Contacts:
Prof.ssa Francesca Cuomo
Chair of the Master Degree in Data Science
datascience@i3s.uniroma1.it

Faculty of Information Engineering, Informatics and Statistics
https://web.uniroma1.it/i3s/
Data Science @ Sapienza is the first international Master's Degree program in Data Science active in Italy since 2015. This interdisciplinary program offers the Engineering, Informatics, Statistics and Economics background required to address a wide variety of cutting edge Data Science problems in business, industry and society. It is completely taught in English.

This course is geared towards students with B.Sc degree in:
- Communication Engineering
- Computer Science
- Electronic Engineering
- Engineering of Computer Science and Control
- Management Engineering
- Statistics, Economics, Finance and Insurance
- Statistics, Economics and Society
- Statistics for Management

and in:
- Biology and Bioinformatics
- Economics
- Industrial Engineering
- Mathematics and Physics

For information: datascience.13.uniroma1.it

Study Plan

The program provides the professional skills needed for the collection, management and analysis of the Big Data to support innovative products and services in business, public sectors, and advanced digital industries. During the program there will be a special emphasis on combining a solid theoretical foundation with practical skills stimulated by the needs coming from industry and society. A direct contact with all these realities is encouraged by annual meetings with firms and research centers.

Job Opportunities

Those who graduate in the Master's Degree Program in Data Science will become Data Scientists, Open Data Manager, Big Data Infrastructure Professional, Business Data Analysts. These job profiles are among the most searched for the job market and some of the best paid at the national and international level. You will be able to work in:
- Internet industries
- Startups
- Medium and small enterprises
- Strategic consultant companies
- Public administrations
- Institutes of social-economic analysis
- Academic and industrial research centers
Benvenuti!

2021/22

AZERBAIJAN
CHINA
COSTA RICA
INDIA
ISLAMIC REPUBLIC
OF IRAN
KAZAKHSTAN
PAKISTAN
RUSSIAN
FEDERATION
TURKEY
Data Science – 2021/2022

• M.Sc. (LM) Data Science - 120 ECTS - 2 years

• Website #1: datascience.i3s.uniroma1.it/it

• Website #2: corsidilaurea.uniroma1.it/en/corso/2020/29942/home


• Email: datascience@i3s.uniroma1.it

• 1 Faculty -> i3S = DI + DIAG + DIET + DSS <- 4 Departments
Key reference people

- For study plan:
  Prof. Pierpaolo Brutti <pierpaolo.brutti@uniroma1.it>

- For master thesis:
  Prof. Ioannis Chatzigiannakis <ichatz@diag.uniroma1.it>

- For Industrial Liaison Program
  Prof. Simone Scardapane <simone.scardapane@uniroma1.it>

- For Erasmus exchange & some international internships:
  Prof. Aris Anagnostopoulos <aris@diag.uniroma1.it>

- For stage/internships:
  Prof. Paolo Di Lorenzo paolo.dilorenzo@uniroma1.it

- For 3AAF:
  Prof. Antonio Cianfrani <antonio.cianfrani@uniroma1.it>

- For training camps
  Prof. Fabio Galasso <galasso@di.uniroma1.it>

- For student honors
  Profs Stefano Leonardi leonardi@dis.uniroma1.it and Sergio Barbarossa <Sergio Barbarossa <sergio.barbarossa@uniroma1.it>
Information

• For academic issues:
  Prof.ssa Francesca Cuomo
  Data Science Master Program, Chair

• For assistance
  Georgia Georganopoulou

To reach both please email to datascience@i3s.uniroma1.it

To deliver official communication we will only use on a regular basis your institutional email address
lastname.1234567yourmatricola@studenti.uniroma1.it
Student representatives

- TEODORO CAPUTO e-mail: caputo.1658660@studenti.uniroma1.it
- MASSIMILIANO RIPOSATI e-mail: riposati.1785279@studenti.uniroma1.it
- MARCO AURELIO STERPA e-mail: sterpa.1152419@studenti.uniroma1.it
You are 2021/2022 enrolment cohort!

Remember that when you consult https://corsidilaurea.uniroma1.it/

Catalogo dei Corsi di studio

- Cerca per parole chiave: es. nome del corso, codice
- Cerca frasi complete: es. "Ingegneria Gestionale"
- Cerca docente 

<table>
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<tr>
<th>ANNO ACCADEMICO</th>
<th>CORSI</th>
<th>FACOLTA</th>
<th>TIPOLOGIA CORSO</th>
<th>LINGUA</th>
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<tr>
<td>2021/2022</td>
<td>Data Science</td>
<td>Ingegneria dell'Informazione, Informatica e Statistica</td>
<td>Laurea magistrale</td>
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<td>2021/2022</td>
<td>Matematica</td>
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<td>Laurea magistrale</td>
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<tr>
<td>2021/2022</td>
<td>Bioinformatics - Bioinformatica</td>
<td>Farmacia e Medicina; Ingegneria dell'informazione, informatica e statistica; Medicina e Odontoiatria; Scienze Matematiche, Fisiche e Naturali</td>
<td>Laurea</td>
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</table>
All your master information is here

https://corsidilaurea.uniroma1.it/en/corso/2021/29942/home
Other information on the website

