

UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II

SCUOLA POLITECNICA E DELLE SCIENZE DI BASE

DIPARTIMENTO DI INGEGNERIA ELETTRICA E DELLE TECNOLOGIE
DELL'INFORMAZIONE (DIETI)



STUDENT'S GUIDE

Master's Degree (2nd Cycle Degree) in Data Science

Degree Maste Program – LM-DATA

Academic Year 2026/2027

Vers. 2.0

LAST UPDATE: 21/09/2026

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A Quick Guide to the Programme

The Programme at a Glance

The Master's Degree (Laurea Magistrale) in Data Science (LMDS) of the University of Naples Federico II trains a new generation of highly skilled professionals in data analysis, statistical learning, machine learning and Artificial Intelligence. The programme belongs to the Data Science class (LM-DATA), is run by the Department of Electrical Engineering and Information Technology (DIETI) — a Ministry-recognized “Department of Excellence” for 2023-2027 — and is entirely taught in English.

Data Science rests on three pillars — statistics, computer science and domain knowledge — so the programme combines a solid methodological core with up-to-date technical skills. The first year (60 CFU) is common to all students and covers the mathematical, statistical and algorithmic foundations of Data Science, together with the hardware/software infrastructure for big data and the ethical and legal issues raised by AI. The second year (60 CFU) lets students specialize in one of four curricula, each further organized in thematic paths, and includes a compulsory internship/project and the preparation of an original final dissertation, discussed in English.

Foreign students who are not native Italian speakers may use part of their “Other Activities” credits to learn Italian at the University Language Centre (CLA).

Job Opportunities

Graduates can take on high-responsibility roles in the service sector and public administration (design and management of innovative, data-driven online, mobile and social-network services); in industry and business (managing projects and proposing data-driven solutions at the operational, tactical and strategic decision-making levels); and in science, technology, biology and healthcare, supporting domain specialists in data management, processing, analysis and modelling.

Typical positions include data analyst, data scientist, data manager, heads of units for data-driven decision support, and technical roles in the analysis of physical, chemical, biological, health and other scientific-technological data, within companies of any size, IT consulting firms, research centres, public and private administrations, or as freelance professionals. Data science is consistently ranked among the most in-demand professions worldwide, and DIETI's Department-of-Excellence status further strengthens the programme's ties with the job market.

Admission to the Programme and Prerequisites

Admission requires a Bachelor's degree (or an equivalent three-year foreign qualification). Applicants must also hold specific curricular requirements: at least 36 CFU in the scientific-disciplinary sectors MATH, PHYS, SECS, IINF-05/A and INFO-01/A, of which at least 6 CFU in a SECS sector and at least 6 CFU in IINF-05/A or INFO-01/A. Adequate personal preparation in Mathematics (calculus, linear algebra, probability and statistical inference) and Computer Science (programming in a high-level language, computer architecture, algorithms and data structures) is also required, together with a B2-level (or higher) English certificate. Foreign applicants also need a Bachelor's CGPA of at least 7.5/10.

Graduates of UNINA Bachelor's programmes in Mathematics, Physics, Engineering or Chemistry are admitted with no further checks; other applicants are evaluated by the Teaching Coordination Committee (CCD) on their transcript of records. Italian students enroll through the “SegrePass” portal (<https://www.segrepass1.unina.it/Welcome.do>). Foreign students must apply through the “Universitaly” portal (<https://www.universitaly.it>), the single entry point to the Italian university system, uploading passport, transcripts, an international English certificate (B2+), a CV and a motivation letter; applications are evaluated by the programme's Admission Committee.

Full, up-to-date instructions are published on the Degree Programme website in “How to enrol” (<https://data-science.dieti.unina.it/index.php/studying-with-us/information-to-apply>) and “Information for foreign students” sections (<https://data-science.dieti.unina.it/index.php/studying-with-us/info-for-foreign-students>).

Study Plan

The programme comprises 120 CFU over two years. The first year (60 CFU) is common to all students. In the second year (60 CFU), each student selects one of four curricula and, where applicable, one of the study paths defined in the Manifesto degli Studi. Each path includes 18 CFU of curricular courses, consisting of one 12-CFU course and one 6-CFU course. The remaining credits comprise 12 CFU of free-choice courses, 6 CFU of Other Knowledge, 8 CFU for an internship/stage or project, and 16 CFU for the final examination.

