



UNIVERSITÀ
di VERONA

Master's degree programme in
COMPUTER ENGINEERING FOR ROBOTICS AND SMART INDUSTRY

LM-32

DEGREE PROGRAMME
DESCRIPTION AND REGULATIONS

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

YEAR OF ENROLMENT 2022/2023

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1. GENERAL INFORMATION		
1.	DEGREE PROGRAMME WEB PAGE	Please see the programme's web page to find an overview of the degree programme, FAQs and further information about its organisation, all the relevant regulations for students, Quality Assurance systems, information about how to apply and all useful information and services available to students, including international students, from enrolment to graduation.
2.	PROGRAMME DIRECTOR	Prof. Andrea Giachetti The Programme Director chairs the Quality Assurance Group, which is in charge of the design and self-evaluation of the degree programme according to the guidelines provided by the Quality Assurance Board.
3.	PRESIDENT OF THE TEACHING COMMITTEE	Prof. Carlo Combi The Teaching Committee is responsible for planning, organising, coordinating, checking and ensuring the quality of teaching; it is up to the Teaching Committee to propose changes to the degree programme regulations and rules and decide on any relevant students' requests.
4.	ADMINISTRATIVE UNIT	Science and Engineering Teaching and Student Services Unit
5.	TEACHING STAFF, MODULES AND OFFICE HOURS	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. For office hours details and information, please check the individual web page of the relevant lecturer.
6.	DURATION	2 years
7.	LOCATION	Strada Le Grazie 15, 37134 Verona
8.	DEPARTMENT/ SCHOOL	Department of Computer Science
9.	CURRICULUM	Single curriculum
10.	LANGUAGE	English
11.	TEACHING MODE	In-person lectures
12.	ADMISSIONS	No admission test required
13.	REQUIRED QUALIFICATIONS	A three-year Bachelor's degree (<i>Laurea</i>) or other qualification gained abroad and recognised as suitable.
14.	SUBJECT REQUIREMENTS AND PERSONAL PREPARATION	Entry requirements
15.	ENROLMENT	Enrolment
16.	SUPPORT FOR STUDENTS WITH DISABILITIES OR SLD (SPECIFIC LEARNING DISORDER)/	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.

	LEARNING DISABILITIES	For further information on these services, please go to the <i>Inclusion and Accessibility</i> service web page .
17.	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: 6 hours = 1 CFU; • practicals/laboratory activities: 12 hours = 1 CFU; • professional training: 12 hours = 1 CFU; • internship/professional traineeship: 25 hours = 1 CFU.

2. MODULES		
18.	STUDY PLAN	<p>The Study Plan includes the modules and other educational activities to be attended in the two-year degree programme.</p> <p>For further information, please see the degree programme web page.</p>
19.	MODULES PER ACADEMIC YEAR	<p>A list of the modules available in the relevant academic year, listed by academic year and year of enrolment, can be found here.</p>

3. PROGRAMME REGULATIONS		
20.	ASSESSMENT METHODS	For each module, the training objectives, a programme description, textbooks and teaching material required, and the relevant examination methods shall be determined in advance, and made available on the web page of each module.
21.	PRIORITY MODULES	There are no priority modules, i.e. there is no specific order in which modules should be taken.
22.	REQUIREMENTS FOR ENROLMENT IN SUBSEQUENT YEARS	Once enrolled in their first year, students do not have to meet specific requirements in order to enrol in the subsequent years of their degree programme.
23.	CHOOSING YOUR CURRICULUM	Single curriculum.
24.	ELECTIVE MODULES AND ACTIVITIES (TYPE D)	<p>12 CFU are awarded upon completion of elective modules and activities ('Type D') that students can take, choosing from the range of educational activities at Master's level provided by the University.</p> <p>With regard to CFU credits awarded upon completion of 'Type D' modules/activities chosen by the student:</p> <ul style="list-style-type: none"> • if these are Master's degree modules taught at the University of Verona and included in class LM-18 or LM-32, the study plan is automatically approved; • otherwise, the student will need to submit to the Computer Science Teaching Committee a list of the educational activities that they wish to attend in order to acquire such credits. In this case, the Computer Science Teaching Committee will check that the included elective modules/activities meet the relevant requirements: the approval of the study plan by the Teaching Committee will be critical to the student's admission to the final examination (graduation). Please note: basic computer science exams will not be accepted as elective modules/activities. <p>For more information, click here.</p>
25.	ADDITIONAL TRAINING ACTIVITIES (TYPE F), INTERNSHIPS, WORK PLACEMENT, ETC.	<p>Upon completion of internships, students will be awarded 3 CFU credits. Internships are aimed at providing students with a direct knowledge of those areas that are crucial to enable them to enter the job market, and to acquire advanced professional skills. Such activities may be carried out during lab practicals or seminars under the direct supervision of a lecturer, or in companies recognised by the University of Verona, as well as in public organisations, and public or private research laboratories, including the university labs managed by the area of Science and Engineering. Assessment methods concerning the awarding of CFU credits for internships or work placement, etc. are set out by the relevant university bodies, and made available on the University's website.</p> <p>For more information and internship offers, click here.</p>
26.	TRANSVERSAL/SOFT SKILLS	The Teaching and Learning Center at the University of Verona offers courses aimed at acquiring transversal/soft skills, which can be useful in many contexts: from the personal and working sphere to civic engagement. For information about how to apply, see the relevant web page . These activities may be recognised as TAF D activities.

27.	HOW TO SUBMIT YOUR INDIVIDUAL STUDY PLAN	<p>The study plan must be completed and submitted online through a procedure by which the student selects the modules they would like to attend as part of their degree programme and in line with the chosen curriculum.</p> <p>Study plan.</p>
28.	ATTENDANCE	Attendance is not mandatory.
29.	TUTORING FOR STUDENTS	<p>In order to guide and assist students throughout their studies, some lecturers are entrusted with tutoring tasks. Moreover, it is available a tutoring service run by enrolled senior students who offer their University life experience to prospective and current students.</p>
30.	TRANSFER FROM ANOTHER UNIVR DEGREE PROGRAMME / FROM ANOTHER UNIVERSITY	<p>Students may transfer to this degree programme from another degree programme taught at the University of Verona (passaggio, in Italian) or from another University (trasferimento).</p> <p>The Student Procedures Committee (<i>Commissione Pratiche Studenti</i>) is the body which validates the credits and marks gained in other degree programmes, either in Italy or abroad.</p> <p>Students intending to transfer from another degree programme or university must submit an application in order to ensure that they meet the relevant entry requirements. The transfer will be approved only once the University of Verona has obtained from the student's current institution detailed documentation of the modules/exams taken and the corresponding marks and CFU credits obtained.</p> <p>The Student Procedures Committee shall carry out the validation procedures based on the following criteria:</p> <ul style="list-style-type: none"> • for activities included in a specific SSD (Scientific-disciplinary Sector), or area of interest, the acquired credits will be assessed on a case-by-case basis, taking into account the content of each activity and the achievement of the learning objectives of the degree programme. If credits are missing, the Student Procedures Committee shall identify the most appropriate additional activities necessary to enable the student to achieve the credits required, in relation to one or more active modules that are part of the degree programme. Modules for which less than 40% of the total module CFU credits have been earned during the previous academic experience cannot be supplemented with additional activities. In such a case, the entire module must be retaken; • for activities not included in a specific SSD, the Student Procedures Committee will assess, on a case-by-case basis, the content of the training activities and consistency with the objectives of the degree programme. In this way, the Committee will be able to identify the credits that may be approved and validated as corresponding to the modules that are part of the degree programme; • if a particular training activity/module includes several activities with different marks, the final evaluation will be based on the weighted average of the marks, rounded up to the nearest whole number. <p>Based on the above criteria and procedures, the Student Procedures Committee will determine the student's year of enrolment. These procedures also apply to students wishing to change curriculum or type of degree programme.</p>

31.	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 degree of consistency between the applicant's past experience and the programme they are applying for.</p> <p>Rules for transfer from another degree programme/university also apply to students applying 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>For more information, click here.</p>
32.	EXAM ROUNDS	<p>Four exam sessions are held each academic year.</p>
33.	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. 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.</p> <p>Part-time study</p>
34.	FLEXIBLE STUDENT PATHWAYS	<p>Flexible student pathways are designed to support students in specific personal circumstances.</p> <p>In general, the University offers the opportunity to extend one's degree programme over time by studying on a part-time basis, or to acquire CFU credits by attending individual modules.</p> <p>Moreover, professional athletes wishing to enrol and study at the University may apply for the Call for athletes, through which the University provides them with flexible student pathways.</p> <p>Flexible student pathways</p>
35.	FINAL EXAMINATION	<p>Upon completion of the Master's degree dissertation, students are awarded 24 CFU, which equates to no more than 4-5 months of full-time work.</p> <p>Goals</p> <p>The primary goal of a dissertation is to develop an original study that may include an application project or a theoretical topic related to specific design issues, or a critical review of the most recent developments in a given field of study. During the preparation of the dissertation, under the guidance of the Supervisor and co-supervisors (if any), the student is expected to conduct an in- depth study of the chosen topic, while gaining the ability to summarise and creatively apply the knowledge acquired. The dissertation should focus on topics of engineering and computer science, or closely related areas of study. The work shall consist in the written presentation of activities that may be structured as follows: - design and development of applications or systems; - critical analysis of contributions from the scientific literature; - original research contributions.</p> <p>The dissertation shall be written in English and can be presented either in English or in Italian, also relying on multimedia tools such as presentations and videos.</p>

Assessment methods and examination procedures

Each dissertation can be either internal or external, depending on whether it is carried out at the University of Verona or in collaboration with another institution. For each dissertation a Supervisor, one or more co-supervisors (optional) and an Examiner will be appointed. The Examiner is appointed by the Computer Science Teaching Committee at least 20 days before the presentation of the dissertation, once the student's eligibility to take the Master's degree examination has been verified. With regard to the legal aspects related to the dissertation and its scientific outcomes (e.g. intellectual property of research outcomes), please refer to the relevant legislation and the University Regulations.

Evaluation of the dissertation

The Supervisor, the co-supervisor/s (if any) and the Examiner will evaluate the dissertation based on the following criteria: 1) level of in-depth analysis carried out, in relation to the most recent developments in the areas related to information technology, with a focus on medical and biological applications; 2) scientific and/or technological outcomes of the dissertation; 3) student's critical thinking; 4) student's experimental and/or formal development; 5) student's ability to carry out independent work (this point will not be assessed by the Examiner); 6) value of the methodologies used; 7) accuracy in planning and writing the dissertation.

Graduation mark

The graduation mark (based on a 110-point scale) is a whole value between 66/110 and 110/110 and is calculated by adding together the following elements (then rounding the result to the nearest whole number, e.g. 93.50 => 94; 86.49 => 86):

- 1) the average of the marks gained in the modules, weighted according to CFU, converted to a 110-point scale;
- 2) evaluation of the dissertation and the oral presentation during the final examination, based on the following methods:
 - a) each of the points 1-7 listed above will be assigned a coefficient between 0 and 1 (fractional coefficient with one decimal place);
 - b) the quality of the presentation will be assessed by awarding a coefficient between 0 and 1 (fractional coefficient with one decimal place);
 - c) the sum of the points resulting from (a) and (b).

The Graduation Committee may award one extra point in the following cases: *cum laude* honours obtained in the exams taken during the degree programme; participation in internships officially recognised by the Computer Science Teaching Committee; taking extra modules; and the achievement of the degree in a time that is shorter than the normal duration of the degree programme. If the final score is 110/110, the Graduation Committee may award *cum laude* honours by unanimous decision.

External dissertations

An external dissertation is a work carried out in collaboration with an institution/body other than the University of Verona. In this case, the topic of the dissertation must be agreed in advance with a Supervisor from the University of Verona. In addition, the student must indicate at least one co-supervisor belonging to the external institution/body, who will support the

student during the work on the dissertation. The Supervisor and the co-supervisors must be indicated in the online graduation application. The insurance aspects relating to the student's stay at the external institution are regulated by the regulations in force at the University of Verona. If the dissertation involves a period of training at the external institution/body, then it is necessary that the University of Verona enters into a specific agreement with such institution/body. The scientific outcomes of the dissertation will be available to all parties involved. In particular, the contents and results of the dissertation are to be considered public. For all matters not strictly scientific (e.g. agreements, insurance) the resolution of the Academic Senate of 12 January 1999 shall be taken as a reference.

Supervisor, co-supervisors, examiners

The dissertation presentation is introduced by the Supervisor. Professors belonging to the Department of Computer Science may be appointed as Supervisors, as well as any external lecturers who are deemed suitable by the Teaching Committee based on their area of study and level of expertise.

In addition to those who have the above requirements to be appointed as Supervisor, the following individuals may be appointed as co-supervisors: researchers working in external research institutes, research grant holders, post-doctoral fellowship holders, PhD students, technical staff of the Department, external experts appointed by an Italian University, corporate officers who have a remarkable experience in the field relevant to the topic of the dissertation. Examiners may be appointed among lecturers and researchers at the Department of Computer Science of the University of Verona, who are deemed to be experts in the specific field of the dissertation topic.

Procedures and deadlines

The student who is about to complete their studies must identify a dissertation topic, proposed or approved by a Supervisor or co-supervisor/s (if any). When the work is nearing completion, the student must submit to the Teaching and Student Services Unit the graduation application, which must contain the title of the dissertation (even provisional), the name of the Supervisor, co-supervisor/s (only for external dissertations) and Examiner. Subsequently, on dates established by the Teaching and Student Services Unit, and in any case no later than 20 days before the graduation, the student must submit the graduation application form with the final title of the dissertation, which must be signed by the Supervisor. These documents must be delivered in accordance with the terms established by the Teaching and Student Services Unit.

The student will also need to:

- i) deliver to the Teaching and Student Services Unit a printed copy of their dissertation signed by the Supervisor;
- ii) send a copy of their dissertation in PDF format to their Examiner.

In order to be admitted to the final examination, the student must have acquired the CFU in the SSD (Scientific-Disciplinary Sectors) set out in the Master's degree regulations and teaching plan, and be up to date with the payment of their tuition fees. The Teaching and Student Services Unit of the Master's degree programme will invite all the Supervisors and co-supervisors involved, providing them with information about the date and time of the final examination.

		<p>Graduation Committee</p> <p>The Graduation Committee shall include five members, of which at least four are professors in the Master's degree programme in Computer Engineering for Robotics and Smart Industry. Based on the number of graduates, the Computer Science Teaching Committee will identify the most appropriate organisational methods for administering the examination, and it shall make available the calendar of tests at least one week before the examination itself. The procedures and deadlines for the submission of the graduation application are established by the Computer Science Teaching Committee and by the relevant offices.</p>
36.	<p>FURTHER INFORMATION</p>	<p>Teaching Committee</p> <p>The degree programme is managed by the Computer Science Teaching Committee (Collegio Didattico di Informatica – CD), which is part of the School of Science and Engineering. The Teaching Committee shall establish internal committees in order to perform specific tasks, in accordance with the Statute and the university regulations. Such committees deal with administrative procedures, and shall issue preliminary opinions on the decisions by the Computer Science Teaching Committee. The Teaching Committee shall appoint the Director of the degree programme (Programme Director) and the Quality Assurance Board.</p> <p>Academic Calendar</p> <p>Foreign qualifications and study abroad</p> <p>The Student Procedures Committee (<i>Commissione Pratiche Studenti</i>) deals with the recognition of credits and qualifications gained abroad by the student, and corresponding marks. After a specific assessment, the committee will determine the student's year of enrolment. The recognition of credits obtained by students enrolled in the Master's Degree programme in Computer Engineering for Robotics and Smart Industry during periods of study abroad, as part of international mobility programmes of which the University of Verona is part, is subject to evaluation by the Student Procedures Committee, in accordance with the relevant Regulations of the School of Science and Engineering.</p> <p>For information about the Erasmus+ Programme and mobilities abroad, click here.</p>