Remember that when you consult http://datascience.i3s.uniroma1.it/it
Data Science – 2021/2022 Welcome meeting

• Some tips for successfully achieve your final target
Most updated info about courses

- The only reference original source of information is the official Sapienza professor *notice board*
- *Catalogo dei Corsi di studio* -> *Find your teacher*
- [https://corsidilaurea.uniroma1.it/en/cerca/docente](https://corsidilaurea.uniroma1.it/en/cerca/docente)
Schedule and Location of Classes

- non-conflicting schedule (almost) guaranteed for all optional courses
- We **try** to hold classes of the day in one single campus site

I semester: Main Campus + Lab: Via Tiburtina 205

II semester: to be confirmed

III semester: DIAG, Via Ariosto 25 (RM102)
    + Lab: Via Tiburtina 205

IV semester: DIAG, Via Ariosto 25 (RM102), Main Campus (CUxxx)
    [Città Universitaria]
Individual study plan

http://datascience.i3s.uniroma1.it/it/node/5820

- Contact: Prof. Pierpaolo Brutti pierpaolo.brutti@uniroma1.it

- Study plan can be changed only once per year. You are allowed to change at the beginning of each semester

- Check the datascience.i3s.uniroma1.it website and make sure you understand … colors!!

- In this first semester you have no option: all required (i.e. mandatory) courses

- In the second semester you have to choose one orange …. :
1. Study Plan

Laurea Magistrale in Data Science

Course Plan Advisor: prof. PIERPAOLO BRUTTI
pierpaolo.brutti@uniroma1.it

Course list

<table>
<thead>
<tr>
<th>Enrollment Year</th>
<th>Rules</th>
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<tbody>
<tr>
<td>2020-2021</td>
<td>After the enrollment, all the students must submit their study plan through “Percorso formativi/GOMP/INFOSTUD”. Please notice that, with the exception of the required courses, it is not possible to register an exam not included in the study plan, and the study plan must be approved before taking the exams.</td>
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<tr>
<td>2019 - 2020</td>
<td>In addition, according to the University rules, 1st year students can only take exams which were selected for his/her 1st year, while he/she cannot take any exam planned for the 2nd year. More specifically, 1st year students will not be able to register any exam which was not planned for the 1st semester of the 1st year, which in turn correspond only to the core, required courses -- mandatory for all students -- before a study plan has been submitted and approved. The list of exams (i.e., Manifesto degli Studi) available to a student always refer to the academic year of her/his first enrollment, even when changes are made in the following years.</td>
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2. Study Plan

- **MANDATORY COURSES** - Four required courses for a total 39 ECTS
- **OPTIONAL GROUP A** - choose one course for a total of 6 ECTS
- **OPTIONAL GROUP B** - choose three courses for a total of 18 ECTS
- **OPTIONAL GROUP C** - choose one course for a total of 6 ECTS
- **OPTIONAL GROUP D** - choose two courses for a total of 12 ECTS
- **FREE CHOICE** 12 ECTS
- **OTHER LEARNING ACTIVITIES (AAF)** 3 ECTS
- **FINAL THESIS** 24 ECTS
3. Study Plan

Mandatory courses (39 CFU):

- ALGORITHMIC METHODS OF DATA MINING & LAB
- FUNDAMENTALS OF DATA SCIENCE
- STATISTICAL METHODS IN DATA SCIENCE (I+II) (reg)
- NETWORKING FOR BIG DATA
4. Study plan

• (1) optional course in Economics and Law (6 CFU)
  – ECONOMICS OF NETWORK INDUSTRIES
  – INTELLECTUAL PROPERTY COMPETITION AND DATA PROTECTION LAW
5. Study Plan

(2) three optional courses in Information Technologies Subjects (18 CFU)

- DATA MANAGEMENT FOR DATA SCIENCE
- CLOUD COMPUTING
- DATA MINING TECHNOLOGY FOR BUSINESS AND SOCIETY
- COMPUTATIONAL DATA ANALYSIS
- SMART ENVIRONMENTS
- DATA PRIVACY AND SECURITY
- SIGNAL PROCESSING FOR BIG DATA
- ADVANCED MACHINE LEARNING
4. Study plan

(3) one optional course in Statistics and Management (6 CFU)

- STATISTICAL LEARNING
- QUANTITATIVE MODELS FOR ECONOMIC ANALYSIS AND MANAGEMENT
- OPTIMIZATION METHODS FOR MACHINE LEARNING
- STATISTICS FOR STOCHASTIC PROCESSES
6. Study plan

• (4) two complementary courses (12 CFU)

– BIOINFORMATICS
– DIGITAL EPIDEMIOLOGY AND PRECISION MEDICINE
– BIG DATA FOR OFFICIAL STATISTICS
– DATA DRIVEN ECONOMICS
– EFFICIENCY AND PRODUCTIVITY ANALYSIS
– EARTH OBSERVATION DATA ANALYSIS
– NEURAL NETWORKS FOR DATA SCIENCE APPLICATIONS
– GEOMATICS AND GEOINFORMATION
7. Study plan