First Year (common to all curricula) — 60 CFU

1st semester

- **Mathematical Methods for Data Science** — 6 CFU (MAT/08; MATH-05/A).
- **Statistical Learning & Data Analysis** — 12 CFU (SECS-S/01; STAT-01/A).
- **Fundamentals of Programming & Data Management** — 12 CFU (ING-INF/05; IINF-05/A).

2nd semester

- **Hardware and Software for Big Data** — 12 CFU (ING-INF/05; IINF-05/A).
- **Data Mining & Machine Learning** — 12 CFU (SECS-S/01 and INF/01; STAT-01/A and INFO-01/A).
- **Theory and Ethics of Big Data and AI** — 6 CFU (M-FIL/03; PHIL-03/A).

Second Year — 60 CFU

Students complete the 18 curricular CFU associated with one of the curricula and study paths listed below. The 12-CFU and 6-CFU courses shown for each PdS form one curricular combination and must be selected together.

Curriculum Fundamental Sciences

Referenti: Prof. Giuseppe Longo (Department of Physics) and Prof. Roberta Siciliano (DIETI). This curriculum comprises three study paths; students select one:

- **Physics inspired Methodologies:** Advanced Statistical Learning and Modeling (12 CFU) + Physics Informed Machine Learning (6 CFU).
- **Mathematical Methodologies:** Algorithms and Parallel Computing and Computational Complexity (12 CFU) + Operational Research (6 CFU).
- **Life Sciences:** Biochemistry and Computational Biochemistry (12 CFU) + Cell and Molecular Biology (6 CFU).

Curriculum Information Technologies

Referente: Prof. Vincenzo Moscato (DIETI). This curriculum comprises five study paths; students select one:

- **Text and Speech Processing:** Information Retrieval and Text Mining (12 CFU) + Speech Processing (6 CFU).
- **Signal and Video Processing:** Information Theory and Signals Theory (12 CFU) + Image and Video Processing for Autonomous Driving (6 CFU).
- **Robotics and Statistics:** Robotics (12 CFU) + Advanced Statistical Learning (6 CFU).
- **Industrial Applications:** Advanced Statistical Learning and Modeling (12 CFU) + Statistical Methods for Industrial Process Monitoring (6 CFU).

- **Design and Security of AI Systems:** Algorithm Design and Methods of AI (12 CFU) + Data Security (6 CFU).

Curriculum Public Administration, Economy and Management

Organized in collaboration with the Department of Economics and Statistics (DISES). Referente: Prof. Antonio D'Ambrosio (DISES). This curriculum comprises one study path:

- Computational Statistical Inference and Categorical Data Analysis (12 CFU) + Financial Time Series Analysis (6 CFU).

Curriculum Intelligent Systems

Referente: Prof. Giovanni Acampora (Department of Physics "Ettore Pancini"). This curriculum comprises one study path:

- Quantum Computation and Computational Intelligence (12 CFU) + Generative Artificial Intelligence (6 CFU).

Activities common to all curricula

- **Free-choice courses (a scelta autonoma dello studente)** — 12 CFU — either two 6-CFU courses or one 12-CFU course. The courses listed in Table 2 of the Manifesto are automatically approved.
- **Other Knowledge (Ulteriori conoscenze)** — 6 CFU — awarded to international students upon obtaining an Italian-language certificate through the University Language Centre (CLA), or to Italian students for approved technical skills acquired outside the programme, such as seminars, conferences or tutoring activities.
- **Internship / Stage or Project** — 8 CFU — carried out either within a University research laboratory (intramural) or at a company, research centre, public body or private organisation in Italy or abroad (extramural), under appropriate supervision.
- **Final Examination (Prova finale)** — 16 CFU — discussion of an original dissertation, written and presented in English.

The complete, officially approved study plan for A.Y. 2026/2027, including course codes, semesters, scientific-disciplinary sectors and the full list of automatically approved free-choice courses, is available on [https://data-science.dieti.unina.it/images/Documents/Manifesto FINALE Data Science LM 26-27 1 en-US.pdf](https://data-science.dieti.unina.it/images/Documents/Manifesto_FINALE_Data_Science_LM_26-27_1_en-US.pdf).

Additional Study Plan Information

Students must always refer to the Manifesto degli Studi approved for the academic year in which they enrolled. Compulsory and restricted-choice courses do not normally change from year to year unless the Regulations are revised; what may change is the list of suggested free-choice courses.

