



**UNIVERSITÀ DEGLI STUDI
DELL'INSUBRIA**

**DIDACTIC REGULATION OF THE BACHELOR'S DEGREE COURSE IN
COMPUTER SCIENCE**

(L-31 R)

A.Y. 2026-2027

Varese



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Art. 1 - General Characteristics and Organization

The Bachelor's Degree Programme in Computer Science (Class L-31 – Computer Science and Technologies, pursuant to Ministerial Decree of 16 March 2007, as amended by Ministerial Decrees No. 1648/2023 and No. 1649/2023) is offered according to the academic regulations introduced in 2025.

The Bachelor's Degree Programme in Computer Science is an open-admission programme designed to provide students with a solid foundation in the core areas of computer science, including programming and software design, computer systems and communication network architectures, operating systems, data management systems, data analysis and security, and algorithms. In addition, the programme aims to develop a strong command of the methods and languages of mathematics, which are essential for understanding and adapting to the continuous innovations that characterise computer science.

Starting from the second year, students have the opportunity to tailor their study plan by choosing elective courses. This flexibility allows them either to develop technological skills that are immediately applicable in today's job market or to deepen their knowledge of computer science methodologies, thereby facilitating progression to a Master's Degree Programme in Computer Science, which is also offered by the University of Insubria. The knowledge and skills acquired during the programme enable graduates to pursue a wide range of career opportunities. Graduates may work as freelance professionals, in public administration, in companies operating in the production of goods and services, in public or private data processing centres, or as IT consultants. Students may also undertake internships either in companies, to gain direct experience of the professional environment, or within the Department to which the degree programme belongs.

Classes are held at the University Campus in Varese.

In addition to traditional lectures, the programme offers laboratory activities from the first year onward, allowing students to apply in practice the knowledge and skills acquired during their coursework.

In 2020, the Degree Programme was awarded the **GRIN Quality Label**, a certification granted by the Italian Association of University Computer Science Professors (GRIN). This certification represents a recognised mark of quality for university-level computer science education in Italy.

The language of instruction of the Degree Programme is Italian. The programme is administered by the **Department of Theoretical and Applied Sciences**.

The Chair of the Degree Programme Board is **Professor Brunella Gerla** (<https://uninsubria.unifind.cineca.it/get/person/000559>).

The Academic Office provides assistance by appointment via Microsoft Teams and responds to enquiries submitted through **InfoStudenti**, the University's web-based support platform. InfoStudenti offers students and external users a direct communication channel with several University offices, including the Student Administration Office, Student Services and Financial Aid, Orientation and Placement Services, and Academic Offices. Through the platform, users can submit enquiries, attach supporting documents, monitor the status of their requests, and receive official responses.

Art. 2 – Academic Calendar

Teaching activities take place in the classrooms located at the University campus in Varese.

The official website of the Degree Programme is: <https://www.uninsubria.it/formazione/offerta-formativa/corsi-di-laurea/informatica>

The **class timetable** is available on the following page of the Degree Programme website:



<https://www.uninsubria.it/formazione/offerta-formativa/corsi-di-laurea/informatica>

The **examination schedule**, including examination dates and times, is available at:

<https://uninsubria.esse3.cineca.it/ListaAppelliOfferta.do>

The academic year is organized into two semesters:

- **First Semester:** 21 September 2026 – 23 December 2026

- **Second Semester:** 22 February 2027 – 28 May 2027

Examination Periods

- 7 January 2027 – 19 February 2027

- 31 May 2027 – 30 July 2027

- 1 September 2027 – 17 September 2027

To register for examinations, students must log in to the **Student Web Services** using their University credentials (username and password associated with their @studenti.uninsubria.it email account). From the personal area, select **Exams > Examination Sessions**, choose the desired examination session, and follow the on-screen instructions.

The programme guarantees a minimum of **six examination sessions** for each course.

Students who are regularly enrolled and have paid all required tuition fees may take examinations provided that they satisfy any prerequisite requirements, have fulfilled the attendance requirements where applicable, and are taking examinations for courses whose teaching activities have been completed.

Art. 3 - Orientation Activities

Information regarding the University's guidance and orientation activities is available at the following page:

<https://www.uninsubria.it/formazione/consigli-e-risorse-utili/orientamento>

Incoming Student Orientation

Incoming student orientation activities are organized by the Degree Programme Orientation Committee. In addition to participating in university-wide orientation initiatives, the Bachelor's Degree Programme in Computer Science presents its educational offer at local secondary schools, through agreements established with individual institutions. Furthermore, high school students have the opportunity to meet faculty members and tutors from the degree programme during events dedicated to the presentation of relevant topics in the field of computer science. These events combine short lectures with hands-on activities, providing an engaging and educational experience.

The Bachelor's Degree Programme in Computer Science participates in CyberChallenge.IT, the national cybersecurity training programme for university and high school students (aged 16 to 24), organized by the Cybersecurity National Lab of CINI.

National Scientific Degree Project (PLS). The Bachelor's Degree Programme in Computer Science takes part in the national Computer Science initiative within the framework of the National Scientific



Degree Project (Piano Lauree Scientifiche – PLS). The initiative includes a wide range of activities aimed at supporting prospective students in their educational choices, reducing first-year dropout rates, increasing the number of credits earned by students progressing to the second year, and enhancing tutor training.

Ongoing Guidance and Tutoring

The Degree Programme's academic tutors, in collaboration with the Academic Office, provide continuous guidance and tutoring activities for both individual students and groups. They support students throughout their entire academic journey, actively involving them in the educational process and promoting regular and effective participation in classes through initiatives tailored to individual needs, aptitudes, and requirements. Particular attention is devoted to first-year students, whose academic progress is constantly monitored. Students experiencing difficulties are invited to attend targeted meetings with their tutors.

In addition to academic tutors, the Degree Programme benefits from the support of student tutors, who are involved in the following activities:

- Subject-specific tutoring, supporting the supplementary educational activities included in the programme curriculum;
- Peer-to-peer tutoring, aimed at providing direct support for first-year courses;
- Information tutoring, dedicated to welcoming and assisting first-year students, in collaboration with academic staff and the Academic Office.

Art. 4 – Specific Educational Objectives, Expected Learning Outcomes, and Career Opportunities

The Bachelor's Degree Programme in Computer Science trains professionals who are capable of both conceiving and designing new computing solutions and implementing them by applying the knowledge acquired during their studies. Graduates in Computer Science are equipped not only to enter the workforce immediately but also to pursue the continuous learning required in a discipline that evolves as rapidly as Computer Science.

The programme therefore aims to provide graduates with a solid foundation of both fundamental and methodological knowledge in the main areas of computer science, as well as familiarity with current technologies and an understanding of their possible future developments. It also provides a strong command of mathematical methods and languages, enabling students to acquire the tools necessary to understand and assimilate the constant innovations that characterize the field of computer science.

