



---

COURSE: BIG DATA

---

ACADEMIC YEAR: 2019/2020

---

TYPE OF EDUCATIONAL ACTIVITY: Characterizing

---

TEACHER: CARLO SARTIANI

---

e-mail: carlo.sartiani@unibas.it

---

web:

---

phone: 0971205862

---

mobile (optional):

---

Language: Italian

---

ECTS: 6

---

n. of hours: 48

---

Campus: Potenza/Matera  
Dept./School: School of  
Engineering  
Program: Master Degree in  
Computer Engineering

---

Semester: II

---

#### EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

##### GOALS

The main goal of the course is to expose students to the principles of Big Data management and to the most important topics in Big Data Analytics. Students will learn the basic notions about Big Data platforms, MapReduce, Python and R, data analysis and visualization. Students will also learn how to implement a data analysis application on top of Hadoop and/or Spark.

##### SKILLS

- Installing and configuring a Big Data platform;
- Writing applications on top Hadoop and Spark;
- Analyzing data;
- Visualizing data analysis results.

---

#### PRE-REQUIREMENTS

- Basic notions of procedural and OO programming;
- First order logics;
- Databases and SQL.

---

#### SYLLABUS

Many of the world's biggest discoveries and decisions in science, technology, business, medicine, politics, and society as a whole, are now being made on the basis of analyzing massive data sets. This course provides a broad and practical introduction to big data: data analysis techniques including databases, data mining, machine learning, and data visualization; data analysis tools including spreadsheets, Tableau, relational databases and SQL, Python, and R; introduction to network analysis and unstructured data.

---

#### TEACHING METHODS

- Theoretical lessons;
- Project works.

---

#### EVALUATION METHODS

- Discussion of a project work;
- Oral examination.

---

#### TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Course notes available on Moodle.

---

#### INTERACTION WITH STUDENTS

Office hours:



- 
- Tuesday, 15,00 - 17,00;
  - Wednesday, 15,00 - 17,00.

The teacher can be further contacted by email.

---

EXAMINATION SESSIONS (FORECAST)<sup>1</sup>

- 01/07/2020
- 14/07/2020
- 30/09/2020
- 16/12/2020

---

SEMINARS BY EXTERNAL EXPERTS    YES     NO

---

FURTHER INFORMATION

---

---

<sup>1</sup> Subject to possible changes: check the web site of the Teacher or the Department/School for updates.