Università degli Studi di Genova

Regolamento Didattico del Corso di Laurea Magistrale in Computer Science
http://courses.unige.it/10852

Classe LM-18: Informatica

Art. 1 Requisiti di ammissione e modalità di verifica

Tutti coloro che intendano iscriversi al primo anno devono presentare la domanda di ammissione online entro il termine stabilito ogni anno dal Manifesto degli Studi.
Per iscriversi è necessario dimostrare il possesso dei seguenti requisiti curriculari minimi: aver conseguito almeno 180 CFU, 90 dei quali nei settori INF/01, ING-INF/03, ING-INF/04, ING-INF/05, ING-INF/06, FIS/01, FIS/02, FIS/03, FIS/07, MAT/01, MAT/02, MAT/03, MAT/05, MAT/06, MAT/07, MAT/08, MAT/09, SECS-S/01 e/o SECS-S/02. Nel caso di lauree italiane ottenute con ordinamenti che non prevedono crediti, o di titoli di studio ottenuti all'estero, il CCS attribuirà a ciascuna attività formativa acquisita un settore scientifico-disciplinare e un valore in CFU.
L'ammissione è subordinata al superamento di una verifica dell'adeguatezza della preparazione personale mediante un colloquio, effettuato da una apposita Commissione nominata dal CCS, che verterà sulle conoscenze di base necessarie per seguire con profitto gli studi, eventualmente differenziate per curriculum, sulla verifica di un'adeguata conoscenza della lingua inglese, e potrebbe suggerire azioni necessarie a colmare eventuali lacune disciplinari.
La Commissione delibererà sul raggiungimento dei requisiti (sia curriculari che individuali) dandone comunicazione all'interessato.

Art. 2 Curricula

Il CdLM è organizzato nei curricula

- *Data Science and Engineering*
- *Software Security and Engineering*

Art. 3 Frequenza e modalità di svolgimento delle attività didattiche

La frequenza alle attività didattiche in presenza, fisica o virtuale, è fortemente raccomandata. Tutte le attività didattiche del CdLM sono svolte in lingua inglese.

Art. 4 Esami e altre verifiche del profitto

Per ogni attività didattica la verifica del profitto individuale degli studenti avviene attraverso un esame finale, o attraverso altre forme specificate nei commi successivi. Ai fini del presente articolo si distinguono gli insegnamenti dalle altre attività formative. Per gli insegnamenti, l'esame finale può essere svolto con una o più delle seguenti modalità: prova scritta, prova orale e prova individuale di laboratorio. Forme alternative di verifica del profitto sono: laboratori guidati con obbligo di frequenza, realizzazione di progetti, redazione di tesine, preparazione e presentazione di seminari. Tali forme alternative sostituiscono una o più prove dell'esame finale e si svolgono una o più volte durante l'anno. Laboratori guidati, progetti, tesine e seminari si possono svolgere nel periodo di lezione, e sono integrativi delle prove di esame finale. L'esame finale, invece, non si può svolgere in periodo di lezione ma solo nei periodi espressamente dedicati, specificati nel Manifesto degli Studi. Il docente incaricato può derogare da questa regola

esclusivamente nel caso di studenti che, nell'anno accademico in corso, non abbiano inserito attività formative nel proprio piano di studi.

Per attività non riconducibili a quelle considerate nei commi precedenti le modalità di verifica sono riportate nel Manifesto degli Studi e sono possibili due tipologie di valutazione: idoneità, nel qual caso i CFU corrispondenti non concorrono al calcolo della media finale, oppure votazione in trentesimi, con valutazione demandata ad una apposita Commissione designata dal CCS.

Art. 5 Riconoscimento di crediti

La carriera pregressa degli studenti che si iscrivono al CdLM è valutata caso per caso tenendo conto dei contenuti e del carico di studio.
A ogni studente iscritto al CdLM, al quale siano stati riconosciuti dei CFU sulla base della valutazione della carriera pregressa, viene assegnata una coorte di riferimento e la durata attesa del suo percorso di studi.
Per quanto riguarda le conoscenze e le abilità professionali certificate individualmente ai sensi delle norme vigenti in materia, nonché le altre conoscenze e abilità maturate in attività formative di livello post-secondario alla cui progettazione e realizzazione l'Università abbia concorso, il numero massimo di CFU riconoscibili è pari a 12.

Art. 6 Mobilità e studi compiuti all'estero

Il CdLM, allo scopo di migliorare il livello di internazionalizzazione del percorso formativo, incoraggia gli studenti a svolgere periodi di studio all'estero, sulla base di accordi con università straniere. Le opportunità di studio all'estero sono rese note agli studenti attraverso appositi bandi di selezione, a cura dell'Ateneo. Allo studente che abbia svolto attività formative all'estero per almeno 30 CFU potranno essere riconosciuti 3CFU aggiuntivi.