The choice of curriculum (and, where applicable, of thematic path) is expressed by regularly registering the corresponding exams; a preventive study plan is not required if the free-choice CFU are obtained exclusively among the courses suggested for the chosen curriculum. If a student instead wishes to use (in whole or in part) the 12 free-choice CFU for courses not included in the suggested lists, an individual study plan must be submitted to the Coordinator of the Degree Programme (cdsm.datascience@unina.it) before the exam is taken, so that the Teaching Coordination Committee (CCD) can verify its consistency with the educational project. In the absence of a submitted study plan, the Student Administration Office will validate only the courses foreseen for the chosen curriculum.

Students who, on the basis of a project agreed with the internship host, prefer a single, more substantial experience may opt for the “extended internship” pathway (22 CFU, about 550 hours) in place of the standard 8-CFU internship plus 16-CFU thesis; in this case the final examination consists in the discussion of the results of that extended internship. Details are available on the programme's Thesis/Internship page.

Customizing the Study Plan

Pursuant to Art. 9, paragraph 5, of the Didactic Regulations, a student with well-founded reasons may request an individual study plan that also includes training activities different from those listed above, provided they are consistent with the Degree Programme's educational project for the year of enrolment. The request is submitted to, and approved by, the Teaching Coordination Committee (CCD).

Requests and questions on study-plan customization should be addressed to the Degree Programme's mailbox: cdsm.datascience@unina.it.

Traineeship Opportunities

An 8-CFU internship/project (or, alternatively, a 22-CFU extended internship replacing the standard internship-plus-thesis path — see above) can be carried out at companies, research institutes or public bodies (extramural) or within University laboratories (intramural), normally in the second semester of the second year. A formal agreement between the University and the host institution is required; for institutions with no existing agreement, the Degree Programme Coordinator must be notified in advance so that the agreement can be signed (the process typically requires 20-30 days).

Detailed procedures, agreement templates and the activity booklet are available on the dedicated section related to “Thesis and Internship” (<https://data-science.dieti.unina.it/index.php/studying-with-us/thesis-intership>). The Internship Coordinator is Prof. Silvia Rossi (DIETI).

Graduation Thesis and Exam

The final examination consists of the discussion, in English, of an original dissertation presenting the results of work carried out in a University laboratory, a company, a research organisation or a Public Administration; a committee of 7 CCD members evaluates the work. Students cannot start the graduation procedure before completing all but three of the required exams; the dissertation must be prepared using a template provided by the Degree Programme and be uploaded at least 15 days before the graduation session, together with the online graduation request and payment of the graduation fee.

The graduation calendar and all procedures are published on the “Thesis and Internship” section and it is also available on the website of the Polytechnic and Basic Sciences School (<https://www.scuolapsb.unina.it/>).

International Exchange Programmes (Erasmus Programme)

Erasmus+ is the European Union's mobility programme, allowing students to spend a study period at a partner foreign university with an EU grant, following courses, taking exams and using local facilities without paying additional tuition; activities carried out abroad are recognised, in terms of both credits and grades, by Federico II. Students may also apply to Erasmus Italiano, the national inter-university mobility programme, to spend a period at another Italian university, attend courses and develop part of their thesis in a different academic environment.

The Erasmus Referente of the Degree Programme is Prof. Roberta Siciliano. Interested students should discuss the available agreements and the compatibility of foreign courses with their study plan with the Referente well before applying.

Calls, deadlines and further information: “Erasmus and national mobility for Data Science students” section (<https://data-science.dieti.unina.it/index.php/13-useful-information-for-the-students/88-erasmus-italiano-national-mobility-opportunities-for-data-science-students>) or visit the unina web site dedicated page <https://www.unina.it/it/servizi-e-opportunita/opportunita-e-iniziativa/erasmus/mobilita-per-studio> .

Special Educational Paths

Besides the four curricula described above, no further ad-hoc special paths are currently active. Pursuant to Art. 9 of the Didactic Regulations, contract-based enrolment (“iscrizione a contratto”) remains possible according to the general rules established by the University.

Orientation and Tutoring

Orientation to Incoming Students

The Degree Programme takes part in DIETI's orientation initiatives for prospective students — Open Days, presentations of the department “in numbers”, PCTO (school-university pathways) and dedicated advice for prospective students — organised in coordination with the other DIETI programmes and the University's central orientation services.

