

Regulation

Bachelor's Degree in *Data Analytics*
Class L-41Statistics (DM 270 of 22/10/2004).

a.y. 2025/2026

ART. 1 – OBJECT AND PURPOSE OF THE REGULATIONS

1. These regulations govern the didactic and organisational aspects of the Bachelor's Degree Programme in Data Analytics in compliance with the requirements contained in the University Teaching Regulations.
2. The degree course in Data Analytics falls under the Class of Bachelor's Degrees in Statistics L-41.
3. Starting from the academic year 2023-24, the degree course in Data Analytics has a limited number of students, with a maximum number of students enrolled in the first year, equal to 150 students. The methods of access are reported in **Annex 7**.
4. The teaching activities of the Degree Course in Data Analytics are organized and managed by the Data Analytics Degree Course Council (CCS).
5. The teaching activities of the Degree Course in Data Analytics relating to the international path aimed at the achievement of the double degree are managed by the Extended Data Analytics Degree Course Council (CCSA).
6. The Degree Course will also be assisted by a Steering Committee, established on 12/1/2018 and made up of representatives of the world of work and social partners which has an advisory role on the strategies to be implemented, for a continuous adaptation of the training course to the demands of the labor market.
7. The current educational system of the Degree Course in Data Analytics is reported in **Annex 1**, as shown on the ministerial website of the SUA-CdS Form in Section F of the Administration framework. The framework of the training activities and the planning of the courses for the reference cohort are reported in **Annex 2**, according to the scheme of the ministerial database of the SUA-CdS Form in the *Planned Educational Offer* section. Finally, the annual planning of the courses, as shown in the ministerial database of the SUA-CdS Form in the *Educational Offer Provided Section*, is reported in **Annex 3**.
8. The list of professors of reference for the Degree Course for the academic year 2023-2024 is shown in **Annex 4**.
9. The methods for converting the results obtained into exams taken by foreign university institutions are shown in **Annex 5**.
10. The Organization of the Course Council is specified in **Annex 6**.

The Annexes referred to form an integral part of this Regulation.

ART. 2 – SPECIFIC EDUCATIONAL OBJECTIVES OF THE DEGREE COURSE IN DATA ANALYTICS

1. The course of study aims to train "data analysts".

The course aims to provide skills in theoretical and computational mathematics, inferential statistics and exploratory analysis of data, including large ones, computer tools for the management of databases and programming elements, the use of modern software tools for data processing and techniques for communicating results.

It provides training in disciplinary areas related to the application domains of data analytics (social sciences, economics, psychology and bioinformatics) with optional courses.

The course promotes language skills, not only of English, the official language of the course, whose ability is a prerequisite for access, but also of other European languages.

The course also includes a period of internship and/or apprenticeship in companies, institutions and research centers.

The Degree Course in Data Analytics provides an international path aimed at obtaining the double degree in *Computer Science* with the Université Sorbonne Paris Nord (France) whose organization is specified in art. 3 of these regulations.

ART. 3 - INTERNATIONAL PATH FOR THE ACHIEVEMENT OF THE DOUBLE DEGREE

The Degree Course in Data Analytics provides an international path for the acquisition of the double degree:

- Degree in Data Analytics, issued by the University of Campania "Luigi Vanvitelli"
- *Licence (LMD) Mention Informatique* of the Department of Computer Science of the Institut Galilée, issued by the Université Sorbonne Paris Nord (France)

The international path is regulated on the basis of the principles expressed in the international cooperation agreement between the two universities, signed by the legal representatives, on 9/3/2018, was renewed on 5 April 2024 for the following three academic years (2024-25; 2025-26; 2026-27). The program aims *at a joint training path, aimed at a three-year degree with a double degree.*

The international course is coordinated by an enlarged Course Council, composed of the Presidents of the two Degree Courses and the professors belonging to the course of study in Data Analytics of the University of Campania "Luigi Vanvitelli" and two professors representing the professors belonging to the *Licence (LMD) Mention Informatique* of the *Université Sorbonne Paris Nord (formerly Université Paris 13)*.

Access to the international track takes place on the basis of an individual application by the student after obtaining the first 120 credits of their study curriculum.

The selection is made on the basis of progress and possibly an interview by a Commission appointed by the enlarged CCS.

The number of students who can access the international path each year is 5, based on the agreement between the universities.

In order to access the international pathway, students must be regularly enrolled in one of the degree courses referred to in Article 1 at their home university. To complement the double degree programme, interested students will need to have an excellent level of academic preparation, and:

- have obtained the first 120 credits of their curriculum, of which at least 90 credits in a disciplinary area of mathematics / statistics and computer science (70% of the credits acquired at the time of selection will be evaluated) and have at least a B2 level of knowledge of the English language, according to the Common European Framework of Reference for Language Skills;
- have been selected by the home institution for participation in this programme;
- have been selected by the admission committee of the degree course of the partner university.

The student's application must include certificates of the student's achievements, a curriculum vitae, and a letter of motivation. The number of applicants selected by the home institution may be higher than the number of places established, but each university is sovereign in the decision to accept and select applicants. The nomination and selection of candidates will take place between March and June for admission to the partner university's training programme. Applicants will be informed through the posting on the department's website of the results of admission to this program by the end of June.

Students who opt for the international track will have to follow the third-year study program shown in the table (international track study plan – attachment 3) and approved by the two universities on the basis of the operating agreement, respectively of the *Licence en Informatique* at the Université Sorbonne Paris Nord and the CdL in Data Analytics of the University of Campania "Luigi Vanvitelli".

Conversion tables for the recognition of exams for the purpose of obtaining the double degree are also available.

The double degree agreement signed by both partner institutions, with a three-year duration from the academic year 2024-25, will be renegotiated in the academic year 2026-27, at least 6 months before expiry. In the event of changes in the system by one of the partners, the educational program will have to be rediscussed and possibly give rise to a modification of the agreement.

ART.4 - ORGANIZATION OF THE COURSE, EDUCATIONAL OBJECTIVES, ACQUISITION OF KNOWLEDGE

The teaching activities of the course are organized entirely in English: lectures, exercises, recommended texts, other teaching material and degree theses.

2. The training activities, including lectures, numerical and laboratory exercises, are designed and organized over the three-year period in order to allow the student to achieve the following objectives in succession:

- acquire basic statistical knowledge, probability and statistical inference;
- acquire knowledge of basic modeling and computational aspects of mathematics, together with skills in the application of numerical and optimization methods for Data Analytics;
- acquire statistical and computational techniques for the processing and analysis of data, even large ones, of complex data, from different sources and often unstructured; of high-frequency detection data (from sensors);
- acquire knowledge of statistical methodologies, data mining techniques and optimization techniques for the resolution of complex problems and for the prediction and monitoring of evolutionary phenomena in real contexts;
- acquire the ability to use statistical software and programming languages (Java, R, Python) and data manipulation (SQL);
- acquire knowledge of database management systems, also in distributed computing environments and in the cloud;
- acquire communication skills of analysis results through presentations and reports with the construction and use of explanatory graphic representations;
- acquire language skills (English and French).

The indicated knowledge and understanding are achieved by the student through:

- participation in the lessons held as part of the teaching courses;
- participation in exercises and laboratory activities;
- the activity of individual study;
- the in-depth study of some topics covered in the various teaching courses;
- individual or collegial discussions with teachers;
- participation in seminars, organized both as part of the teaching courses and as part of

- the seminar activities of the Department;
- the consultation of texts, including advanced ones, in English, on statistics, basic mathematics, computer science, economics.