Art. 7 Prova Finale

L'esame di Laurea Magistrale consiste nella stesura e nella discussione in lingua inglese di una tesi elaborata in modo originale dallo studente sotto la guida di uno o più relatori (anche esterni) e il controllo di un correlatore. Il CCS predispone un regolamento specifico per l'attività di tesi e per la prova finale.

Indirizzo	Anno	Codice	Nome	CFU	SSD	Tipologia	Ambito	Obiettivi formativi	Ore Frontali	Ore Studio
DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE	1	90498	MACHINE LEARNING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning how to use classical supervised and unsupervised machine learning algorithms by grasping the underlying computational and modeling issues.	56	169
DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE	1	90520	DIGITAL SIGNAL & IMAGE PROCESSING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Acquiring the basic tools for the analysis of signals in both the space and frequency domains, and learning the main image processing techniques for feature extraction, image segmentation, image registration, and image matching.	56	169
DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE	1	90539	COMPUTATIONAL VISION	6	INF/01	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Learning how to represent image content adaptively by means of shallow or deep computational models and biologically-inspired hierarchical models, and how to tackle image classification and categorization problems.	40	110
DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE	1	90549	ADDITIONAL USEFUL KNOWLEDGE	3		ALTRE ATTIVITA'	Altre Conoscenze Utili per l'Inserimento Nel Mondo del Lavoro		0	75
DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE	1	101804	ADVANCED MACHINE LEARNING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning how to use advanced machine learning algorithms, including learning data representation (dictionaries and metric), deep learning, and learning in dynamic environment (online, active and reinforcement learning), by grasping the underlying computational and modeling issues.	56	169
DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE	1	101809	DISTRIBUTED COMPUTING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning how to design high quality distributed systems, ranging from classical client-server to peer-to-peer and blockchain-based systems, and applying classical mathematical tools to measure reliability, availability, and fault tolerance.	72	153
DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE	1	108871	AUGMENTED REALITY	6	INF/01	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Learning the theoretical and methodological fundamentals of Augmented Reality, from the concepts of 3D Computational Vision to model the real-world world, to the synthesis of the virtual environments, and their fusion.	48	102
DATA SCIENCE & ENGINEERING - VISUAL COMPUTING	1	90498	MACHINE LEARNING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning how to use classical supervised and unsupervised machine learning algorithms by grasping the underlying computational and modeling issues.	56	169
DATA SCIENCE & ENGINEERING - VISUAL COMPUTING	1	90520	DIGITAL SIGNAL & IMAGE PROCESSING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Acquiring the basic tools for the analysis of signals in both the space and frequency domains, and learning the main image processing techniques for feature extraction, image segmentation, image registration, and image matching.	56	169
DATA SCIENCE & ENGINEERING - VISUAL COMPUTING	1	90539	COMPUTATIONAL VISION	6	INF/01	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Learning how to represent image content adaptively by means of shallow or deep computational models and biologically-inspired hierarchical models, and how to tackle image classification and categorization problems.	40	110
DATA SCIENCE & ENGINEERING - VISUAL COMPUTING	1	90549	ADDITIONAL USEFUL KNOWLEDGE	3		ALTRE ATTIVITA'	Altre Conoscenze Utili per l'Inserimento Nel Mondo del Lavoro		0	75