Information for prospective students and the initiatives calendar: “DIETI Orientation” (<https://www.dieti.unina.it/index.php/it/studenti/orientamento-2>) and the programme's own “Why Federico II” (<https://data-science.dieti.unina.it/index.php/studying-with-us/why-federico-ii>) and [FAQ](#) pages (<https://data-science.dieti.unina.it/index.php/studying-with-us/faq>).

Tutoring and Counseling

Enrolled students are supported through individual academic advising (Student Advising Coordinator: Prof. Roberta Siciliano) and a tutoring service coordinated by Prof. Silvia Rossi, aimed at guiding students through their studies and removing obstacles to attendance and learning. Enrichment activities — lectures, seminars, and simulated interviews with data-science professionals — can complement the curricular teaching and are announced on the Degree Programme website.

Seminars and Lectures will be available <https://data-science.dieti.unina.it/index.php/courses/extracurricular-activities/seminars-and-tutorials>.

Career Orientation and Job Placement

The Degree Programme supports students' transition to the job market through the compulsory internship (see Study Plan), contacts with partner companies and research institutes, and participation in the University-wide UNINA Career Day. Job-market information and industry contacts are published on the Degree Programme's own pages.

Job opportunities and industry partners: <https://data-science.dieti.unina.it/index.php/job-opportunities/partners>.

Calendar of Educational Activities and Timeline

Application Timeline

Enrolment (immatricolazione) and re-enrolment for subsequent years normally take place, as a rule, from July to 31 October each year, according to the procedures published in the University's orientation web site <https://www.orientamento.unina.it/>.

For the Data Science programme, first-year lectures for A.Y. 2026/2027 start on 15 July 2026. Late enrolments are in any case accepted up to the University's general deadline (end of March), although enrolling after the start of lectures makes it harder to keep up with courses taught in two integrated modules across the two semesters.

Further deadlines (curriculum/free-choice communication, Erasmus Italiano applications — 30 June each year — etc.) are announced on the Degree Programme website in the “Data Science — Studying with us” section (<https://data-science.dieti.unina.it/index.php/studying-with-us/information-to-apply>).

Academic Calendar: Courses and Exams

The general calendar of teaching and examination periods for all Degree Programmes of the Scuola Politecnica e delle Scienze di Base (Collegio di Ingegneria) is set by the School and published, together with the guaranteed number of ordinary and make-up exam sessions each year, on the School's website.

Detailed, continuously updated calendar is on the dedicated section of Scuola Politecnica e delle Scienze di base web site (<https://www.scuolapsb.unina.it/calendario-delle-attivita-didattiche/>). Exam schedules for the Data Science programme are available on the “first-year exam schedule” section (<https://data-science.dieti.unina.it/index.php/studying-with-us/timeschedule/first-year>) and on the “second-year exam schedule” section (<https://data-science.dieti.unina.it/index.php/studying-with-us/timeschedule/ii-year>).

Course Timetable

Lessons are held in presence at the DIETI premises, on a single teaching schedule (no parallel channels) common to all curricula for shared courses.

All details about updated timetable are available on the Easy Academy platform www.easyacademy.unina.it.

Graduation Dates

Graduation sessions are scheduled several times a year according to the calendar published at the start of each academic year on the website of the Polytechnic and Basic Sciences School.

Contact Persons

Academic Contacts

- **Coordinatore del Corso D/ Degree Programme Coordinator:**
 - Prof. Vincenzo Moscato
 - Email: vincenzo.moscato@unina.it
 - Web Site: www.docenti.unina.it/vincenzo.moscato
 - Telephone: +39 0817683835
- **Casella di posta della Commissione Didattica / Teaching Committee mailbox:**
 - cdsm.datascience@unina.it

- **Referente per il Programma ERASMUS / Erasmus Referente:**
 - Prof. Roberta Siciliano
 - Email: roberta.siciliano@unina.it
 - Web Site: www.docenti.unina.it/vincenzo.moscato
 - Telephone: +39 081675120
- **Responsabile per i Tirocini / Internship Coordinator:**
 - Prof. Silvia Rossi
 - Email: sivlia.rossi@unina.it
 - Web Site: www.docenti.unina.it/silvia.rossi
 - Telephone: +39 081679963
- **Coordinatrice Orientamento e Tutorato in itinere / Student Advising Coordinator:**
 - Prof. Roberta Siciliano
 - Email: roberta.siciliano@unina.it
 - Web Site: www.docenti.unina.it/vincenzo.moscato
 - Telephone: +39 081675120
- **Coordinatrice Orari ed Esami / Coordinator for Timetables and Exam Sessions:**
 - Prof. Flora Amato
 - Email: flora.amato@unina.it
 - Web Site: www.docenti.unina.it/flora.amato
 - Telephone: +39 081675120
- **Coordinatrice Servizi di Tutorato / Tutoring Services Coordinator:**
 - Prof. Silvia Rossi
 - Email: sivlia.rossi@unina.it
 - Web Site: www.docenti.unina.it/silvia.rossi
 - Telephone: +39 7683851
- **Rappresentante degli Studenti / Student Representative:** Daniele Cavuto