The educational activities distributed throughout the programme contribute both to the cultural and professional development of Computer Science graduates. The curriculum is organized into the following areas:

Foundation Area, which includes training in mathematics (Calculus, Algebra and Geometry, Probability and Statistics), logic, and English language proficiency;

Computer Science Fundamentals Area, which includes the study of the theoretical and methodological principles of programming, algorithms, software design, computer architecture and operating systems, databases, and security techniques;



Technological and Applied Area, which includes the acquisition of skills in areas that are highly relevant to the labour market and current technological developments, such as computer networks, innovative programming paradigms (functional, object-oriented, concurrent, distributed, and mobile programming), information systems, innovative models for data management and analysis, visual object processing, and the use of artificial intelligence-based software support tools.

From a chronological perspective, the curriculum is structured so that the first year provides the foundational knowledge required for the subsequent acquisition of specialized computer science competencies and advanced technical skills. Courses aimed at developing specific disciplinary knowledge and advanced technical expertise are primarily offered during the second and third years. The third year carries a reduced teaching load to allow students to undertake an internship and prepare their final dissertation.

The programme offers students the opportunity to personalize their curriculum from the second year onwards through an appropriate selection of elective courses. This flexibility enables students either to focus on technological skills that are immediately applicable in the job market or to pursue a deeper understanding of computer science methodologies, thereby facilitating access to Master's Degree programmes in Computer Science.

Laboratory activities are included from the first year of study, allowing students to gradually complement theoretical learning with individual and group project-based experiences.

The programme also offers the opportunity to undertake internships in companies and organizations, facilitating graduates' transition into the labour market.

Furthermore, the Degree Programme promotes participation in study-abroad programmes at foreign universities.

The educational activities offered throughout the programme contribute in an integrated manner to the cultural and professional development of Computer Science graduates, with particular attention to fostering synergies among the learning areas described above.

Expected Learning Outcomes for Each Area According to the Dublin Descriptors

Foundation Area

Including training in mathematics and logic, and English language proficiency

Knowledge and Understanding

The courses in this area are intended to provide the foundational knowledge required for the other areas of the curriculum. In accordance with the functions and competencies defined in the section Specific Educational Objectives and Programme Description of the Annual Programme Information Sheet, graduates will acquire knowledge of the following:

English language proficiency equivalent to B2 level of the Common European Framework of Reference for Languages, with autonomous use of English grammar and scientific and technical vocabulary;
Knowledge and understanding of the basic concepts of discrete mathematics, combinatorics, and fundamental algebraic structures;



Knowledge of linear algebra, particularly linear systems, matrix computations, and vector spaces;
Knowledge of differential and integral calculus for real-valued functions, as well as numerical sequences and series;
Knowledge of propositional and predicate logic, the principal proof systems, and the formalization of mathematical reasoning;
Understanding of probability theory and statistical reasoning, together with the fundamental concepts of inferential statistics.
Applying Knowledge and Understanding

The knowledge described above will be acquired at a level that enables graduates to develop the following skills:

Ability to understand specialized texts written in English and to communicate effectively using scientific English in both spoken and listening contexts;
Ability to apply mathematical tools to the understanding of computer science disciplines;
Logical reasoning skills for problem formalization and algorithm design;
Ability to use discrete and continuous mathematical methods in the development of application software;
Ability to conduct statistical investigations using both descriptive and inferential statistical techniques.

The teaching methods used to develop the above knowledge consist of lectures supported by tutorials and exercises designed to facilitate independent study. These competencies are developed through critical reflection on the topics covered, practical exercises, and the discussion of examples presented by the instructors. Achievement of the intended learning outcomes is assessed through written examinations and/or oral examinations.

Computer Science Fundamentals Area

Including the study of the theoretical and methodological principles of programming, algorithms and software design, computer architecture and operating systems, databases, and security techniques.

Knowledge and Understanding

The courses in this area are designed to provide students with knowledge of the theoretical and methodological principles underlying programming, algorithms and software design, computer architecture and operating systems, databases, and security techniques. In accordance with the functions and competencies defined in the section Specific Educational Objectives and Programme Description of the Annual Programme Information Sheet, graduates will acquire knowledge and understanding of the following:

Knowledge and understanding of the abstract concepts of algorithms, data types, structured programming, functional abstraction, and the procedural programming paradigm.
Knowledge of asymptotic computational complexity analysis of algorithms.
Knowledge and understanding of the principal methodologies for the specification and efficient development of algorithms and both static and dynamic data structures.
Knowledge of the fundamental principles of formal language theory and abstract machines through the concepts of grammars and automata.



Knowledge of the historical development of computer science.
Knowledge and understanding of computer architecture viewed as a hierarchy of virtual machines.
Knowledge of the techniques used to implement the various layers, from logic gates to complete computer systems.
Fundamental knowledge of the functions and organization of operating systems.
Knowledge of the concepts of processes, threads, and virtual memory.
Knowledge of both basic and advanced techniques for systems programming.
Knowledge of the fundamental principles of object-oriented programming, object-oriented design and programming techniques, and the foundations of the Java programming language.
Knowledge of software design methodologies, including the use of the Unified Modeling Language (UML), and familiarity with design patterns.
Knowledge of software project organization and management.
Knowledge of issues related to data management.
Knowledge of conceptual and logical design methodologies for relational databases.
Knowledge of mechanisms for data protection in information systems and networks, including the principles and main schemes of encryption and data integrity, as well as access control concepts.
Knowledge of the fundamental principles of software verification and validation.
Knowledge of the operation and complexity of quantum algorithms.
Knowledge of the differences between classical and quantum computing paradigms.
Knowledge of the mathematical and physical principles underlying quantum information, including the principles of superposition and entanglement.
Applying Knowledge and Understanding

The knowledge described above will be acquired at a level that enables graduates to develop the competencies required to:

Design algorithms and develop programs using tools for compilation, execution, and correctness verification.
Design efficient algorithms and organize data using appropriate and efficient data structures.
Design and evaluate the asymptotic complexity of complex algorithms.
Understand the organization and operation of digital circuits, with particular reference to digital computation circuits (CPUs).
Understand the organization and operation of operating systems.
Manage operating systems and develop system-level and multi-process applications.
Describe and design object-oriented systems using UML, including systems structured through the use of design patterns.
Design and implement efficient and correct sequential programs in Java.
Progress from understanding a given problem to specifying a solution and implementing the software required to solve it.
Analyse and model the data managed by an application.
Design relational databases, including both their structure and the querying and manipulation of data using SQL.
Understand and analyse how security mechanisms—such as symmetric and asymmetric cryptographic algorithms, digital signatures, and access-control analysis in database management systems—are applied within information systems.



Perform software verification and validation activities.
Analyse simple quantum circuits.

The teaching methods used to develop the knowledge and competencies listed above include, in addition to lectures, a substantial number of laboratory hours devoted both to guided practical exercises and to individual and group projects. Assessment of students' understanding and ability to apply their knowledge is carried out through written examinations, oral examinations, and project work, through which students are required to demonstrate mastery of tools and methodologies as well as critical and autonomous judgment.

Technological and Applied Area

Knowledge and Understanding

The courses in this area are designed to provide competencies in fields that are highly relevant to the labour market and current technological developments, including computer networks and Internet of Things (IoT) systems, innovative programming paradigms (functional, object-oriented, concurrent, distributed, and mobile programming), information systems, innovative models for data management and analysis, and visual object processing.

In accordance with the functions and competencies defined in the section Specific Educational Objectives and Programme Description of the Annual Programme Information Sheet, graduates will acquire knowledge and understanding of the following:

Knowledge of basic and advanced techniques for concurrent programming (multithreading, thread coordination and communication techniques) and distributed programming (protocols and sockets).

Knowledge of techniques specifically aimed at the development of mobile applications.

Knowledge of the principles of functional programming.

Knowledge of advanced techniques related to procedural and object-oriented programming.

Knowledge of the principles underlying the organization of telecommunication networks and their main protocols.

Knowledge of the general architecture of wireless LANs, mobile networks, and wireless sensor networks.

Knowledge of the fundamental principles of the Internet of Things (IoT) paradigm.

Knowledge of conceptual and logical design methodologies for databases based on innovative models extending traditional relational models.

Knowledge of issues related to data management within business processes.

Knowledge of the different types of information systems and their functions in supporting organizational processes and improving organizational performance.

Knowledge of the basic concepts of analogue and digital electronics, digital microcontrollers, and the most widely used communication protocols.

Knowledge of the most advanced technologies and methodologies for web development.

Knowledge of the fundamental concepts of Big Data, major data-processing technologies, and issues related to data management, quality, and security.

Knowledge of the principal physical structures and access management methods (indexes and access methods) used in database management systems.



Knowledge of the main operators and techniques for enhancing digital image quality, analysing spatial data, and extracting visual objects.

Knowledge of the principal methods for processing and interpreting digital images, as well as the most significant computational models of vision.

Knowledge of the main machine learning and neural network techniques used to solve real-world computer vision problems.

Knowledge of the principal artificial intelligence-based tools and techniques supporting software development.

Knowledge of the operating principles of generative artificial intelligence and Large Language Models (LLMs), as well as the main methods for interacting with such models to support software development.

Knowledge of requirements analysis techniques and of the support provided by AI tools in the definition and formalization of software requirements.

Applying Knowledge and Understanding

Graduates will develop the competencies required to:

Define the architecture and communication protocols of distributed computing systems and implement them.

Design and develop applications suitable for mobile devices.

Design and evaluate telecommunication networks, identifying and developing the most appropriate network architectures and communication protocols.

Identify the technologies, communication protocols, and standards characterizing Internet of Things systems.

Understand network security issues and formulate and evaluate security requirements for networked environments.

Design XML databases, including both their structure and data querying and manipulation through specialized languages.

Describe and model the components of organizational structures, identify the most appropriate organizational models in specific contexts, design and manage innovation processes through ICT, select suitable technological tools, and evaluate their organizational impact.

Select appropriate image-processing and data-analysis operations for the extraction of relevant parameters from visual data.

Manage basic electronics applications and microcontroller-based platforms.

Identify technologies, communication protocols, and standards used in Internet of Things environments.

Design Internet of Things architectures using appropriate development tools.

Identify suitable methodologies for the design and development of software interfaces according to established models and methods.

Design, prototype, and evaluate high-quality user interfaces for interactive software systems.

Select state-of-the-art technologies for rapid web application development.

Develop web applications.

Use tools and techniques for collecting, processing, and analysing large datasets.

Identify and manage transaction-related issues such as deadlocks.

Design, implement, and evaluate intelligent systems based on computer vision and machine learning models.

Apply artificial intelligence models to image processing tasks.

Recognise practical applications of computer vision and artificial intelligence across different domains.

Use generative AI models for understanding, producing, and reviewing software artefacts.

Critically evaluate the strengths and limitations of generative models in software development contexts.



Apply AI-assisted software development workflows throughout the various phases of the software life cycle. Work autonomously and employ the interpersonal and collaborative skills required for effective participation in team-based activities.

The teaching methods used to develop the knowledge and competencies listed above include, in addition to traditional lectures, a substantial number of laboratory hours devoted both to guided practical exercises and to individual and group projects. To further support the acquisition of knowledge and competencies within the Technological and Applied Area, some courses also include seminars delivered by industry experts and company representatives, fostering collaboration with the professional sector and providing students with a comprehensive perspective on the topics addressed.

Assessment of students' understanding and ability to apply their knowledge is carried out through written examinations, oral examinations, and project work, through which students are required to demonstrate mastery of tools and methodologies as well as critical and independent judgment.

Professional Profiles and Expected Career Opportunities

Software Developers

Software developers are responsible for software programming activities and the software development phases directly related to them. They work together with software designers and analysts, translating the artifacts produced during the software design and development phases into instructions and source code. Career opportunities: IT companies, professional firms, public and private organizations, and consulting activities.

Database and Security Technicians

Database and security technicians work in coordination with database analysts and designers, carrying out tasks related to the management, analysis, maintenance, and security of databases and related systems. Career opportunities: Manufacturing and service companies, IT companies, professional firms, public and private organizations, and consulting activities.

Network and Telecommunications Technicians

Network and telecommunications technicians collaborate with network designers and administrators in the design, installation, configuration, management, and monitoring of telecommunications systems. Career opportunities: Manufacturing and service companies, IT companies, professional firms, public and private organizations, and consulting activities.

Application Specialists

Application specialists are professionals involved in the final stages of software solution development, supporting the work of other professional figures such as analysts, designers, and programmers. They are responsible for managing software deployment activities (as installers and configurators) and maintenance activities (as maintainers) for desktop, web, and mobile software solutions. Career opportunities: Manufacturing and service companies, IT companies, professional firms, public and private organizations, and consulting activities.



Access to Higher-Level Education

Upon completion of the program, students are awarded a Bachelor's Degree in Computer Science. This degree provides access to first-level Master's programs, Master's Degree programs in Computer Science (LM-18) and related fields offered by the University of Insubria or other universities, according to the admission requirements established by their respective regulations.

Graduates in Computer Science may also apply for registration in Section B of the Professional Register of Junior Information Engineers (Ingegnere dell'Informazione Junior), subject to passing the national professional qualification examination (Esame di Stato).

Art. 5 - Admission to the Degree Programme

The programme is open access, with no fixed enrolment quota.

In accordance with current regulations, admission to the Bachelor's Degree Programme requires possession of an upper secondary school diploma or an equivalent qualification obtained abroad and recognized as suitable for admission.

The required entry-level knowledge is not linked to any specific type of upper secondary school qualification. Applicants are expected to possess: A good general educational background; Logical reasoning and reading comprehension skills; A sound knowledge of the fundamental concepts of mathematics.

All newly enrolled students are required to take an initial knowledge assessment test. The required test is the TOLC-S, administered by the CISIA Consortium (Consorzio Interuniversitario Sistemi Integrati per l'Accesso) and used to assess the knowledge necessary for admission to the Bachelor's Degree Programme in Computer Science. The TOLC-S may be taken remotely through the TOLC@CASA modality on any of the dates offered by participating institutions. Students may take the test more than once, but no later than 30 November.

The test consists of multiple-choice questions (five possible answers, only one of which is correct) organized into thematic sections. Scoring is calculated as follows:

- 1 point for each correct answer;
- 0 points for unanswered questions;
- 0.25 points for each incorrect answer.

Only two sections are considered for the purposes of satisfying the admission requirements:

- Basic Mathematics (20 questions);
- Reasoning, Problem Solving and Reading Comprehension (15 questions).

The test is considered successfully passed if the student obtains:

- At least 7 out of 20 in the Basic Mathematics section; and
- At least 3 out of 15 in the Reasoning, Problem Solving and Reading Comprehension section.



Students must submit the certificate issued by CISIA no later than 30 November, following the instructions published on the Degree Programme website and communicated by e-mail to enrolled students. Submission of the certificate is mandatory even if the required scores have not been achieved.

Additional Educational Requirements (OFA)

Students who do not achieve the required TOLC-S scores by 30 November are assigned Additional Educational Requirements (Obblighi Formativi Aggiuntivi – OFA).

OFA in Basic Mathematics

Students who do not achieve the minimum score of 7/20 in the Basic Mathematics section must fulfil the OFA through one of the following options:

- Attend the compulsory online Basic Mathematics remedial course and pass one of the subsequent remedial tests. Course materials are made available through the University's e-learning platform. Students who do not pass a remedial test will receive support from a subject tutor to address identified areas of weakness; or
- Retake the TOLC-S on one of the dates offered by CISIA and obtain a score of at least 7/20 in the Basic Mathematics section; or
- Pass the Algebra and Geometry examination (a first-year course).

OFA in Reasoning, Problem Solving and Reading Comprehension

Students who do not achieve the minimum score of 3/15 in the Reasoning, Problem Solving and Reading Comprehension section must fulfil the OFA through one of the following options:

- Attend the compulsory online remedial course in Reasoning, Problem Solving and Reading Comprehension and pass one of the subsequent remedial tests. Course materials are made available through the University's e-learning platform. Students who do not pass a remedial test will receive support from a subject tutor to address identified areas of weakness; or
- Retake the TOLC-S on dates offered by CISIA from January onwards and obtain a score of at least 3/15 in the relevant section; or
- Pass the Algebra and Geometry examination (a first-year course).

Students who do not fulfil their OFA requirements may not take any examinations other than Algebra and Geometry.

In all cases, enrolment in the second year is conditional upon fulfilment of all OFA requirements by 30 September of the calendar year following enrolment. For students who enrol after the standard admission period, the Degree Programme Board may arrange additional testing dates and dedicated tutoring activities to support students assigned OFA requirements.

Students who do not take the TOLC-S or fail to submit the CISIA certificate by 30 November are subject to an academic block and therefore may not sit examinations.

Exemptions from the Initial Knowledge Assessment Test

The following categories of students are exempt from the TOLC-S requirement:

- Students transferring from another Bachelor's Degree Programme at the University of Insubria



- (internal transfer), provided they have already taken an equivalent initial knowledge assessment;
- Students transferring from another university where they have already taken an equivalent initial knowledge assessment;
- Students who already hold a university degree.

Students seeking exemption must submit to the Student Services Office documentation or a self-certification demonstrating the assessment completed during their previous academic career.

Preparation Resources

To prepare for the initial knowledge assessment, students may use the resources provided by CISIA, including the Basic Mathematics MOOC, available upon registration through the CISIA Mathematics MOOC:

<https://lms.federica.eu/enrol/index.php?id=568>><https://lms.federica.eu/enrol/index.php?id=568>

Students may also attend the preparatory courses organized by the University between late August and early September. Further information is available at: <https://www.uninsubria.it/la-didattica/orientamento/precorsi>

Additional details on the assessment test, including procedures and syllabus information, can be found at: <https://www.uninsubria.it/link-veloci/cerca-i-servizi/test-di-verifica-delle-conoscenze-corso-di-laurea-informatica>.

Art. 6 - Transfer Admissions and Programme Changes

Students transferring from another university, from another degree programme at the University of Insubria, or from degree programmes governed by previous academic regulations may apply for admission to the Bachelor's Degree Programme in Computer Science through a transfer or change-of-programme procedure.

Applications for transfer or programme change are evaluated by the Degree Programme Board, which determines the recognition of previously acquired university credits (CFU/ECTS) on the basis of the following criteria:

- Analysis of the syllabus and content of the courses previously completed;
- Assessment of the consistency of the academic disciplinary fields and educational content of the learning activities successfully completed during the student's previous academic career with the specific educational objectives of the Degree Programme and the individual courses included in the curriculum.

Credit recognition is carried out in accordance with Article 3, paragraphs 8 and 9, of the Ministerial Decree of 16 March 2007 concerning the redefinition of degree classes.

Credits are recognized up to the maximum number of credits required by the curriculum of the Degree Programme.

<https://www.uninsubria.it/servizi/consulenza-e-supporto/pratiche-studenti/servizi-segreterie-studenti/riconoscimento-di>

Art. 7 - Simultaneous Enrolment in Two Degree Programmes

Starting from the 2022–2023 academic year, students may enrol simultaneously in two degree



programmes in accordance with Law No. 33 of 12 April 2022 (Provisions on Simultaneous Enrolment in Two Higher Education Programmes) and the subsequent Ministerial Decrees (DM 930/2022 and DM 933/2022).

Applications for simultaneous enrolment are assessed by a dedicated committee appointed by the Degree Programme, subject to verification that the relevant admission requirements are satisfied.

Art. 8 - Study Plan Structure

The Degree Programme does not offer different curricula or study tracks. The study plan includes 7 compulsory courses in the first year; 7 compulsory courses in the second year; 3 compulsory courses in the third year.

In addition, the curriculum includes two groups of elective courses, from which students must select a total of four courses to be included in their individual study plan.

The programme also provides 12 ECTS credits (CFU) of freely chosen elective activities during the third year; 15 ECTS credits (CFU) allocated to internships.

The study plan includes two progression requirements, one for admission to the second year and one for admission to the third year, as described below.

ENROLMENT IN SUBSEQUENT YEARS

Enrolment in the Second Year

Students may enrol in the second year provided that, by September following their year of initial enrolment, they have successfully completed examinations carrying a total of at least 18 ECTS credits (CFU) and graded with a final mark.

Students who do not meet this requirement will be enrolled as repeat first-year students.

Enrolment in the Third Year

Students may enrol in the third year provided that, by September following their year of enrolment in the second year, they have successfully completed examinations carrying a total of at least 48 ECTS credits (CFU) and graded with a final mark. Students who do not meet this requirement will be enrolled as repeat second-year students.

Attendance is not compulsory; however, it is strongly recommended.

Regular attendance at lectures, which enables continuous interaction and dialogue with instructors, is highly encouraged in order to promote the full acquisition of knowledge and skills and to ensure a balanced distribution of the study workload throughout the academic year.

Support for Students with Disabilities and Specific Learning Disorders

To facilitate the academic progress of students with declared disabilities, once they have contacted the University's Office for Students with Disabilities and Specific Learning Disorders (SLD) to activate the support measures to which they are entitled, the Degree Programme provides instructors with the list of eligible students received from the relevant Office. This enables instructors to implement the necessary measures to ensure effective participation in lectures and laboratory activities and to provide appropriate accommodations during examinations.

The Chair of the Degree Programme Board serves as the academic contact person for students with disabilities.



Support for Working Students

Working students may keep up to date with course content through the University's e-learning platform, which instructors use to upload course materials.

Working students are encouraged to contact the instructors of individual courses for information and advice on how to make the most effective use of the learning resources and materials provided.

ECTS Credit-to-Hour Conversion for Each Type of Learning Activity (Lectures, Tutorials, Laboratory Work, Internships, Placements, Seminars, etc.)

The European Credit Transfer and Accumulation System (ECTS) credit (CFU in Italian) is the measure of the student workload required to achieve the learning outcomes associated with the educational activities included in a degree programme. In accordance with Article 5 of Ministerial Decree 270/2004, the workload includes both contact hours and independent study.

Each educational activity (course, laboratory, internship, final dissertation, etc.) is assigned a specific number of ECTS credits (CFU).

Each ECTS credit (CFU) corresponds to 25 hours of student workload, including both scheduled teaching activities and the individual study and personal work required to complete the learning process.

ECTS credits associated with each educational activity are awarded upon successful completion of the corresponding examination or other assessment method established by the Degree Programme Regulations.

Educational Activities and Contact Hours per ECTS Credit

- Lectures up to 8 hours per ECTS credit
- Tutorials / Practical Classes up to 12 hours per ECTS credit
- Laboratory Activities up to 16 hours per ECTS credit
- Professional Internship / Placement 25 hours per ECTS credit

Definitions of Educational Activities

Lectures

Lectures constitute the primary and fundamental teaching activity. Students attend classes delivered by the instructor and independently process and assimilate the concepts presented.

Tutorials / Practical Classes

These activities are intended to clarify and reinforce lecture content through the development of practical applications. No additional content is introduced beyond that covered in lectures. Tutorials are typically associated with lectures and are not normally offered independently. In passive tutorials, applications and examples are developed by the instructor; in active tutorials, students work on practical applications under the supervision of the instructor.

Laboratory Activities

Laboratory activities are supervised practical sessions that involve direct interaction with instruments, equipment, or application software.

Project Laboratory

A project laboratory is an activity in which students, with the support of a tutor, develop a project under the guidance of one or more instructors from different disciplinary areas.



Internship / Placement

The internship consists of the development of a project either within an external organization or internally within the Department. Students are involved in all phases of the project, including problem analysis, review and comparison of existing solutions, proposal of a solution, implementation, and verification of the proposed solution. Internships are carried out under the supervision of an academic tutor and, in the case of external placements, also of a company tutor.

Final Dissertation

The final dissertation consists of the preparation of a written report, agreed upon with the academic supervisor, describing a project or study activity, typically based on the work carried out during the internship or placement.

Assessment Methods

Assessment of learning outcomes is carried out through written and/or oral examinations. Instructors may also adopt alternative assessment methods, such as the completion of projects, the preparation of written reports, or the delivery of seminar presentations. These activities may replace one or more components of the final examination.

For students with disabilities and students with Specific Learning Disorders (SLD), assessment arrangements are determined by the instructor in accordance with the individualized learning plan issued by the Office for Students with Disabilities and Specific Learning Disorders (SLD).

Detailed information on assessment and grading methods is provided in the course syllabi.

Prerequisites and/or progression requirements: see the Study Plan.

To be eligible to sit the examinations for the courses listed below, students must have successfully passed the corresponding prerequisite course(s):

COURSE	PREREQUISITE COURSE
- PROGRAMMAZIONE CONCORRENTE E DISTRIBUITA	- PROGRAMMAZIONE
- SISTEMI OPERATIVI	- PROGRAMMAZIONE + ARCHITETTURA DEGLI ELABORATORI
- PROGETTAZIONE DEL SOFTWARE	- PROGRAMMAZIONE
- BASI DI DATI	- PROGRAMMAZIONE
- PROGRAMMAZIONE DI DISPOSITIVI MOBILI	- PROGRAMMAZIONE + ARCHITETTURA DEGLI ELABORATORI
- LOGICA	- ALGEBRA E GEOMETRIA
- AUTOMI E LINGUAGGI	- ALGEBRA E GEOMETRIA
- PROGRAMMAZIONE FUNZIONALE	- PROGRAMMAZIONE

Art. 9 - Rules for the Submission of Study Plans and Individual Study Plans

Students are required to submit their study plan during the second year of the programme and may subsequently modify it in the following years, in accordance with the deadlines established annually



and published on the webpages of the Student Services Office:

<https://www.uninsubria.it/servizi/presentazione-piano-di-studio>

Students must complete and submit their study plan online through their personal ESSE3 student portal. The study plan must include:

- The elective courses selected from those indicated in the Study Plan;
- The courses chosen as “Student Electives” (Educational Activities Type D), for which 12 ECTS credits (CFU) are allocated.

The Student Elective Activities may be selected from among all courses offered by the University, with the exception of certain integrated courses offered within limited-enrolment degree programmes in the health sciences area.

The Degree Programme Board will evaluate the consistency of the selected elective activities with the educational objectives of the Degree Programme in which the student is enrolled.

To assist students in making their choices, the online study-plan submission procedure includes a list of recommended courses considered coherent with the programme’s educational objectives and intended learning outcomes.

Recognition of Professional Skills and Competencies

The Degree Programme Board may recognize:

- Professional knowledge and skills certified in accordance with current legislation;
- Knowledge and skills acquired through post-secondary educational activities in the design and delivery of which the University has participated.

Applications for recognition are evaluated by the Degree Programme Board.

Credit recognition may be granted where the activity is deemed consistent with the specific educational objectives of the Degree Programme and of the educational activities for which recognition is requested, taking into account both the content and the duration of the activity completed.

The maximum number of credits that may be recognized is 48 ECTS credits (CFU).

Recognition of Language Certifications

ECTS credits (CFU) for the English Language course are awarded automatically upon submission to the Student Services Office of a certificate demonstrating successful completion of a language proficiency test at CEFR level B2 or higher.

The certificate must have been obtained within the previous five calendar years, with the exception of IGCSE, IELTS, and TOEFL certifications, which are valid for two calendar years only.

For the complete list of recognised language certifications, please refer to the following webpage:

<https://www.uninsubria.it/servizi/tutti-i-servizi/riconoscimento-certificazioni-lingue-straniere-dista>

Art. 10 - Opportunities Available Throughout the Programme

The Degree Programme promotes a number of initiatives designed to complement and enrich the academic experience. In particular, students may take advantage of the following opportunities:

- **International Mobility – Erasmus+** and Other Mobility Programmes
<https://www.uninsubria.it/internazionale/mobilita-allestero/programma-erasmus>



Students are encouraged to participate in international mobility programmes, including Erasmus+ and other study-abroad initiatives offered by the University.

- **Tutoring Services** (<https://www.uninsubria.it/servizi/tutti-i-servizi/tutorato>)

The Tutoring Service provides a range of activities aimed at guiding, assisting, advising, and informing students throughout their academic career. In addition to the University-wide tutoring service, which offers general information and guidance, the Degree Programme annually appoints several categories of student tutors through a competitive selection process involving senior Bachelor's students and Master's students:

- Subject Tutors, who support instructors during tutorials and practical classes;
- Peer Tutors, who assist students with questions and difficulties related to first-year courses;
- Information Tutors, who support first-year students in collaboration with academic staff and the Academic Office, and participate in outreach and orientation activities with secondary schools.

- **Student Collaboration Schemes**

As part of the University's student support initiatives, students may apply for paid Student Collaboration Activities (200-hour collaborations).

Further information is available at: <https://www.uninsubria.it/servizi/tutti-i-servizi/collaborazioni-studentesche-200-ore>

- **Internships and Placement Services**

The internship represents a key stage in the academic programme, enabling students to apply and deepen the knowledge and skills acquired during their studies. Throughout the internship experience, students have the opportunity to strengthen their independent judgment, communication skills, and familiarity with the terminology and professional practices of their chosen field. The internship also promotes the development of self-learning and self-assessment abilities. Depending on the area selected, students gain valuable experience that may support either further academic studies or entry into the labour market. The educational objectives of each internship are specified within an individual training project approved by the Internship Committee, ensuring consistency with the specific educational objectives of the Degree Programme and its intended professional outcomes. The internship activity is preparatory to the drafting of the final dissertation, which students will discuss during the Final Examination.

Students are required to undertake an internship within a company, public or private organization, or research group under the supervision of an academic tutor.

The internship is worth 15 ECTS credits (CFU), corresponding to 375 hours of activity. Students may activate the internship when no more than four courses remain to be completed in their study plan, provided that all compulsory first- and second-year courses have already been passed. The Internship Syllabus is available on the Department's Curricular Internship webpage: <https://www.uninsubria.it/servizi/tutti-i-servizi/tirocini-curricolari-dista>

The Department of Theoretical and Applied Sciences (DiSTA) supports students through its Placement Office (Sportello Stage), which promotes curricular internships as valuable

opportunities for acquiring practical experience, both within and outside the University, particularly with qualified public and private organizations.

The Department's internship webpage provides detailed information regarding the procedures for activating both internal and external internships: <https://www.uninsubria.it/servizi/tutti-i-servizi/tirocini-curricolari-dista>

External internships are governed by the applicable regional regulations on internships (Regional Resolution DGR 7763/2018). For the Bachelor's Degree Programme in Computer Science, a detailed description of the internship activity can be consulted here:

https://www.uninsubria.it/sites/default/files/Didattica/DiSTA/DiSTA_Tirocinio_INFO_F004.pdf

Students may contact the Placement Office for further information:

<https://www.uninsubria.it/Ateneo/tutte-le-sedi/sportello-stage-dista>

Art. 11 - 4. Graduation exams

The final examination consists of the preparation of a written dissertation, produced under the supervision of an academic tutor, who also acts as the supervisor.

The **syllabus for the final examination** is available on the programme's webpage:

<https://www.uninsubria.it/triennale-informatica> under "*Percorsi formativi e programmi*", by selecting the relevant cohort.

The dissertation must be submitted by the student according to the University's procedures, detailed at: <https://www.uninsubria.it/servizi/vivere-insubria/laurearsi/esame-di-laurea-triennale-e-magistrale-informatica>

The dissertation may be written either in Italian or in English (in the latter case, an adequate summary in Italian must be included).

The degree awarding session is public, and is preceded by a public evaluation phase during which the candidates are assessed by a restricted Examination Committee, appointed by the Programme Director.

The final mark depends partly on the type of activity carried out by the student, which may include:

- a) a report and analysis of work completed during an internship at an external company or organisation;
- b) a report on experimental and/or theoretical work conducted as part of a research project within the University;
- c) a review-based report on innovative methodologies or technologies proposed as solutions to emerging challenges.

The overall final mark is expressed out of 110.

The final degree classification is calculated by summing the following components:

1. The weighted average, based on credits, of the marks obtained in individual examinations, expressed out of 110, in accordance with the University's Student Regulations;
2. An additional score based on the outcome of the final examination:
 - 0 to 7 points for dissertations of type a) or b);
 - 0 to 3 points for dissertations of type c);
3. An additional bonus of up to 3 points may be awarded to students who have undertaken a study period abroad under the ERASMUS programme, in accordance with the criteria below.

The additional score mentioned in point 2 is determined based on the following criteria:



- Achievement of the stated objectives;
- Accuracy, clarity, and conciseness of the presentation;
- Appropriateness of the tools and methods used;
- Correct application of tools and methods, and the quality of the results;
- Innovation of the proposed solutions;
- Satisfaction of the external supervisor (for internships carried out in external organisations);
- Autonomy and initiative demonstrated by the student during the preparation of the final dissertation.

For dissertations of type a), the additional score will also take into account the evaluation provided by the external company tutor regarding the student's work.

The additional points under item 3 (ERASMUS) are assigned based on two indicators of the student's academic achievement abroad:

- N = number of ECTS credits recognised in the student's academic record as a result of passing exams included in the Learning Agreement (including any subsequent modifications), taken at the host university;
- M = average mark, converted to thirtieths, of the exams recognised and validated in the student's academic record from the host university.

The score is awarded according to the following rules:

- 1 point if N is between 20 and 29 ECTS (inclusive);
- 2 points if N is 30 ECTS or more and M is no more than 25/30;
- 3 points if N is 30 ECTS or more and M is greater than 25/30.

Following the evaluation phase described above, the restricted committee delivers a confidential assessment of the dissertation to the final degree board, composed of five members, in accordance with the University Teaching Regulations (Art. 29 – [link](#)).

If the final score, after all additions, reaches or exceeds 110, the awarding of honours (cum laude) may be granted unanimously by the degree board. Honours are awarded in recognition of outstanding mastery of core concepts and methods, exceptional critical thinking and application skills, or evident autonomy and originality demonstrated during the final project.

The degree is formally awarded in a public session.

The schedule of Final Examination sessions and the procedures for registration are available at the following webpage: <https://www.uninsubria.it/servizi/vivere-insubria/laurearsi/esame-di-laurea-triennale-e-magistrale-informatica>

Upon completion of the Degree Programme, graduates are issued a Diploma Supplement, an accompanying document to the official degree certificate that provides information on the nature, level, context, content, and status of the studies successfully completed by the student.

The Diploma Supplement is issued in both Italian and English.

Its purpose is to provide transparent and internationally comparable information on academic qualifications (degrees, diplomas, certificates, etc.), thereby facilitating the fair academic and professional recognition of qualifications and promoting student mobility. The Diploma Supplement complies with the Europass standard.

The relevant regulations and a sample of the document are available at the following link: <https://www.mim.gov.it/web/guest/-/nuovo-supplemento-al-diploma-con-4-allegati-relativi-alla-compilazione-e-alle-linee-guida-nazionali-per-la-digitalizzazione>



Art. 12 - Quality Assurance of the Degree Programme

With regard to Quality Assurance (QA), the Degree Programme follows the procedures, methodological approach, and terminology established by the University's Quality Assurance Office (Presidio della Qualità di Ateneo), taking into account the regulations and guidelines issued by the Ministry of University and Research (MUR) and the National Agency for the Evaluation of Universities and Research Institutes (ANVUR).

The Degree Programme Board is responsible for ensuring the academic and organizational coordination of the Degree Programme's activities, in compliance with the responsibilities and guidelines established by the Department Board and the relevant regulations.

Where applicable, Degree Programme Boards may oversee both first-cycle (Bachelor's) and second-cycle (Master's) degree programmes belonging to the same disciplinary area.

Each Degree Programme Board elects from among its members a Chair, who serves as the Head of the Degree Programme. The Chair is responsible for the educational offer, self-assessment activities, and periodic programme review.

The Degree Programme Board normally meets on a monthly basis to carry out routine management activities, review and approve, where required, the preparatory work carried out by the various committees delegated by the Degree Programme, and formulate proposals and recommendations for the Department Board within its areas of competence. In particular, it contributes to decisions concerning:

Annual academic planning;

Student administrative matters;

Internships and placements;

Guidance and orientation activities;

Agreements and collaborations with Italian and international universities, as well as with public and private organizations;

Laboratories and seminars;

Examination and graduation calendars;

Other academic and organizational matters related to the Degree Programme.

The Chair is supported by the AiQua Committee of the Degree Programme (Internal Quality Assurance Committee) in managing the Degree Programme's quality processes, carrying out self-assessment and review activities, and preparing the key Quality Assurance documents.

The AiQua Committee consists of the Chair of the Degree Programme, one or more academic staff members, and one or more student representatives, with the support of administrative staff acting as facilitators of the Quality Assurance system. Administrative staff provide operational support and, within the framework of continuous improvement and self-assessment processes, communicate observations, critical issues, and proposals concerning both the educational pathway and the services supporting teaching activities.

Joint Committee of Faculty and Students (CPDS)

At Department level, a Joint Committee of Faculty and Students (Commissione Paritetica Docenti-Studenti – CPDS) is established. The Committee consists of one faculty member and one student



representative for each Degree Programme within the Department, ensuring representation across the different disciplinary areas.

Student members are elected by the student representatives serving on the Degree Programme Boards or, where such representatives are not available, by the Department Board. The positions of Chair and Vice-Chair are held respectively by a faculty member and a student representative.

The Committee is supported by a member of the Department's administrative staff.

The CPDS is responsible for:

Monitoring the educational offer and the quality of teaching and student services provided by the Department;

Identifying indicators to evaluate their effectiveness;

Expressing opinions on the establishment or discontinuation of courses and degree programmes;

Developing proposals aimed at improving teaching quality and the efficiency of educational facilities and services, which are then submitted to the Department Board.

The Joint Committee of Faculty and Students normally schedules periodic meetings in order to carry out continuous monitoring activities.

Student Representation

Students elect their representatives to the Department Board, the Degree Programme Board and the Joint Committee of Faculty and Students (CPDS).

Student representatives serving on the AiQua Committees are appointed according to the procedures established by the Degree Programme.

Information on student representatives is available on the dedicated webpages listing the names and roles of the elected and appointed representatives: <https://archivio.uninsubria.it/siti-tematici-o-federati/siti-dei-dipartimenti/dipartimento-di-scienze-teoriche-e-applicate-dista-2#cpds>

Teaching Evaluation Questionnaires and Opinion Week

Student evaluation of teaching is carried out through an online questionnaire, with separate versions for attending and non-attending students.

The questionnaire is administered to all students during a period running from approximately two-thirds of the teaching semester until the end of classes, for each semester. It is made available through the University's student information system (ESSE3), which students access when registering for examinations. The system guarantees the anonymity of respondents.

Further information is available on the dedicated webpage: <https://www.uninsubria.it/Ateneo/la-nostra-qualita/opinioni-degli-studenti>

In accordance with the guidelines established by the University's Quality Assurance Office, the Degree Programme participates in the Opinion Week initiative, a dedicated week during which students are encouraged to complete the teaching evaluation questionnaires.



During Opinion Week, instructors invite students during class sessions to make use of this important tool for expressing their opinions on the quality of teaching and the learning experience.

The Degree Programme also identifies a specific occasion to provide feedback to students on the results of the questionnaires collected during the previous semester and to illustrate any actions or improvement initiatives that have been implemented in response to the feedback received.

At the end of the internship, students are required to complete an internship evaluation form. The information collected is used by the University to monitor and assess the internship experience and to support the continuous improvement of the service provided.

In addition, students must submit to the Degree Programme's Placement Office (Sportello Stage) a report certifying the successful completion of the internship in order to obtain recognition of the corresponding ECTS credits (CFU).

With regard to the opinions and feedback of graduating students and graduates, the Degree Programme relies on the surveys conducted by the AlmaLaurea Inter-University Consortium.

The results of these surveys are also available through the Degree Programme's webpages dedicated to student and graduate opinions.

ANNEXES

Annex 1 – Study Plan



Annex 1 – Study Plan

PLANNED CURRICULUM - COHORT 2026/2027

The Planned Curriculum refers to the complete set of courses and educational activities included in the Degree Programme that must be completed by students enrolling in the current academic year (the cohort of enrolment) in order to successfully complete their programme of study and obtain the degree qualification.

I° YEAR							
COURSE TITLE	MODULE	CFU	S.S.D.	DISCIPLINARY AREA/ TAF	HOURS	semester	ASSESSMENT METHODS *
ALGEBRA E GEOMETRIA		9	MATH-02/A	A / Mathematical-physical training	LEZ:72	First	V
ARCHITETTURA DEGLI ELABORATORI		9	IINF-01/A	A / Computer training	LEZ:56 ESE:24	First	V
PROGRAMMAZIONE		12	IINF-05/A	B / Scientific and technological training	LEZ:80 ESE:24	First	V
ANALISI MATEMATICA		9	MATH-03/A	A / Mathematical-physical training	LEZ:64 ESE:12	Second	V
ALGORITMI E STRUTTURE DATI		9	IINF-01/A	A / Computer training	LEZ:72	Second	V
INGLESE		6	ANGL-01/C	AND/For knowledge of at least one foreign language	LEZ:48	Second	V
LABORATORIO INTERDISCIPLINARE A e B	LABORATORIO INTERDISCIPLINARE A	3 (di 6)	ING-INF/05	B / Scientific and technological training	LEZ:8	Second	I
TEST DI VERIFICA DELLE CONOSCENZE		0	NN	NN	LEZ:0	ND	I

II° YEAR							
COURSE TITLE	MODULE	CFU	S.S.D.	DISCIPLINARY AREA/ TAF	HOURS	semester	ASSESSMENT METHODS *
LABORATORIO INTERDISCIPLINARE A e B	LABORATORIO INTERDISCIPLINARE B	3 (di 6)	IINF-05/A	B / Scientific and technological training	LEZ:8	Second	V



BASI DI DATI		9	IINF-01/A	B / Scientific and technological training	LEZ:64 LAB:16	First	V
PROGETTAZIONE DEL SOFTWARE		8	IINF-05/A	B / Scientific and technological training	LEZ:48 ESE:24	First	V
SISTEMI OPERATIVI		8	IINF-01/A	B / Scientific and technological training	LEZ:48 ESE:24	First	V
PROGRAMMAZIONE CONCORRENTE E DISTRIBUITA		8	IINF-05/A	B / Scientific and technological training	LEZ:48 ESE:24	Second	V
LOGICA		6	MATH-01/A	C / Related or supplementary training activities	LEZ:32 ESE:24	Second	V
PROBABILITÀ E STATISTICA PER L'INFORMATICA		6	MATH-03/B	C / Related or supplementary training activities	LEZ:48	First	V
The second-year student must also choose 12 credits from the elective courses offered by BLOCK 1 Subject area B/ Scientific and technological training. (see table ELECTIVE COURSES BLOCK 1)							

III° YEAR						
COURSE TITLE	CFU	S.S.D.	DISCIPLINARY AREA/ TAF	HOURS	semester	ASSESSMENT METHODS *
AUTOMI E LINGUAGGI	6	IINF-01/A	B / Scientific and technological training	LEZ:40 ESE:12	First	V
RETI DI TELECOMUNICAZIONE	9	IINF-05/A	B / Scientific and technological training	LEZ:64 ESE:12	First	V
FONDAMENTI DI SICUREZZA	6	IINF-01/A	B / Scientific and technological training	LEZ:48	First	V
STUDENT'S CHOICE	12	NN	D / a scelta dello studente		ND	V
FINAL EXAM	3	NN	Language/Final Exam / For the Final Exam		Second	V
TRAINING INTERNSHIP	15	NN	Other / Training and orientation internships	TIR:375	Annuale	I
The third-year student will also have to choose: 6 CFU among the elective courses proposed by <u>BLOCK 1</u> Subject area B/ Scientific and technological training 6 CFU among the elective courses proposed by <u>BLOCK 2</u> Disciplinary Area C/Related or supplementary educational activities (see table ELECTIVE COURSES BLOCK 1 and BLOCK 2)						



ELECTIVE COURSES IN CHOICE BLOCKS

BLOCK 1 Disciplinary area B/Scientific and Technological training (The student must choose 12 credits in the II YEAR and 6 credits in the III YEAR)						
COURSE TITLE	CFU	S.S.D.	DISCIPLINARY AREA/ TAF	HOURS	semester	ASSESSMENT METHODS *
COMPUTER VISION E INTELLIGENZA ARTIFICIALE	6	IINF-01/A	B / Scientific and technological training	LEZ:48	Second	V
BIG DATA	6	IINF-05/A	B / Scientific and technological training	LEZ:48	Second	V
BASI DI DATI II	6	IINF-01/A	B / Scientific and technological training	LEZ:48	Second	V
FONDAMENTI DI INTERNET OF THINGS	6	IINF-05/A	B / Scientific and technological training	LEZ:48	Second	V
MODELLI INNOVATIVI PER LA GESTIONE DEI DATI	6	IINF-01/A	B / Scientific and technological training	LEZ:48	Second	V
PROGRAMMAZIONE DI DISPOSITIVI MOBILI	6	IINF-01/A	B / Scientific and technological training	LEZ:40 LAB:16	Second	V
PROGRAMMAZIONE PROCEDURALE E AD OGGETTI	6	IINF-01/A	B / Scientific and technological training	LEZ:48	Second	V
FONDAMENTI DI QUANTUM COMPUTING	6	INFO-01/A	B / Scientific and technological training	LEZ:48	Secondo	V
TECNOLOGIE INNOVATIVE PER LO SVILUPPO WEB	6	IINF-01/A	B / Scientific and technological training	LEZ:40 LAB:16	Second	V
TECNICHE DI SVILUPPO BASATE SU AI	6	INFO-01/A	B / Scientific and technological training	LEZ:40 LAB:12	Second	V
Please note: some courses may be activated in alternate years. The final framework of the courses activated in the year of competence will be made available at the opening of the online submission/modification of the study plans.						

BLOCCO 2 Ambito disciplinare C/Attività formative affini o integrative (Lo studente deve scegliere 6 CFU al III ANNO)						
Denominazione INSEGNAMENTO	CFU	S.S.D.	AMBITO DISCIPLINARE / TAF	ORE	semestre	MODALITÀ DI VERIFICA*
MICROCONTROLLORI	6	IINF-01/A	C / Related or supplementary training activities	LEZ:48	First	V
PROGRAMMAZIONE FUNZIONALE	6	MATH-01/A	C / Related or supplementary training activities	LEZ:48	Second	V
SISTEMI INFORMATIVI	6	ECON-08/A	C / Related or supplementary training activities	LEZ:48	First	V



***G** – GRADE **V** – EXAM **I** – ELIGIBILITY **F** – ATTENDANCE

HOURS and type of activity **Lez**: lesson **Ese**: exercise **Lab**: laboratory **Sem**: seminar **T**: internship



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