• (5) two elective courses chosen from the students among

  – … approval is discretionary …
  – … but the approval is automatic if the choice is made from the list of the previous optional courses
  – other relevant courses offered from Sapienza (with no language restrictions)

Ask advice to tutors for the courses offered from the I3S-related Departments or from other Faculties
AAF Activities (3 ECTS)

• Contact: Prof. Antonio Cianfrani

• [http://datascience.i3s.uniroma1.it/it/AAF-3-credits](http://datascience.i3s.uniroma1.it/it/AAF-3-credits)

• 1 Training camp (necessary condition) + either one of the following:
  - 1 Hackathon,
  - 1 more Training Camp,
  - Stage/Internship

• IMPORTANT: when completed AAF credits must be registered on Infostud
Training Camps

- **Contact:** Prof. Fabio Galasso fabio.galasso@uniroma1.it
- Taught by experts from leader companies, past training camps 2021:
  - ✔ Training Camp by **Unicredit**
    Date: June 30th - July 2nd, 2021
    Title: Knowledge Graph Completion
  - ✔ Training Camp by Mykhaylo Andriluka, **Google Research**
    Date: September 2nd - 4th, 2021

- 3-day camps
- Enroll early enough
- You’ll see: large-scale solutions to big-data management, machine learning, data analytics, cloud computing, ….
Industrial Liaison Program

- **Contact:** Prof. Simone Scardapane
  (simone.scardapane@uniroma1.it)

- The **Industrial Liaison Program** promotes internships and external theses in companies, institutions, research centers, both in Italy and abroad.

- The list of participating companies can be found online: [http://datascience.i3s.uniroma1.it/it/industrial-liaison-program](http://datascience.i3s.uniroma1.it/it/industrial-liaison-program)

- On **February 14th 2022** (tentative) we will host a full-day event to present possible internships to students, where you can meet representatives from all participating companies and institutions.
Stages and Internships in Italy

• Contact: Prof. Paolo Di Lorenzo
  paolo.dilorenzo@uniroma1.it

• Stages require approximately 60 hours of work at one of the companies of the Industrial Liaison Program (February 14th, 2022)

• Projects of stages are available starting at the end of the first year

• Stages will take place in summer or during the 3rd semester without overlaps with the classes.
Erasmus exchange & Internships for thesis abroad

- **Contact:** Prof. Aris Anagnostopoulos
  - aris@diag.uniroma1.it
- Theses can also be done abroad at a foreign company or university
- You can do this through the Erasmus+ program (standard Erasmus+ or Erasmus+ traineeship), or outside
  - Both of them require authorization; contact Aris
  - We will post openings when available, but you are responsible for finding the positions
  - It may require a financial contribution from the student.

**Sapienza international office:**
https://www.uniroma1.it/en/pagina/study-abroad
Master thesis

• **Contact:** Prof. Ioannis Chatzigiannakis  
  ichatz@diag.uniroma1.it

• Master thesis requires to develop a data science project of the duration of 4 - 6 months.

• **Guidelines for Master Thesis**

• Master thesis projects will preferably be developed in collaboration with a company of the Industrial Liaison Program or within an Internship program.

• Academic thesis projects under the direct supervision of a faculty are also possible.
Students Honors

• For 11 second-year students next call [# credits & weighted average of earned exam grades]
• waived annual fees & special mention in your diploma supplement
• Opened to II year students having completed their first year credits (Minimum thresholds: ects 57) + grade 28
• Deadlines: February 7th 2022 and results February 28th 2022.

Reference contacts: Profs Stefano Leonardi leonardi@diag.uniroma1.it and Sergio Barbarossa sergio.barbarossa@uniroma1.it
COVID-19: instructions for accessing Sapienza

**Students**

*In presence:* the students book their lesson on the special Prodigit platform, the reservation also includes self-certification for access to the Sapienza offices and no other entrance ticket is required.

*In presence*

**Use of libraries and reading rooms:** the students book their place in the reading rooms of the libraries through the dedicated platform; the reservation also includes self-certification for access to the Sapienza offices and no other entrance ticket is required.

**Library booking**

Other activities (exams, internships / laboratory activities, appointment with a teacher, secretariat, services, etc.): the students who need to access the Sapienza offices for reasons other than lectures or library reading rooms must fill out the online form, to be presented at access points together with an e-mail or proof of confirmation of having obtained an appointment.

**Access form**

On this page, you can find all the necessary measures to access Sapienza safely and combat the COVID-19 pandemic. **From September 1, 2021, EU Digital Covid Certificate-Green pass (OR non-EU equivalent. Please read the following file for full details on vaccines accepted by the Italian Ministry of Health) is mandatory for university staff, students, visitors and anyone who enters the university premises.** For general rules and advice please click on "Coronavirus, advice for the Sapienza Community"
Enjoy your master