

Course announcement
“Big Data Analysis for Engineering and Bioengineering”
Prof. Arcangelo Merla
University G.'Annunzio of Chieti-Pescara



Hours 8 - 1 cfu
Classes will be in English
Compulsory attendance

Final essay based on a set of questions provided on the first day. Final essay is compulsory to obtain 1 cfu

Big Data Analysis for Engineering and Bioengineering

The course aims to provide students with knowledge of Big Data management, processing and analysis models and techniques for decision support, understanding the advantages and limitations of the different solutions. A fundamental part of the course will be dedicated to data selection methodologies and their transformation, analysis and interpretation. The student will be able to apply the main Machine Learning techniques, use the main tools for managing and processing Big Data, and critically analyze the quality of the results obtained, through practical applications of Matlab/Python tools. In detail, the methodologies for the exploration and data visualization, the methods for the reduction of dimensionality, the machine learning techniques for clustering, classification and regression will be studied. A part of the course will be dedicated to applications in the biomedical field. The program of the course will cover the following main categories of topics: - Data mining: association rules, classification and clustering - Machine learning algorithms.

Objectives of the course is to familiarize the students with the data mining techniques, and to develop the capability for evaluating the feasibility of the application of such techniques in their field of interest within engineering.

✉ **Register by 2023, May 30th** sending email to:

tea.taraborelli@unich.it & arcangelo.merla@unich.it (in cc)

PhD students at the University of Chieti-Pescara, not enrolled in the Engineering Sciences PhD program, can register for the short course.

| TIMETABLE | | | |
|------------------|------------|-------|-------|
| MONDAY | 12.06.2023 | 09:00 | 13:00 |
| TUESDAY | 13.06.2023 | 09:00 | 13:00 |
| WEDNESDAY | | | |
| THURSDAY | | | |
| FRIDAY | | | |