The innovativeness of the course consists in providing, in addition to traditional courses:

- learning the main statistical and Data Mining software (open source such as R, Python), with exercises in laboratory computer scientist also with The intervention of trainers experts;
- the solution of practical problems and case studies on data extracted from company or institution databases;
- seminars by students, also in the form of autonomous proposals and tests.

The verification of the acquisition of knowledge and understanding skills usually takes place through the passing of the exams of the individual teaching courses, carried out both during the course (intermediate verification tests), and at its conclusion.

The graduate in Data Analytics is also trained, during the degree course, in the design and implementation of practical studies (data intensive), in companies in the Data Analytics sectors with internship periods.

The internship period is compulsory and will be carried out at institutions, companies or research centres with which special agreements have been stipulated. The internship must last 200 hours, to be carried out from 2 to 3 months, and must be compatible with the teaching calendar of the third year of studies.

The organization of the Data Analytics course is designed to meet the *Dublin indicators*, on the possibility of developing autonomous learning and knowledge processing skills.

3. The expected learning outcomes, expressed through the Dublin Descriptors, i.e. the European descriptors of the qualification, are:

a. Knowledge and understanding

Graduates in Data Analytics acquire adequate skills in the different areas of data analysis, basic and computational mathematics, mathematical methods for numerical calculation, operations research and financial analysis, statistics, data and probability analysis, applied mathematics and computer science as well as an appropriate knowledge of modern specialized software tools for data management and processing.

In the Basic and Computational Mathematics Learning Area, the expected results are:

- knowledge of the basic tools of mathematical analysis;
- knowledge of the basic tools of linear algebra (matrices and linear systems). In the Learning Area of Statistics, the expected results are:
- knowledge of the concepts of probability and statistical reasoning with particular regard to descriptive and inferential statistics techniques;
- knowledge of Data Analysis, Data Mining and Visualization techniques;
- knowledge of Statistical and Machine learning tools;
- knowledge of the basic elements for the use of statistical software.

In particular, in the Learning Area of Computer Science and Applied Mathematics, the expected results are:

- basic knowledge of the methods of Numerical Calculus;
- basic knowledge of operational research models;
- knowledge of mathematical tools for economic-financial applications;
- basic knowledge of Probability Calculus;
- knowledge of programming principles and open source software;
- knowledge of information systems management tools;
- knowledge of the basic elements for the use of statistical and mathematical software;
- knowledge of the tools for the full understanding of quantitative models;
- basic knowledge of discrete simulation models and their application for the analysis of processing and communication systems;
- basic knowledge of tools for the processing of biomedical data, hints on information systems and basic techniques for the analysis of data from the biological and biomedical fields.

The learning objectives of knowledge are pursued in the training project of the Degree Course in Data Analytics, through:

- participation in the lessons held as part of the teaching courses, in English;
- the activity of individual study on texts and teaching materials in English;
- the in-depth study of some topics covered in the various teaching courses with teaching material, which in this specific case, is all in English;
- individual or collegial discussions with teachers;
- participation in exercises;
- participation in laboratory activities provided for by the majority of teaching courses;
- participation in seminars both organized as part of the courses and organized as part of the seminar activities of the Department.

The assessment of the acquisition of knowledge and understanding skills usually takes place through the passing of the intermediate verification tests (carried out during the course of the course) and the examination tests of the individual teaching courses. Further tests are carried out through exercises and practical laboratory activities.

b. Applying knowledge and understanding

The Degree Course in Data Analytics is designed to respond to the growing demand for graduates with an interdisciplinary culture able to understand the organizational needs of institutions and companies, in which they will operate, and to respond to them with information management skills to support decisions.

Graduates in Data Analytics, having acquired a basis in mathematics, statistics, data analysis and computer science suitable for a theoretical preparation of reference, will then be able to apply specific knowledge and understanding skills to a professional approach to work in the following fields of study:

- applications in economic and social contexts of statistical methodologies, Data Mining and optimization techniques for the resolution of complex problems and for the analysis of official statistics;
- in the environmental field, application of static and computational techniques for the processing and analysis of data, generally large, from different sources, often unstructured, and data with high detection frequency (from sensors);
- in the field of marketing, applications of machine learning techniques for the analysis of

relational Big Data from the internet and knowledge of Social Network Analysis, for customer profiling;

- in the economic and financial field, knowledge and application of techniques for forecasting and monitoring evolutionary phenomena (financial series; economic indicators), as well as risk analysis techniques as well as behavioral finance;
- in the bio-informatics and bio-statistics field, knowledge and applications of experimental statistics, statistical learning and machine learning tools for the analysis of clinical and biomedical data;
- in the engineering field, knowledge of methodologies for the control of the quality of processes and system reliability.

Since this is a three-year degree course, the theoretical knowledge in the various application areas will be completed by the fundamentals of economics and finance, the methodologies and applications of statistics, the physics of complex systems and the methodology of social research. Greater skills will be in the application field, through the use of specialized software and the learning of programming languages (Java, R, Python) and data manipulation (SQL), as well as the verification of case studies.

The ability to apply knowledge and understanding will be demonstrated by students during internship and internship experiences.

Among the additional skills of Data Analytics graduates there is also the deepening of the English language, and the learning of technical language, which represents a competitive advantage for those students who intend to continue their training with a Master's Degree or Master's Degree in Data Science (in English) in Italy or abroad. As well as being able to access job positions in foreign companies or institutions.

c. Making judgements

Graduates in Data Analytics will develop adequate skills and autonomy of judgment, in particular:

- in the knowledge of mathematical methods and models for the study and solution of theoretical, computational and optimization problems;
- in the application of statistical methods and data analysis and data mining models for information synthesis and knowledge extraction;
- in the use of software tools for data processing;
- in the ability to identify, extract and autonomously process information useful to support decisions in various areas and in the ability to communicate results.

The acquisition of autonomy of judgment is favored by the didactic approach of the entire course of study, which combines theoretical training, applications, practical exercises, individual and group, laboratory activities, offering the student opportunities to independently develop his decision-making and judgment skills.

The acquisition of this ability is guaranteed by the didactic organization of the majority of the courses that reserve a portion of the course for numerical exercises in the classroom and practical laboratory activities, during which the student can demonstrate autonomy and ability in the use of calculation tools and programs (R, Python...).

Graduates are also trained, during the degree course, in the design and implementation of practical

studies (data intensive), in companies in the Data Analytics sectors, public or private bodies, or research laboratories, during the internship period.

In addition to the tests and exams of the various courses, the presentation of the degree paper, to be carried out under the guidance of a tutor, completes the training course also with regard to the development of skills in analyzing and processing information and data in an autonomous and critical way.

The degree exam allows you to evaluate the autonomy of judgment achieved by the student.

d. Communication skills

Thanks to the peculiar rigor of the training of the future "data analyst" and to a remarkable ductility and flexibility of the knowledge acquired, the graduate in Data Analytics is able to effectively communicate the results of his analyses. In addition, the knowledge acquired and coming from different disciplinary areas allows the graduate to have a broad and analytical vision of the tools for the management, processing and presentation of data results, with a strongly interdisciplinary and integrated vision of skills. In addition to technical training, graduates are also trained in the use of these tools in various fields: economic-financial, social, demographic, bio-medical, environmental and energy. Since the degree course is entirely taught in English, graduates will be able to express themselves in a foreign language, even with a technical language, in the context of professional activities and relationships.

Finally, the graduate in Data Analytics is able to dialogue with experts from other disciplines, domain experts, providing an active contribution in the development of models, in situations of application interest.

The skills listed above are achieved by the Data Analytics student through constant interaction with the teachers and with the other students during the course of the courses. The development of communication skills, both in written and oral form, is stimulated and verified through individual or group work on projects proposed during the lessons, both in the classroom and in the laboratory, and through the involvement of students in seminar activities on topics related to the programs of the individual courses. The internship period in institutions and companies will be essential for the graduate in perfecting their communication and teamwork skills according to their specific skills.

The final thesis, which can be linked to the work carried out during the internship on real data, can represent a further moment of verification of the communication skills acquired during the degree course.

e. Learning skills

Each student is offered the tools to develop learning skills that are necessary for them to undertake further studies with a high degree of autonomy.

In particular, in addition to the lectures, teaching material will be provided, which in the specific case of the course of study in Data Analytics is in English. In addition, the student is given the opportunity to interact with the professors, both during office hours and by using the University's online platform, through which, in addition to finding course material including exercises and case studies, the student will be able to communicate directly with the teacher according to methods established by the same, but which are in any case more direct contact and guarantee greater speed in responses.

The learning of the main statistical and Data Mining software (open source such as R, Python) is planned with exercises in the computer laboratory, also with the intervention of expert trainers; the solution of practical problems and case studies on data extracted from company databases; seminars by students in the form of autonomous proposals and tests. The verification tests provided where provided for in the teaching courses, as well as the preparation of the final thesis which normally requires the student to personally deepen topics not covered during the courses or during the internship period, offer the student the opportunity to verify and continuously improve his or her learning ability.

ART. 5 – EMPLOYMENT AND PROFESSIONAL OPPORTUNITIES FOR GRADUATES IN DATA ANALYTICS

Graduates in Data Analytics can aspire to immediate employment in companies, public and private bodies. In particular, in:

- National and international institutes that produce and manage official statistics and statistical information (ISTAT, Eurostat, INPS, ...)
- Production and trading companies; E-commerce
- Media and communication companies
- IT tool design and development company
- Pharmaceutical and telecommunications industries
- Logistics & Transportation Industries
- Insurance, Banking and Financial Institutions
- Health and health prevention companies
- Consulting and market research companies
- Public and private research institutions
- Study centres and monitoring and control bodies for energy and the environment
- Public bodies

The training acquired during the Bachelor's Degree Course can also be deepened and made more specialized through the continuation of the course of study with a Master's Degree. The skills gained in the three-year degree course in Data Analytics will be able to find adequate deepening through access to a course of study consistent with the initial training, offered by the Master's Degree course in Data Science, present in the University's educational offer from the academic year 2022-23, or offered by other universities in Campania and Italy. The Degree Course in Data Analytics also provides suitable preparation and, only in part, to be integrated with educational debts, for access to the LM in Statistical Sciences and to the LM in Actuarial and Financial Statistical Sciences present at other universities in Campania.

Finally, graduates could aspire to deepen their training in Data Analytics abroad, obtaining a Master's Degree course (Certificate) at prestigious European and American universities, such as, for example, in Europe, the Master in "Exploration informatique des données et décisionnel" (Master / Certificate) at the Université Sorbonne Paris Nord, also as a continuation of the international course of study.

The course prepares for the profession of (ISTAT coding):

1. Statistical Technicians - (3.1.1.3.0)
2. Information Acquisition Engineers - (3.3.1.3.1)
3. Professional interviewers and surveyors - (3.3.1.3.2)

ART. 6 – ADMISSION TO THE DEGREE COURSE IN DATA ANALYTICS

The qualifications eligible for access to the Degree Course in Data Analytics are secondary school diplomas and equivalent qualifications obtained in Italy or abroad. For high school diplomas obtained in foreign or non-European countries, a Declaration of Value is required, issued by the Italian embassy of the country where the qualification was obtained or a declaration issued by CIMEA.

Familiarity with the basic topics of algebra, geometry, introductory elements of probability and statistics and

hints of basic computer science, commonly present in the ministerial programs of secondary school, notions that are however taken up and then deepened in the basic teaching courses.

A preliminary test (entrance test) of this knowledge is planned. The TOLC-E in English, also accessible online, is administered by the CISIA Consortium. The English TOLC-E consists of multiple-choice questions on topics of basic mathematics, computer science, probability and basic statistics and notions of computer science, notions of economics and general culture and must be taken before enrolment.

The contents, terms and procedures for carrying out this test are published on the website of the Department (DMF) (www.matfis.unicampania.it).

From the academic year 2023-24, the result of the test has become binding for enrolment in the Degree Course in Data Analytics. Students who have passed the test in the early session of the knowledge verification tests for entry to scientific degree courses as part of the activities of the Scientific Degree Plan are exempt from further obligations.

Knowledge of the English language, at least with level B1, in the *Common European Framework of Reference for Languages* (CEFR) is required as a mandatory requirement for enrolment in the Degree Course.

In particular, for the verification of knowledge of the English language, in the absence of a certificate among those recognized internationally (e.g., ESOL, TOEFL, TIE), issued by a certified institute, a test and an interview with a University English teacher are required, before completing enrollment in the course of study, which verifies the level of language knowledge. which must be at least equivalent to level B1.

ART. 7 - TYPES OF TEACHING FORMS ADOPTED AND UNIVERSITY EDUCATIONAL CREDITS (CFU)

The teaching activity is divided into lectures, practical and/or numerical exercises, seminar activities, internship.

1. The educational activities envisaged in the Degree Programme provide for the acquisition by students of university training credits (CFU), in accordance with current legislation.
2. Each CFU corresponds to 25 hours of total student commitment.
3. The average amount of overall learning effort carried out in a year by a student engaged full-time in university studies is set at 60 credits.
4. The fraction of the total time commitment reserved for personal study or other individual training activities cannot be less than 50%, except in the case of training activities with a high experimental or practical content.
5. The standard load of a CFU includes a maximum of:
 - Lectures: 8 hours
 - Assisted laboratory activities with a high experimental content: 12 hours
 - Numerical exercises: 8 hours
 - individual internship or practical and thesis internship activity: 25 hours
 - The duration of each hour of face-to-face teaching from the academic year 2024-25 has been set at 50 minutes.
6. The credits corresponding to each training activity are acquired by the student after passing the exam or through another form of verification of the preparation or skills achieved. Any credits acquired in excess of the 180 credits provided for in the Statutory Study Plan, through the passing of additional exams (Art. 8, paragraph 4), remain recorded in the student's career and may give rise to subsequent recognitions in accordance with the regulations in force. The evaluations obtained in these additional exams are not included in the calculation of the average of the marks

of the exams.

ART. 8 – REGULAR STUDY PLAN

1. The Degree Programme in Data Analytics is set out in **Annexes 2 and 3**, which are an integral part of these Regulations. Annex 2 (**Planned Teaching Offer**) reports the names of the courses taught, the scientific-disciplinary sectors to which they belong, the number of credits assigned, and the distribution by year for the **2025/26** cohort. The Scheduled Teaching offer can be updated from year to year when planning the teaching activity provided. The **Educational Offer Provided** for the academic year **2025/26**, in accordance with the regulations of previous years, is reported, together with the framework of the exams, in **Annex 3**.
2. To obtain the Degree in Data Analytics, the acquisition of 180 credits in the scientific-disciplinary areas and sectors provided for in the Ordinamental Study Plan is required.
3. The Regular Study Plan is approved annually by the Department Council, on the proposal of the Course Council.
4. Students have the right to propose to the CCS, by 31 December of each year, an individual study plan, provided that it is consistent with the minimum contents indicated in the Academic Regulations of the Campus (**Annex 1**).
5. It is also possible to propose a plan that provides for the acquisition of additional credits compared to the minimum number (180 credits) indicated in the Teaching Regulations.

ART. 9 - OPTIONAL AND FREE CHOICE TEACHING ACTIVITIES

The Academic Regulations (cohort 2025-2026) provide for the student's choice of elective courses (Annex 3) in the second and third year of the course for a total of 30 credits (18 credits in the second year and 12 credits in the third year) among the exams activated in the respective academic year.

The Educational Regulations (starting from the academic year 2018/2019) provide for the acquisition of 12 credits of the type "educational activities independently chosen by the student", FREE.

For the acquisition of the educational credits of the free choice activities (FREE), the following possibilities are provided for students, among:

- a) elective courses taught as part of the degree courses in Physics and Mathematics of the University of Campania "Luigi Vanvitelli";
- b) courses offered in other Degree Courses of the University, not related to the Department of Mathematics and Physics of Campania "Luigi Vanvitelli". In this case, the cultural coherence and the weight in CFU of the courses must be assessed by the Course Council, during the analysis of the study plan;
- c) Cycles of seminars, also held by industry experts and stakeholders, on topics of in-depth study and application content, inherent to the training and skills transfer program, typical of the course of study in Data Analytics.

ART. 10 - ARTICULATION OF TEACHING ACTIVITIES

1. The teaching activities of the degree course are distributed, for each academic year, over two semesters.
2. Each semester also includes the periods dedicated to exams, the periods to be reserved for the verification of learning and the periods of academic vacation.
3. There are eighteen compulsory courses, and mainly last one semester. In addition to these, there are 5 elective courses (among 9 courses of 6 CFU, of which 4 have become compulsory for the academic year, 2025-26 and 2 elective) and two courses of free choice.
4. The official diary of the teaching activities of the degree course, in particular, the start and end dates of the semesters and the periods reserved for verification activities, are established annually by the Course Council and made public in the Study Manifesto.
5. Students regularly enrolled in the course can take the exams only in the periods indicated by the Course Council.
6. Repeating or off-course students can also take exams in periods not indicated in the official diary.

ART. 11 – PREREQUISITES

There are no binding prerequisites for taking the exams.

The choice of the order of exams to be taken is at the discretion of the student. However, to ensure a consistent path and limit any educational deficiencies in some areas, it is suggested to take the exams in the course according to the order of the courses provided for by semesters and take into consideration the following scheme:

To take the exam of:	It is recommended to have already taken:
Inferential Statistics	- Statistics - Probability theory
Advanced data analysis and visualization	- Statistics
Statistical Learning	- Statistics - Probability theory
Numerical methods for data analysis	- Analysis - Linear Algebra
Econometrics	- Economics
Data mining and big data	- Numerical methods for data analysis
Databases and Information Systems	- Fundamentals of computer science - Fundamentals of programming
Behavioural economics	- Economics
Advanced Scientific Computing: Numerical Methods	- Numerical methods for data analysis
Object oriented programming	- Fundamentals of computer science - Fundamentals of programming

ART. 12 – COURSE PROGRAMS

A detailed description of the courses taught, with an indication of the educational objectives, preliminary knowledge required, syllabus, recommended texts, methods of carrying out the final examination and office hours of the teachers, is published on 30 June of the year of the beginning of each academic year on the website of the Degree Programme, which can be reached through the University portal (www.matfis.unicampania.it).

ART. 13 - VERIFICATION OF LEARNING AND ACQUISITION OF ECTS CREDITS

Nineteen of the twenty courses include a final exam with a grade through which the student acquires the CFU. The evaluation of the exam is expressed in thirtieths with possible honors.

Attendance of courses is strongly recommended, especially laboratory activities.

The Examination Committees, with the indication of the President (or Co-Presidents) and the other members, are proposed annually by the Course Council according to the indications of the University teaching regulations, approved by the Department Council and made public by 30 June of the year of the beginning of each academic year.

In the exercise of its functions, the Examination Committee is made up of at least two members, one of whom is the President (or one of the Co-Chairs).

Each Examination Committee is responsible for carrying out the examinations for the entire academic year to which the appointment refers, including the winter session. After this deadline, the Commission lapses and is replaced in all functions by the Commission appointed for the following academic year.

The calendar of exams, containing information on the day, time and place of the individual exam sessions for the entire academic year, is prepared by the President of the CCS and made public by 30 June of the year of the beginning of each academic year, and available at the web address: https://esse3.unicampania.it/ListaAppelliOfferta.do?data_da=01/09/2024&data_a=31/03/2026&fac_id=10032&cds_id=10778&btnSubmit=1.

Any postponement of the exam sessions can be ordered, well in advance and for proven reasons, by the President of the Examination Committee, who informs the students and the President of the CCS. Under no circumstances may the date of an exam session be brought forward.

The exam can be oral, written, written and oral, and include a practical test to be carried out with a paper in the computer lab.

The other forms of assessment of progress can be carried out individually or in groups, without prejudice in this case to the recognition and evaluability of the individual contribution, and have as their objective the realization of specific projects, determined and assigned by the teacher in charge of the activity, or the participation in processing experiences with the use of software and communication of results.

The student has the right to know the evaluation criteria that led to the outcome of the exam, without prejudice to the unquestionability of the judgment of the Commission, as well as to view his or her own test, whether written or otherwise documented.

The exams of the integrated courses, which include exams for several coordinated modules, must be rigorously carried out in single, collegial and integrated sessions.

The exams involve an evaluation, expressed in thirtieths, reported on a special report. The exam is passed if the evaluation is equal to or greater than 18/30. In the event of a maximum grade (30/30), the commission may grant honors. The assessment of insufficiency is not accompanied by a vote.

In the case of written tests, the student is allowed to withdraw for the entire duration of the same. In the case of oral tests, the student is allowed to withdraw at least until the moment before the final assessment is recorded.

A repeat of an exam that has already been passed is not allowed.

Students in good standing with their administrative position will be able to take the exams in all scheduled sessions, in compliance with the prerequisites and any certificates of attendance.

Pursuant to Art. 24 of the UNIVERSITY TEACHING REGULATIONS [Issued by D.R. 840 of 09/09/2013 and amended by D.R. 1050 of 30/11/2023], students who have not obtained a sufficiency assessment are prohibited from repeating the test in the next session.

The President of the Examination Committee is required to verify that the student meets the requirements for admission to the exam and is also responsible for the correct compilation of the Examination Report. The registration is computerized and takes place through the ESSE3 system: <https://esse3.ceda.unicampania.it> guaranteed by the University's online services.

ART. 14 – ATTENDANCE

The student is required to attend all the compulsory teaching activities provided for in the Study Plan. Internship *or seminar activities attendance is always compulsory* and absences of more than 20% of their total duration are not allowed.

With a view to further enriching the educational offer and promoting the intellectual growth of students, the Department strongly promotes study stays abroad, at university institutions with which specific agreements are established (Erasmus agreements).

ART. 15 – INTERNSHIP PROCEDURES

In order to create moments of alternation between study and work and to facilitate professional choices through direct knowledge of the world of work, an internship/training internship lasting 200 hours (not less than 2 months, except for exceptions authorized by the CCdS) is planned for students enrolled in the third year of the course, on the basis of special agreements stipulated with institutions, research centers and companies.

Students enrolled in the third year of the course who have already obtained at least 140 credits can apply for internships. For students following the international course of study, the internship/internship period can also be achieved in France, according to the procedures provided for by the organization of the CdS of the French University and according to the provisions of the operating agreement.

The degree course guarantees the presence of a didactic-organizational reference professor of the activities and a tutor of the company or institution as responsible.

The reference professor is normally a professor belonging to the degree course and is identified by the student through a specific written request through the form prepared by the teaching secretariat (or online). The reference professor will also be the supervisor of the degree thesis.

The internship must be linked to the thesis activity, and include a practical activity on real data made available by the host institution or company.

The internship can also be carried out at the Department's laboratories or at any other research facility of the University. In each case, students are invited to plan the intern's activity well in advance in collaboration with the host institutions. This is in order to conclude the internship in the time necessary for the conclusion of the course of study with the drafting of a thesis work that can be represented by the internship report.

The list of active agreements is available at: <http://www.matfis.unicampania.it/didattica/tirocini>.

The evaluation of the internship activity is certified by the reference professor and makes the student acquire 8 credits. An insufficient evaluation requires an additional activity for the completion of the final thesis work, at the end of which the attribution of the 8 credits for the internship activity will be recognized, which will be added to the 4 credits provided for the final exam.

ART. 16 - CONDUCT OF THE FINAL EXAMINATION

The degree course ends with the presentation of a degree thesis in the form of a written paper written in English.

The thesis topic is assigned, upon request, to students enrolled in the third year of the course who have already obtained at least 140 credits. The thesis could be configured as the final report of the study/analysis and/or

research activity carried out during the internship period, under the supervision of a professor belonging to the Course Council (Supervisor) who was also tutor of the internship.

The supervisor may be joined as co-supervisors, on the proposal of the supervisor, by other professors of the CCdS or external experts, such as the company tutor or the institution where the student has carried out the internship.

The assignment and appointment of the supervisor and any co-supervisors are carried out by a Thesis Committee, set up on the proposal of the CCdS.

The thesis must be configured as a written report on a topic agreed with the supervisor or as an internship report supervised by the supervisor.

The final report must contain a description of the activity carried out, a reference to the procedures used and the results of the work, also in the form of graphs, tables, commented in detail. The activity may also have involved the application of mathematical, optimization and algorithmic procedures; the development of software procedures and the use of data management tools, applications in the economic, psychometric and biostatistical/bioinformatics fields.

The student will be able to take the final exam, after passing all the exams and tests provided for in the Study Plan.

During the graduation session, the graduating student must present his/her work through a presentation, preferably with the support of slides, in English.

The final examination is public and the final judgment is expressed by a Degree Examination Committee appointed by the Director of the Department on the proposal of the Thesis Commission and composed of at least five members. The following contribute to the final degree grade, expressed in one hundred and tenths:

- the weighted average of the marks obtained in the exams, expressed in one hundred and ten;
- the score awarded by the Degree Examination Committee, up to a maximum of:

10 points for those who carry out a thesis of innovative content. A score of 11 points can be proposed by the supervisor in the case of a thesis of particular importance and innovativeness conducted under the supervision of an external expert. The commission will unanimously have to express itself in favor of the attribution of a high score in the face of an exceptional recognition of the value of the thesis work.

If the total is greater than or equal to 110, the attribution of honours may be voted on, on the proposal of the supervisor, which must be approved unanimously by the Graduation Committee.

4 CFU are awarded to the degree exam.

ART. 17 - EVALUATION OF TEACHING ACTIVITIES

1. As required by the University Teaching Regulations, the Department prepares an annual report on the activities and teaching services of the individual Degree Courses, taking into account (a) the opinion expressed by students on the activity of the professors and the quality of the teaching organization, (b) the regularity of the students' careers, (c) the endowment of facilities and laboratories, (d) the data on the employment of graduates.
2. The CCS annually evaluates the Department's report on the quality of the teaching service and implements any interventions necessary to improve results.

ART. 18 - QUALITY ASSURANCE GROUP (QA)

The Council of the Degree Courses in Data Analytics will make use of forms of evaluation of the teaching activity, through the QA (Quality Activation) management group coordinated by the Quality Referent.

The group consists of:

Prof. Ferdinando Zullo - Referent and Coordinator of the
GAQ; Prof. Antonio Irpino – Member;
Prof. Fiammetta Marulli – Member;
Mr. Domenico Razzano – rapp. Students;
Dr. Carlo Petriccione – TA Staff – Teaching Area.

The QA management group operates in harmony with the strategic objectives established by the University in accordance with current regulations, evaluating the quality of teaching and related services and the results achieved by the Degree Programme.

It is the task of the Quality Referent assisted by the QA management group, to ensure that the self-assessment activities required by current legislation are regularly carried out and to ensure, together with the President of the Course Council, in supporting the compilation of the objectives set out in the annual monitoring form of the course of study. The reports of the meetings of the QA management group will be brought up for discussion in the meetings of the Course Council where actions aimed at resolving any critical issues highlighted or implementing improvement actions are identified.

ART. 19 - RECOGNITION OF CREDITS, STUDENT MOBILITY AND RECOGNITION OF STUDIES COMPLETED ABROAD

1. The Degree Programme Council (CCdS) may recognise in terms of university credits training activities carried out in previous careers, even if not completed or lapsed, at university institutions or equivalent, Italian or foreign, which have provided for a final assessment and judgment. In order to be recognized, the student must exhaustively document the training contents and the didactic articulation of the activities carried out, and the final judgment obtained.
2. In the recognition of previous training activities, the CCdS refers to the minimum contents for the disciplinary area indicated in the Educational Regulations of the Campus
3. If the activities for which recognition is requested were carried out more than five years earlier, the CCdS will assess the possible obsolescence of the training content and may request a supplementary interview or not grant recognition.
4. The non-recognition of credits must be adequately motivated.
5. With regard to the transfer of students from another course of study of the University of Campania "Luigi Vanvitelli" or of another University, the recognition of as many credits as possible is ensured, also possibly resorting to interviews to verify the knowledge possessed or additional knowledge required.
6. In the event that the transfer of the student is carried out from a Degree Programme belonging to the same Class (L-41 Statistics), the number of credits directly recognised for the same disciplinary sector is equal to 100% of the credits accrued. In the event that the course of origin is carried out remotely, the same criterion is applied only if the course of origin is accredited pursuant to the ministerial regulation referred to in Article 2, paragraph 148, of Decree-Law no. 262 of 3 October 2006, converted by Law no. 286 of 24 November 2006.
7. In relation to the number of credits recognized, pursuant to the previous paragraphs, the Course Council may shorten the duration of the course of study by admitting the student to one year following the first.
8. Where the recognition of credits is required for training activities carried out in Italian or foreign universities linked by exchange agreements, the CCS refers to the training plan prepared for

individual students by the Department Commission for International Relations.

9. The resolution to validate exams and other educational activities carried out in Italian or foreign universities must explicitly indicate the correspondence with the educational activities provided for in the student's Statutory or Individual Study Plan.
10. The Degree Programme Council assigns a mark out of thirty to recognised educational activities. If the original judgment is not expressed numerically, the CCS will carry out the conversion on the basis of the conversion tables reported in **Annex 5**, which is an integral part of these regulations.

ART. 20 - FULL-TIME AND PART-TIME STUDENTS, STUDENTS WHO ARE NOT ON TRACK WITH THE PRESCRIBED AND REPEATING STUDIES, INTERRUPTION OF STUDIES

1. Two types of training course are defined corresponding to different course durations: a) course with normal duration for students engaged full-time in university studies; b) slowed path, with a duration of 4, 5 or 6 years, for students who self-qualify as "not engaged full-time in university studies".
2. Unless otherwise chosen at the time of enrolment, the student is considered to be engaged full-time.
3. At the time of enrolment, or subsequently, the student can apply for access to a slow-down course that will be defined by the CCS on the basis of the experience gained in the first year of the course.
4. Enrolment in the following year of the programme is allowed to students regardless of the type of exams taken and the number of credits acquired, without prejudice to the possibility for the student to enrol as a repeating student.
5. Students who have not acquired a significant number of credits during the academic year can apply for enrolment as repeating students.
6. Students who have not completed their studies during the duration of their chosen training course (normal or slowed down) may be enrolled as "off-course" students.
7. With regard to the amounts of fees and contributions due by students admitted to a slowed, repeating or off-track course, and the permanence in the condition of student not on track with the prescribed time, the provisions contained in the University Teaching Regulations apply.

ART. 21 - COURSE COUNCIL

The Degree Course in Data Analytics is managed by the Data Analytics Course Council.

The Degree Programme Council is made up of the official professors of the Degree Course and student representatives in accordance with the provisions of the University Teaching Regulations. The Course Council has an operating regulation (Annex 6).

ART. 22 - AMENDMENTS TO THE DEGREE PROGRAMME REGULATIONS

1. Amendments to these Regulations may be proposed by the President of the Course Council or by at least one third of the members of the Council and must be approved with the favourable vote of the qualified majority of the members. For any other regulatory aspect not specifically considered in these Regulations, please refer to the Department Regulations and the University Regulations.
2. With the entry into force of any amendments to the University Regulations or to the

Department Regulations or other relevant provisions, the consistency of these Regulations will be verified and any revision will be made.

ART. 23 – RINVII

For anything not provided for in these regulations, please refer to the Department Regulations and the University Regulations.

**ANNEX 1 ACADEMIC REGULATIONS OF THE DEGREE COURSE IN DATA ANALYTICS 2024-25
(DELIVERED)**

1st Year (60 CFU) Reg. Didattico 2025/2026

Training Activity	ECTS	Sector	Hours Lez.	Hours Eser.	Ore Lab.	Ear att. Front.	Period	Teaching type	Exam Type	Lecturer	REFERENCE TEACHERS	Notes
A423065 - ANALYSIS	9	FOOD/05	56	16		72	II SEM	ÖBB.	S.O.S.	Benetta Pellacci 5 cfu Biagio Cassano 4 cfu	-1	
A422434 - FUNDAMENTALS OF COMPUTER SCIENCE	6	ING-INF/05	48			48	II SEM	ÖBB.	Or.	Mauro Iacono	1	
A423069 - STATISTICS	9	SECS-S/01	64	8		72	I SEM	ÖBB.	S.O.S.	Antonio Balzanella	0,5	
A422435 - FUNDAMENTALS OF PROGRAMMING	6	INF/01	32	16		48	I SEM	ÖBB.	Or.	Lelio Campanile	1	
A422436 - LINEAR ALGEBRA	6	FOOD/03	32	16		48	I SEM	ÖBB.	S.O.S.	Ferdinando Zullo	1	
A422439 - ECONOMICS	6	SECS-P/01	48			48				Olivier Butzbach (for Avvalimenti Political Science)	1	
A422441 - METHODOLOGY OF SOCIAL RESEARCH	6	SPS/07	48			48	II SEM	ÖBB.	Or.	Contract/ Paid substitute		
A422440 - PROBABILITY THEORY	6	FOOD/06	40	8		48	II SEM	ÖBB.	S.O.S.	Viviana Ventre 2 cfu Enrica Pirozzi 4 cfu	10,5	
A423938 - FREE	6	NN	48			48	II SEM	ÖBB.	Or.			
1 YEAR												
FREE: A423935 STATISTICAL PROGRAMMING	6	SECS-S/01	48			48	II SEM	OPZ.	Or.	Antonio Irpino	1	

2nd Year (60 CFU) Reg. Didattico 2024/2025

Training Activity	CFU	Sector	Hours Lez.	Hours Eser.	Ore Lab.	Ear att. Front.	Period	Teaching type	Exam Type	Lecturer	REFERENCE TEACHERS	Note
A422442 - FINANCIAL MATHEMATICS	6	SECS-S/06	48			48	I SEM	ÖBB.	S.O.S.	Viviana Ventre	1	
A422443 - INFERENCE STATISTICS	9	SECS-S/01	56	16		72	I SEM	ÖBB.	S.O.S.	Elvira Romano	1	
A422463 - STATISTICAL LEARNING	6	SECS-S/01	32	16		48	II SEM	ÖBB.	S.O.S.	Raffaele Mattera	1(o 0.5)	
A423937 DATA VISUALIZATION AND REPORTING	9	SECS-S/01	48	24		72	I SEM	ÖBB.	S.O.S.	Antonio Irpino	1	
A422445 - NUMERICAL METHODS FOR DATA ANALYSIS	6	FOOD/08	32	16		48	II SEM	ÖBB.	S.O.S.	Rosanna Campagna	1	
A422451 - ENGLISH FOR MATH, STAT AND COMPUTER SCIENCE	6	L-LIN/12	48			48	II SEM	ÖBB.	Or.	Contract/paid substitute		
A422447 - BUSINESS INTELLIGENCE	6	SECS-P/08	48			48	II SEM	OPZ.	S.O.S.	Deprecated for the academic year 2025-26		Group OPZ 1 (6 cfu)
A422446 - ECONOMETRICS	6	SECS-P/05	48			48	II SEM	OPZ.	S.O.S.	Contract/paid substitute		Group OPZ 1 (6 cfu)
A422450 - BIOINFORMATICS	6	INF/01	32	16		48		OPZ.	Or.	Deprecated for the academic year 2025-26		Group OPZ 2 (12 cfu)
A422448 - EXPERIMENTAL RESEARCH DESIGN	6	SECS-S/02	32	16		48	I SEM	OPZ.	Or.	Raffaele Mattera	1(o 0.5)	Group OPZ 2 (12 cfu)
A423302 - PSYCHOMETRICS	6	M-PSI/03	48			48	II SEM	OPZ.	Or.	Contract/Paid substitute		Group OPZ 2 (12 cfu)

3rd Year (60 CFU) Academic Reg. 2023/2024

Training Activity	CFU	Sector	Hours Lez.	Hours Eser.	Ore Lab.	Ear att. Front.	Period	Teaching type	Exam Type	Lecturer	REFERENCE TEACHERS	note
A422452 - DATABASES AND INFORMATION SYSTEMS	6	ING-INF/05	32		24	56	II SEM	ÖBB.	Or.	Mauro Iacono 3 CFU Lelio Campanile 3 CFU	11	
A422455 - DATA MINING AND BIG DATA	12	SECS-S/01	64	32		96	annual	ÖBB.	Or.	Rosanna Verde 4 CFU Antonio Balzanella 8 CFU	0,50,5	
A422455 - DATA MINING AND BIG DATA	4	SECS-S/01	24	8		32	I SEM	ÖBB.	Or.	Rosanna Verde		
A422455 - DATA MINING AND BIG DATA	8	SECS-S/01	40	24		64	annual	ÖBB.	Or.	Antonio Balzanella		
A422457 - COMPUTER SYSTEMS MODELLING AND SEMANTIC WEB	6	ING-INF/05	32	16		48	I SEM	ÖBB.	Or.	Mauro Iacono	1	
A422456 - FRENCH FOR MATH, STAT AND COMPUTER SCIENCE	6	L-LIN/04	48		0	48	I SEM	ÖBB.	Or.	Contract/ Paid substitute		
A422454 - ADVANCED SCIENTIFIC COMPUTING NUMERICAL METHODS	6	FOOD/08	32		24	56	I SEM	OPZ.	S.O.S.	Deprecated for the academic year 2025-26		Group OPZ 3 (6 cfu)
A422453 - OBJECT ORIENTED PROGRAMMING	6	ING-INF/05	32	16		48	II SEM	OPZ.	Or.	Fiammetta Marulli	-	Group OPZ 3 (6 cfu)
A423066 - BEHAVIOURAL ECONOMICS	6	SECS-P/01	32		24	56	II SEM	OPZ.	Or.	Enrica Carbone (for the use of the Department). Political Science)	1	Group OPZ 4 (6 cfu)
A422458 - OPERATIONAL RESEARCH	6	FOOD/09	40	8		48	II SEM	OPZ.	O.S.	Serena CRISCI	-	Group OPZ 4 (6 cfu)
A423936 - FREE 3 YEAR	6	NN	48			48	I SEM	ÖBB.	Or.			
A422458 - OPERATIONAL RESEARCH	6	FOOD/09	40	8	0	48	II SEM	OPZ.	Or.	Serena CRISCI	-	
FREE : A423066 - BEHAVIOURAL ECONOMICS	6	SECS-P/01	32	0	16	48	II SEM	OPZ.	Or.	Enrica Carbone (availment of the Dept. Political Science)	1	
A422462 - THESIS EXAMINATION	4	PROFIN_S				PRF:10	II SEM	ÖBB.	Or.			

A422461 - INTERNSHIPS AND TRAINEESHIPS								ÖBB.	Or.		
A422461 - INTERNSHIPS AND TRAINEESHIPS	2	NN				STA:32	II SEM	ÖBB.			
A422461 - INTERNSHIPS AND TRAINEESHIPS	6	NN				STA:96	II SEM	ÖBB.			

ANNEX 2 SCHEDULED TEACHING OFFER CdL IN DATA ANALYTICS

a.a. 2025-2026

University of Campania "Luigi Vanvitelli"

EDUCATIONAL ACTIVITIES BY YEAR – cohort 2025-2026

Department: Department of Mathematics and Physics (DMF)

Degree Course: B34 - DATA ANALYTICS

Degree system: B34-19 YEAR: 2025/2026

Regulation: B34-19-24 YEAR: 2025/2026

Total credits: 180

KEY: OBB=required, O1, O2, O3 and O4 are groups of optional

I Year (60 ECTS)

Sector	Courses	Semester ECTS		Guy
ING-INF/05	Fundamentals of programming	1	6	ÖBB
SECS-P/01	Economics	1	6	ÖBB
FOOD/03	Linear algebra	1	6	ÖBB
SECS-S/01	Statistics	1	9	ÖBB
ING-INF/05	Fundamentals of computer science	2	6	ÖBB
FOOD/05	Analysis	2	9	ÖBB
FOOD/06	Probability theory	2	6	ÖBB
SPS/07	Methodology of social research	2	6	ÖBB
	Free	2	6	FREE
			60	

II Year (60 ECTS)

Sector	Courses	Semester ECTS		Guy
SECS-S/06	Financial Mathematics	1	6	ÖBB
SECS-S/01	Inferential Statistics	1	9	ÖBB
SECS-S/01	Data Visualization and Reporting	1	9	ÖBB
SECS-S/02	Experimental Research Designs	1	6	O1 (two of three)
INF/01	Bioinformatics	1	6	O1 (two of three)
M-PSI/03	Psychometrics	2	6	O1 (two of three)
L-LIN/12	English for Mathematics, Statistics and Computer Science	2	6	ÖBB
FOOD/08	Numerical methods for data analysis	2	6	ÖBB
SECS-P/05	Econometrics	2	6	O2 (one of two)
SECS-P/08	BUSINESS INTELLIGENCE	2	6	O2 (one of two)
SECS-S/01	Statistical Learning	2	6	ÖBB
			60	

III Year (60 ECTS)

Sector	Courses	Semester ECTS		Guy
SECS-S/01	Data mining and big data	1, 2	12	ÖBB
L-LIN/04	FRENCH FOR MATH, STAT AND COMPUTER SCIENCE	1	6	ÖBB
	Free	1	6	ÖBB
ING-INF/05	Computer Systems Modelling	1	6	O3 (one of two)
FOOD/08	Advanced Scientific Computing	1	6	O3 (one of two)
ING-INF/05	Object oriented programming	2	6	ÖBB
ING-INF/05	Databases and Information Systems	2	6	ÖBB
FOOD/09	Operational research	2	6	O4 (one of two)
SECS-P/01	Behavioural Economics	2	6	O4 (one of two)
	Internship/Stage	2	8	
	Thesis examination	2	4	
			60	

ANNEX 3 - EDUCATIONAL OFFER PROVIDED FOR THE ACADEMIC YEAR 2024 - 2025

Distribution of courses and exams by semester

3RD YEAR STUDY PLAN – INTERNATIONAL TRACK

Third year of the course – at the Department of Computer Science of the Institut Galilée, Université Sorbonne Paris Nord

For students enrolled in the CdS in Data Analytics from the University of Campania "Luigi Vanvitelli"

I Sem.		ECTS
Computer science	Object-Oriented Programming (S3)	5
Computer science	Algebraic Specification (S3)	5
Computer science	Automata and Language Theory (S5)	4
Math/Computer Science	Probability-statistics, applications to data analysis (S5)	6
Computer science	Databases (S5)	6
Computer science	Introduction to Cryptography (S5)	4
		30

II Sem.

Computer science	Algorithm Design (S4)	6
Computer science	Web Programming (S6)	4
Computer science	Introduction to Software Engineering (S6)	4
Computer science	Compilation (S6)	5
Computer science	Semantic Web (S6)	4
French	French as a Foreign Language (S5 and S6)	3
Internship and project	Stage	4
		30

The courses whose name is reported in French, will be held mainly in English. Teaching material will be provided in English.

THIRD YEAR OF THE COURSE – AT THE DEPARTMENT OF MATHEMATICS AND PHYSICS OF THE UNIVERSITY OF CAMPANIA "LUIGI VANVITELLI"

For students enrolled in the *Licence en Informatique* from the Université Paris 13

I Sem.		ECTS
Computer science	Database / Databases And Information Systems	6
Statistics/Data Analysis	Data Mining et Big Data (1er module)	6
Economy	Econométrie / Econometrics	6
Statistics	Statistics for experimental research / Experimental Research Designs	6
Statistics	Data Visualization	6
		30

II semester

Math/ Operations Research	Operational research	6
Computer science	Object-Oriented Programming / Object Oriented Programming	6
Statistics/Data Analysis	Data Mining et Big Data (2eme module)	6
Internship and project	Stage/ pratique Laboratoire/ Internship	8
Rapport final	Rapport final / Thesis Examination	4
		30

ANNEX 4 REFERENCE PROFESSORS OF THE BACHELOR'S DEGREE COURSE IN DATA ANALYTICS (A.Y. 2023-24)

Surname	Name	Weight	Role
Balzanella	Antonio	1	PA
Butzbach	Olive tree	1	PA
Countryside	Rosanna	1	PA
Bell tower	Lelio	1	RTDA
Carbon	Enrica	1	AFTER
Cassano	Biagio	1	PA
Iacono	Mauro	1	PA
Irpino	Antonio	1	AFTER
Mattera	Raphael	1	RTDB
Marulli	Fiammetta	0,5	RTDB
Pirozzi	Enrica	0,5	AFTER
Roman	Elvira	1	PA
Belly	Viviana	1	PA
Zullo	Ferdinand	1	RTDB

ANNEX 5 TABLE OF CONVERSION OF JUDGMENTS

In the conversion of the results obtained into exams taken by foreign university institutions, reference is made to the ECTS Table approved by the University and reported below.

ECTS Ratings	Percentage Students	Definition	Matching in tenths	Vote
A	10	Excellent/Eccellente	10	30 laude
B	25	Very good/very good	≥ 9 and < 10	30
B	25	Good/Buono	≥ 7 and < 9	28-29
C	30	Satisfactory/Satisfactory	≥ 7 and < 9	27
C	30	Sufficient	≥ 5 and < 7	26
D	25	Insufficient/insufficiente	≥ 5 and < 7	24-25
And	10	Insufficiency/Severely Insufficient	≥ 5 and < 7	18-23

ANNEX 6 - OPERATING REGULATIONS OF THE DEGREE PROGRAMME COUNCIL IN DATA ANALYTICS

ORGANIZATION OF THE COURSE COUNCIL

1. The Degree Programme in Data Analytics is managed by the Data Analytics Degree Programme Council. The Degree Programme Council is made up of the official professors of the Degree Course and student representatives in accordance with the provisions of the University Teaching Regulations.
2. The Course Council is chaired by a President, elected from among the tenured professors who are part of it, in accordance with the provisions of the University Teaching Regulations. The President is responsible for the functioning of the Council, convenes its ordinary and extraordinary meetings and reports to the Department Council on the teaching and tutorial activities carried out within the relevant degree courses.
3. All members of the Degree Programme Council have the right to vote, but only the professors belonging to the Council itself and the student representatives contribute to the determination of the quorum. The affiliations of the teachers are defined at the time of the annual teaching planning.
4. The Degree Programme Council has the following primary tasks:
 - Definition of the educational objectives and the Study Plan of the degree course in Physics.
 - Organization of educational activities.
 - Evaluation of the results obtained and development of any corrective interventions, also in response to the observations and requests received by students through their representatives and surveys.
 - Recognition of training activities carried out in previous university careers or at other locations (also as part of exchange programs with other universities).
 - Definition of the contents of the course programs and other teaching activities in relation to the educational objectives of the course of study.
 - Verification of the absence of gaps or redundancies in the course programs and their congruence with the number of training credits assigned.
5. The Degree Programme Council, as part of the teaching programme, proposes university professors for the assignment of the courses of the Degree Programme on the basis of belonging to the specific scientific-disciplinary sector or related sector.
6. The Course Council identifies vacant courses and notifies the Department Council for the purpose of activating the procedures for their coverage by external staff.

DEFINITION OF THE CCSA ENLARGED COURSE COUNCIL

For the management of the international course aimed at issuing the double Bachelor's degree, reference is made to the Extended Course Council composed of the Presidents of the two Degree Courses: of the Degree Course in Data Analytics of the University of Campania "Luigi Vanvitelli" and of the Licence Mention (LMD) "Informatique" of the Université Paris 13 and by the professors belonging to the Degree Course in Data Analytics and a representation of two professors of the Degree Course Licence Mention (LMD)

"Informatique" of the Université Paris 13.

The CCSA establishes the procedures for selecting students (both incoming and outgoing) who have applied to attend the international course aimed at issuing the double degree. The CCSA deliberates on the admission of students to the international pathway on the basis of criteria agreed at the beginning of each academic year consistent with the provisions of the international agreement.

The CCSA can also propose an extension of the number of 5 students to be accommodated at each of the two universities.

The CCSA evaluates the study paths and certifies the equivalence of the study paths carried out up to the admission of students to the international path

The CCSA also coordinates the activities of organizing and carrying out the final examination for the issue of the double degree.

STEERING COMMITTEE

The CCS and the CCSA will make use of the support of the Steering Committee, established on the occasion of the meeting of 12/1/2018 at the Department of Mathematics and Physics of the University of Campania "Luigi Vanvitelli".

The Steering Committee, made up of representatives of the world of work, social partners and University professors, who are not members of the degree course but who have shown interest in the training offered by the new degree course, plays a proactive role through the creation of a permanent discussion table between universities, professional associations, institutions and representatives of the world of work to systematically monitor the results of the course, grasp any critical issues and propose solutions.

The Steering Committee must meet at least twice a year, to create a continuous dialogue with the social and labour partners involved, to launch, in particular, initiatives for orientation to university studies and placement, and to prepare agreements and conventions for internships and apprenticeships in companies and institutions operating in the area.

CONVENING OF MEETINGS AND PARTICIPATION IN THE STEERING COMMITTEE

The President of the CCS convenes the meetings of the CI by convening the adhering members at least 15 days in advance and prepares the O.d.G.

The non-participation of a member in three consecutive meetings, without justified justification, causes the Member to lose his or her participation in the IC.

It is also possible to request exit from the IC by written communication to the President of the CCS and the Council.

The expression of interest in participating in the CI can be expressed to the President of the CCS or to the Council and the acceptance of the request must be deliberated by the CCS, preferably starting from the new academic year.

ANNEX 7 - ADMISSION TO THE DEGREE PROGRAMME WITH RESTRICTED ACCESS

From the academic year 2023/2024, the Bachelor's Degree Course in Data Analytics has limited access, with a number of enrolled students equal to 150, of which:

1. 100 places reserved for non-EU citizens;
2. 50 places intended exclusively for EU citizens and non-EU citizens residing in Italy, referred to in art. 26 of Law no. 189 of 2002.

To access the degree course, candidates will have to take an entry test – ENGLISH TOLC-E by registering on the CISIA website.

For the purposes of inclusion in the ranking, it is necessary:

1. reach the minimum total score threshold of at least 13 points out of 36 points in the ENGLISH TOLCE;
2. reach the minimum score threshold of 5 points out of 13 points in the "Mathematics" section of the ENGLISH TOLC-E online;
3. demonstrate knowledge of the English language through the presentation of one of the certifications recognized for the purpose of certifying knowledge of the English language at least level B1, relating to the Common European Framework of Reference (CEFR). It is possible to refer to table <https://www.cambridgeenglish.org/it/exams-and-tests/cefr/>

Candidates who do not have an English certification among the CEFR ones may request to take an online English language proficiency interview. The dates will be communicated by the call for applications and/or on the website of the Department of Mathematics and Physics in the teaching section dedicated to the degree course.

CALCULATION OF THE SCORE FOR THE RANKING

The ranking position of candidates who have taken the ENGLISH TOLC-E and who are in possession of a certificate of knowledge of the English language, **or** who have obtained the eligibility for the interview, will be determined on the basis of the following criteria:

1. **Score achieved in the ENGLISH TOLC-E**
 - To be included in the ranking, candidates must have obtained an overall score **equal to or greater than 13 points**, of which **at least 5 points in the mathematics section**.
2. **Attribution of the bonus for the mathematics section**
 - Points obtained in the mathematics section above the minimum threshold of **5 points** will be valued as a bonus.
 - Each additional point above this threshold will be awarded an increase of **1.5 points** in the overall score.
3. **Assessment of the level of certified knowledge of the English language**

- Candidates in possession of a language certification higher than level **B1** will be awarded an additional score, up to a maximum of **3 points** for level **C2 or higher**, as specified below:
 - **B1 or eligibility achieved at the interview** → **0 points**
 - **B2** → **1 point**
 - **C1** → **2 points**
 - **C2 or higher** → **3 points**

The final score (PF) is calculated as follows:

$$PF = TOLC-E \text{ total score} + 1,5 \times (\text{mathematics section} - 5) + \\ + \text{language certification points (CEFR)}$$

The communication of the ranking list and the enrolment procedures are specified in the call for applications available on the University website.