Commissioni del Corso di Studio — Degree Programme Committees

- **Commissione Ammissione (studenti privi dei requisiti curricolari) / Admission Committee:** Proff. Anna Corazza, Giancarlo Sperli, Giuseppe Longo
- **Commissione Piani di Studio e Affari Studenteschi / Study Plans and Student Affairs Committee:** Proff. Antonio D'Ambrosio, Giuseppe Longo, Silvia Rossi, Roberta Siciliano
- **Commissione Sito Web e Social Media / Website and Social Media Committee:** Proff. Mario Barbareschi, Emiliano del Gobbo, Francesco Cutugno
- **Commissione Tesi e Tirocini / Thesis and Internship Management Committee:** Proff. Salvatore Cuomo, Silvia Rossi, Roberta Siciliano, Giancarlo Sperli
- **Commissione Valutazione e Progettazione Minor / Minor Programs Evaluation and Design Committee:** Prof. Giancarlo Sperli (referente DIETI)
- **Commissione Riconoscimento Crediti da Altre Attività Formative / Credit Recognition Committee:** Proff. Antonio D'Ambrosio, Giuseppe Longo, Silvia Rossi, Roberta Siciliano
- **Commissione Orientamento Studenti / Student Advising Committee:** Proff. Flora Amato, Roberta Siciliano, Giancarlo Sperli, Giulia Vannacci
- **Gruppo di Riesame (GRIE) / Program Review Committee:** Docenti: Proff. Mario Barbareschi, Silvia Rossi, Emiliano del Gobbo, Vincenzo Moscato, Giancarlo Sperli; Personale/Postdoc: Dott. Marino Mirabile; Rappresentante degli Studenti: Daniele Cavuto

- **Segretario del Corsi di Studi / Secretary of the Coordination Committee:** Prof. Flora Amato.

Segreterie e servizi — Student Administration Offices and Services

- **Segreteria Didattica DIETI / DIETI Teaching Office:** uff.didattica.dieti@unina.it
- **Ufficio Servizi per gli studenti con disabilità e con DSA / Services for students with special needs and specific learning disabilities:** “SInAPSi — Centro di Ateneo per l'Inclusione Attiva e Partecipata degli Studenti” (https://www.sinapsi.unina.it/home_sinapsi)

Sportello di Orientamento — Student Advising Office

- **Sede / Location:** Piazzale Tecchio, 80 — 80125 Napoli
- **Telefono / Phone:** +39 081 7682646
- **Fax:** +39 081 7682206
- **Email:** ingegneria.orienta@unina.it

Sites and Links

- **Sede / Site:** DIETI — Via Claudio 21, 80125 Napoli
- **Dipartimento / Department:** Dipartimento di Ingegneria Elettrica e delle Tecnologie dell'Informazione (DIETI)
- **Scuola / School:** Scuola Politecnica e delle Scienze di Base

Sito web del Corso di Studio / Degree Programme website: data-science.dieti.unina.it

Sito web del Dipartimento / Department website: dieti.unina.it

Sito web della Scuola / School website: scuolapsb.unina.it

Sito web di Ateneo / University website: unina.it

Portale Orientamento / Orientation website: orientamento.unina.it

Scheda del Corso di Studio (D03) / Programme record: corsi.unina.it/D03

Canali Social ufficiali / Social networks: <https://www.linkedin.com/company/data-science-unina>

Course Descriptions

The content and objectives of each course, together with the name of the instructor and the assessment methods, are published in the individual course sheets (Schede degli Insegnamenti), which are kept up to date directly by each instructor and are therefore not reproduced in full in this guide.

Course sheets and instructors' pages can be consulted at: docenti.unina.it (staff directory and course pages) and on the course-specific pages of the Degree Programme website, data-science.dieti.unina.it.