills.

In order to understand the terminology, techniques, and technology driving the transformation of healthcare in neurosciences, students will be provided with an in-depth overview of big data definitions and commonly used methods for translational research applications that complement the broad spectrum of more traditional healthcare processes. Trends, developments in technologies, and opportunities to translate these into novel neuroscience applications for daily practice will all be addressed.

The topics that will be covered in the course are:

- o Introduction to big data in neurosciences, basic principles and definitions
- o Healthcare data literacy: data and domain understanding
- o Translational data science and ecological momentary assessment: emerging technologies
- o Internet of Things: a promising landscape for healthcare
- o Classes of novel methods and purposes
- o Expectations and pitfalls: from digitalization requirements to data protection concerns

CFU / Hours

1CFU / 8Hours

Teaching period

second half of April-September 2023

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION
