



UNIVERSITÀ
di VERONA

Master's degree programme in

DATA SCIENCE

LM-91

Classe delle lauree magistrali in Tecniche e metodi per la società dell'informazione

DEGREE PROGRAMME

DESCRIPTION AND REGULATIONS

(ANNUAL FACT SHEET - SUA-CdS, B1 section)

ACADEMIC YEAR 2021/2022

COHORT 2021/22

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1. GENERAL INFORMATION

1.	DEGREE PROGRAMME WEB PAGE	For further information on the learning objectives of the degree programme, career prospects, admissions, expected learning outcomes, study plan, university calendar, lecture timetable, and final examination, please see the degree programme web page or the Annual Fact Sheet (SUA-CdS), which can be found on the same web page.
2.	PROGRAMME DIRECTOR	Prof. Paolo dai Pra
3.	ADMINISTRATION	Science and Engineering Teaching and Student Services Unit
4.	TEACHING STAFF, MODULES, AND OFFICE HOURS	<p>Lecturers will normally publish information about their teaching and research activities on their individual web pages, which you can access from the degree programme web page. From there you will also be able to access and explore the module web pages, where you will find an overview of each module.</p> <p>For office hours details and information, please check the individual web page of the relevant lecturer.</p>
5.	DURATION	2 years
6.	LOCATION	Strada Le Grazie 15, 37134 Verona
7.	DEPARTMENT	Department of Computer Science
8.	CURRICULUM	Single curriculum
9.	LANGUAGE	English
10.	ADMISSION METHODS	No admission test required
11.	ENTRY REQUIREMENTS	Laurea (three-year Bachelor's degree), a three-year university degree, or other qualification gained abroad and recognised as suitable.

12.	<p>SUBJECT REQUIREMENTS AND PERSONAL PREPARATION</p>	<p>Applicants must hold a Bachelor's degree or three-year university diploma (or must graduate by the last graduation session of academic year 2020/2021) in one of the following degree classes: L-18 (<i>Scienze dell'economia e della gestione aziendale</i>), L-31 (<i>Scienze e tecnologie informatiche</i>), L-33 (<i>Scienze economiche</i>), L-35 (<i>Scienze Matematiche</i>), L-41 (<i>Statistica</i>).</p> <p>Applicants not meeting the above requirements, or holding other types of degrees, can apply if in their previous learning experience they acquired 60 CFU credits in the following areas:</p> <ul style="list-style-type: none"> • Area 1: Mathematics, Statistics, Computer Science, and Physics (INF/01 MAT/*, FIS/*); • Area 2: Economics (SECS-P/*, SECS/S*); • Area 3: Engineering (SECS-P/*, SECS/S*); <p>of which at least 18 CFU in one or more of the below subject areas (SSD - Scientific-disciplinary Sectors):</p> <p>- FIS/01, FIS/02, FIS/03, FIS/04, FIS/05, FIS/06, FIS/07 - MAT/*, - ING-INF/05 - SECS-S/*, - SECSP/01, SECSP/02, SECSP/03, SECSP/05, SECSP/06, SECSP/07, SECSP/08.</p> <p>Students are required to have at least a B2 level of English. Should they not have a B2 level language certificate, they will be able to apply, but they will need to obtain a language certificate before their enrolment.</p>
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13.	ENROLMENT	<p>In order to enrol, it is necessary to meet specific subject requirements as indicated in the SUBJECT REQUIREMENTS AND PERSONAL PREPARATION section in this document.</p> <p>Applicants will need to register for the Eligibility Check (<i>'procedura per la valutazione dei requisiti di accesso'</i> in Italian) for admissions to the Master's degree programmes in the Science and Engineering area.</p> <p>Eligibility Check</p> <p>The Student Procedures Committee (<i>Commissione Pratiche Studenti</i>) will check the applications and, upon completion of the Eligibility Check, will publish on the website the outcome of the process.</p> <ol style="list-style-type: none"> 1. If the applicant's status on ESSE3 reads ESONERATO (<i>Exempt, or passed</i>), this means they meet all the requirements and they can enrol in the Degree programme through the ESSE3 student portal; 2. If the applicant's status on ESSE3 reads PROVA DA EFFETTUARE (<i>Eligibility Check still to be carried out</i>), they will need to sit an interview to test their personal preparation - date and time of the interview will be notified accordingly; 3. If the applicant's status on ESSE3 reads RESPINTO (<i>Rejected</i>) - this means that the applicant does not meet the entry requirements, and they will not be able to enrol. <p>Applicants who hold a foreign qualification, regardless of their nationality, will need to follow the above procedures, and attach a copy of their degree certificate, a diploma supplement (if applicable), a Transcript of Records, and a valid ID document, all in a single PDF file.</p> <p>Moreover, applicants who hold a non-EU qualification will need to contact the International Office of the University of Verona to have their documents and diploma checked (admissions@ateneo.univr.it).</p>
14.	SUPPORT FOR STUDENTS WITH DISABILITIES AND SLD/LEARNING DISABILITIES	<p>The University of Verona supports students with disabilities and Specific Learning Disorder (SLD)/learning disabilities from enrolment to graduation by providing them with the support they need to effectively participate in the educational activities of the University. For further information on these services, please go to the <i>Inclusion and Accessibility</i> service web page.</p>
15.	CFU CREDITS	<p>As a general rule, one CFU credit equates to 25 hours of learning time. Depending on the type of teaching activity the CFU/hour ratio will be as follows:</p> <ul style="list-style-type: none"> • lectures: 8 hours = 1 CFU; • practicals/laboratory activities: 12 hours = 1 CFU; • internship/professional traineeship: 25 hours = 1 CFU. <p>'Type C' modules include experimental teaching activities based on the teaching scheme of the <i>Reading courses</i> (UK) or the <i>Seminare/Oberseminare</i> (Germany), widely recognised at the European level. These modules, also known as <i>seminar modules</i>, include 6 CFU each and may consist of lectures held by foreign guest professors. A lecturer from the University of Verona is usually appointed as Coordinator or Supervisor for these modules, with a teaching workload of 1 CFU.</p>

2. STUDY PLAN

16.	SCHEDULED LEARNING AND TEACHING ACTIVITIES	<p><i>Scheduled learning and teaching activities</i> include modules and other educational activities that are made available to students enrolled in the 2021/22 academic year throughout the two-year period.</p> <p>The 2021/22 cohort includes first-year Master's degree students enrolled in the 2021/22 academic year. By the term 'cohort' we mean all students enrolled in a given academic year.</p> <p>For further information, please see the degree programme web page.</p>
17.	LEARNING AND TEACHING ACTIVITIES PROVIDED	<p>Unlike <i>Scheduled learning and teaching activities</i>, <i>Learning and teaching activities provided</i> include all modules available to different cohorts of students in a given academic year.</p>

3. PROGRAMME REGULATIONS

18.	ASSESSMENT METHODS	<p>The examination takes place during specific exam sessions, to be held at the end of each module, as established by the responsible lecturer. Interim tests may also be held during the module, aimed at testing the student's understanding of the module contents.</p> <p>Assessment methods for this programme include written and/or oral exams. For each exam passed, students are awarded a fixed number of CFU and, if applicable, a mark on a 30-point scale (minimum mark: 18/30). Students who do not pass a module exam will have the opportunity to retake that exam in the following exam session/s.</p> <p>The outcome of internships and traineeships will be verified in terms of skills achieved, based on reports by the relevant Tutor, and possibly an individual interview. With regard to examination committees, the University teaching regulations shall apply.</p> <p>Students who intend to take part in the international student mobility programmes of which the University of Verona is part, must submit a study plan which includes the training activities that they will carry out at the Host Organisation, in accordance with the guidelines issued by the School of Science and Engineering. The study plan, which will be assessed on the grounds of its coherence with the educational objectives of the degree programme, must be previously approved by the Student Procedures Committee (<i>Commissione Pratiche Studenti</i>). Regarding the activities for which a mark is awarded upon completion, marks will be converted on a 30-point scale, as set out in specific tables approved by the School of Science and Engineering.</p> <p>For further information on international mobility programmes, please refer to the specific web page.</p>
19.	PRIORITY MODULES	<p>There are no priority modules (<i>'propedeuticità'</i> in Italian), i.e. there is no specific order in which modules should be taken.</p>

20.	REQUIREMENTS FOR ENROLMENT IN SUBSEQUENT YEARS	There are no requirements for enrolment in subsequent years ('sbarramento' in Italian).
21.	ELECTIVE MODULES AND ACTIVITIES (TYPE D)	<p>8 CFU are awarded upon completion of the activities chosen by the student ('Type D'). These activities are to be chosen among the training activities at Master's degree level provided by the University, or internships/professional traineeships.</p> <p>When choosing 'Type D' modules and activities, students should be aware that only activities that are in line with their study plan will be approved. The student's choice should also be supported by adequate personal motivation.</p> <p>For further information on these aspects, please see the relevant web page on the website of the Department of Computer Science.</p>
22.	ADDITIONAL TRAINING ACTIVITIES (TYPE F), INTERNSHIPS, WORK PLACEMENT, ETC.	<p>6 CFU credits are awarded for additional 'Type F' activities, that may include internships/professional traineeships, activities aimed at improving further language skills, seminars, or modules. Internships/professional traineeships must be agreed in advance and validated by the student's Tutor.</p> <p>For further information on these aspects, please see the relevant web page on the website of the Department of Computer Science.</p>
23.	SOFT SKILLS	The University's Teaching and Learning Center provides students with activities aimed at developing their soft skills both from a professional and personal point of view, including civic engagement activities. Please see the Teaching and Learning Center web page for further information.
24.	HOW TO SUBMIT YOUR INDIVIDUAL STUDY PLAN	<p>The study plan must be completed and submitted online. Through this procedure, the student can add the modules they would like to attend and take as part of their degree programme, subject to the relevant teaching regulations.</p> <p>Further information on procedures and deadlines on the web page: Study Plans.</p>
25.	ATTENDANCE	Attendance is not mandatory.
26.	TUTORING FOR STUDENTS	The Department will assign each student a tutor among the professors and lecturers of the School. The tutor will provide the student with information on the administrative, logistical and teaching aspects of the School, as well as assistance in the choice of the training activities and support for any difficulties the student may encounter while at the University.

27.	TRANSFER FROM ANOTHER DEGREE PROGRAMME /FROM ANOTHER UNIVERSITY	<p>Students may transfer to this degree programme from another degree programme taught at the University of Verona (<i>passaggio</i>, in Italian) or from another University (<i>trasferimento</i>), upon assessment of their knowledge and personal preparation.</p> <p>Further information on the relevant Calls and forms to be submitted will be made available on the relevant web page on the website of the Department of Computer Science.</p>
28.	RECOGNITION OF PRIOR LEARNING	<p>Recognition of prior learning is the evaluation of a degree, or previous university experience, through the partial or total recognition of credits, depending on the similarities between the two programmes in question.</p> <p>Rules for transfer from another degree programme/university also apply in the case of students who apply for recognition of prior learning. Based on the above criteria and procedures, the Student Procedures Committee will determine the student's year of enrolment.</p> <p>Further information on the relevant Calls and forms to be submitted will be made available on the relevant web page on the website of the Department of Computer Science.</p>
29.	PART-TIME STUDY	<p>Students who, due to work, family or health reasons, feel that they can devote only part of their time to study, may study on a part-time basis.</p> <p>Please note: choosing to study on a part-time basis will not change the normal duration of the degree programme for pension purposes. Graduation certificates for part-time students will include both the legal duration of the programme – i.e. the standard duration of a degree programme – and the agreed duration of the programme as a 'Part-time' student. Students who choose to study on a part-time basis can benefit from special conditions concerning the duration of their chosen degree programme and the amount of the relevant tuition fees. Specifically, they will have the opportunity to earn their degree over a period of time that is twice the normal duration of the programme, without being considered 'fuori corso' (i.e. attending beyond the normal duration of the programme).</p> <p>Further information on these aspects will be made available on the relevant web page on the website of the Department of Computer Science.</p>

30.	FINAL EXAMINATION	<p>Upon completion of the Degree programme, students will need to submit and present their thesis/dissertation, which must be in English and focusing on a scientific topic covered during the programme. Alternatively, the thesis/dissertation may consist of the analysis and solution of a case study (theoretical and/or relevant to a real industrial context), experimental work, possibly developed as part of an internship, or original and independent research work that may include mathematical formalisation, computer design and a business-oriented approach.</p> <p>These activities will be carried out under the guidance of a Thesis Supervisor at a University facility, or even outside the University of Verona, either in Italy or abroad, provided that they are recognised and accepted for this purpose in accordance with the teaching regulations of the Master's Degree programme in Data Science.</p> <p>22 CFU credits shall be awarded for the final examination (assessment of the thesis/dissertation).</p> <p>The Graduation Committee, which is in charge of the evaluation of the final examination (presentation of the dissertation in English) shall evaluate each candidate, based on their achievements throughout the entire degree programme, carefully assessing the degree of consistency between educational and professional objectives, as well as their ability for independent intellectual elaboration, critical thinking, communication skills and general cultural maturity, in relation to the objectives of the Master's Degree programme in Data Science, and in particular, in relation to the topics dealt with by the candidate in their thesis.</p> <p>Students may take the final exam only after they have passed all the other modules and exams that are part of their individual study plan, and fulfil all the necessary administrative requirements, in accordance with the terms indicated in the General Study Manifesto.</p> <p>The graduation exam and ceremony will be carried out by the Graduation Committee appointed by the Chair of the Teaching Committee and composed of a President and at least four other members chosen among the University's lecturers.</p> <p>The thesis/dissertation will be assessed by the Dissertation Committee, which is composed of three lecturers possibly including the Thesis Supervisor, and appointed by the Chair of the Teaching Committee. The Dissertation Committee shall produce an evaluation of the dissertation, which will be submitted to the Graduation Committee, which will issue the final graduation mark. The Teaching Committee shall govern the procedures of the Dissertation Committee and the Graduation Committee, and any procedures relating to the score awarded for the final exam through specific regulations issued by the Teaching Committee.</p> <p>Further information on these aspects will be made available on the relevant web pages of the Department of Computer Science.</p>
31.	FURTHER INFORMATION	<p>Teaching Committee and internal committees</p> <p>The degree programme is managed by the Teaching Committee of Computer Science (Collegio Didattico di Informatica), which is included in the School of Science and Engineering. The Teaching Committee shall plan and coordinate the teaching activities of all its degree programmes, and shall issue proposals and opinions on any relevant changes.</p> <p>The Teaching Committee shall establish an internal Student Procedures</p>

		<p>Committee (Commissione Pratiche Studenti), which will deal with the administrative procedures relating to any matters within the remit of the Teaching Committee.</p> <p>Every year the Teaching Committee shall appoint the Quality Assurance Board, that will be responsible for preparing the Degree Programme Annual Fact Sheet (SUA-CdS), the annual monitoring sheets, and the Cyclical Review.</p> <p>Academic Calendar Teaching activities are organised into semesters: lectures usually take place from October to January, and from March to June. Before the beginning of each academic year, the Teaching Committee shall allocate modules in the semesters. For each academic year, the University calendar, proposed by the Teaching Committee, is approved and then made available on the degree programme web pages. Exam sessions shall take place at the end of each lesson period. Three exam sessions and four exam rounds are held each academic year, as well as optional interim tests during the year. Finally, at least three Graduation sessions are scheduled for each academic year.</p> <p>These regulations shall prevail in the event of any discrepancies with information made available on the degree programme web pages.</p>
32.	POSTGRADUATE TRAINING	<p>Graduates in Data Science may apply for 2nd-level Professional Master's programmes, and PhD programmes in Italy and abroad.</p> <p>Further information on these aspects will be made available on the relevant web page on the website of the Department of Computer Science.</p>
33.	'PERCORSO 24 CFU' (D.M. 616/2017)	<p>Graduates who intend to apply for open national competitions for prospective secondary school teachers, pursuant to Ministerial Decree no. 616/2017, must have 24 CFU credits in areas related to anthropology, psychology and pedagogy, as well as teaching methodologies and technologies. At the University of Verona students are allowed to gain such credits during their degree programme by taking 'Type D' or 'Type F' modules/activities, or elective activities. Alternatively, students may wish to gain such CFU credits after their graduation, by enrolling in specific advanced courses held at the University of Verona or at other universities. The CFU credits will be automatically recognised when applying for open competitions for prospective secondary school teachers. A list of these modules and further information can be found here.</p>