DATA SCIENCE & ENGINEERING - VISUAL COMPUTING	1	101804	ADVANCED MACHINE LEARNING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning how to use advanced machine learning algorithms, including learning data representation (dictionaries and metric), deep learning, and learning in dynamic environment (online, active and reinforcement learning), by grasping the underlying computational and modeling issues.	56	169
DATA SCIENCE & ENGINEERING - VISUAL COMPUTING	1	101809	DISTRIBUTED COMPUTING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning how to design high quality distributed systems, ranging from classical client-server to peer-to-peer and blockchain-based systems, and applying classical mathematical tools to measure reliability, availability, and fault tolerance.	72	153
DATA SCIENCE & ENGINEERING - VISUAL COMPUTING	1	109186	COMPUTER GRAPHICS	6	INF/01	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Learning the theoretical and methodological fundamentals of Computer Graphics	48	102
DATA SCIENCE & ENGINEERING: DATA-CENTRIC COMPUTING	1	90498	MACHINE LEARNING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning how to use classical supervised and unsupervised machine learning algorithms by grasping the underlying computational and modeling issues.	56	169
DATA SCIENCE & ENGINEERING: DATA-CENTRIC COMPUTING	1	90524	INTERNET OF THINGS	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning methods, protocols, architectures, and platforms for the development of distributed and mobile applications for the Internet of Things, including machine to machine protocols, distributed algorithms for fault tolerance and replication, service oriented architectures platforms, embedded operating systems, real time and streaming data, geolocation, and collaborative framework.	56	169
DATA SCIENCE & ENGINEERING: DATA-CENTRIC COMPUTING	1	90530	NETWORK ANALYSIS	6	INF/01	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Learning algorithms and techniques for large scale graph analytics, including centrality measures, connected components, graph clustering, graph properties for random, small-world, and scale free graphs, graph metrics for robustness and resiliency, and graph algorithms for reference problems.	48	102
DATA SCIENCE & ENGINEERING: DATA-CENTRIC COMPUTING	1	90549	ADDITIONAL USEFUL KNOWLEDGE	3		ALTRE ATTIVITA'	Altre Conoscenze Utili per l'Inserimento Nel Mondo del Lavoro		0	75
DATA SCIENCE & ENGINEERING: DATA-CENTRIC COMPUTING	1	101798	DATA WAREHOUSING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning the theoretical, methodological, and technological fundamentals of data management and analysis in decision support systems, with a specific reference to data warehousing architectural and design issues, as well as key elements of data integration and governance, data quality and cleaning, ExtractionTransformation-Loading processes, conceptual, logical, and physical design of data warehouses, storage architectures and scalable parallel processing, use of data warehouses for business reporting and online analytical	56	169
DATA SCIENCE & ENGINEERING: DATA-CENTRIC COMPUTING	1	101809	DISTRIBUTED COMPUTING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning how to design high quality distributed systems, ranging from classical client-server to peer-to-peer and blockchain-based systems, and applying classical mathematical tools to measure reliability, availability, and fault tolerance.	72	153
DATA SCIENCE & ENGINEERING: DATA-CENTRIC COMPUTING	1	108871	AUGMENTED REALITY	6	INF/01	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Learning the theoretical and methodological fundamentals of Augmented Reality, from the concepts of 3D Computational Vision to model the real-world world, to the synthesis of the virtual environments, and their fusion.	48	102
SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	1	86798	MACHINE LEARNING AND DATA ANALYSIS	6	ING-INF/05	CARATTERIZZANTI	Discipline Informatiche	Students will be provided with advanced skills related to data analysis. Students will learn insights on data mining methodologies andspecific applications of these methodologies to particular data organizations.	48	102

SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	1	86800	VIRTUALIZATION AND CLOUD COMPUTING	6	ING-INF/05	CARATTERIZZANTI	Discipline Informatiche	The course provides the foundations of the main virtualization technologies at the state of the art. In detail, the course focuses on several types of virtualization, like Storage-level, OS-level, Application-level, and Enterprise-level virtualization. The course is mostly practical, with the aim to teach the student how to deal with current virtualization technologies to build actual virtualized architectures.	48	102
SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	1	90524	INTERNET OF THINGS	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning methods, protocols, architectures, and platforms for the development of distributed and mobile applications for the Internet of Things, including machine to machine protocols, distributed algorithms for fault tolerance and replication, service oriented architectures platforms, embedded operating systems, real time and streaming data, geolocation, and collaborative framework.	56	169
SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	1	101805	MOBILE DEVELOPMENT	6	INF/01	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Learning the design and development of mobile applications by using state of the practice IDEs, frameworks, languages, and technologies.	40	110
SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	1	101806	IT PROJECT MANAGEMENT	6	INF/01	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Learning the fundamental concepts, roles, and responsibilities of IT project management and develop skills for effective project management and leadership.	48	102
SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	1	101807	SOFTWARE SYSTEMS DESIGN AND MODELLING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning through practical experience the basic conceptual tools for the design and modelling of software systems, and acquiring communication skills and lifelong learning capabilities.	56	169
SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	1	101808	FUNCTIONAL AND SECURITY TESTING TECHNIQUES	6	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning the fundamentals in functional and security testing of software systems, with special emphasis on challenges posed by Web and Mobile applications, and getting acquainted with automated tools used to practice testing techniques.	40	110
SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	1	101809	DISTRIBUTED COMPUTING	6	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning how to design high quality distributed systems, ranging from classical client-server to peer-to-peer and blockchain-based systems, and applying classical mathematical tools to measure reliability, availability, and fault tolerance.	48	102
SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	1	86798	MACHINE LEARNING AND DATA ANALYSIS	6	ING-INF/05	CARATTERIZZANTI	Discipline Informatiche	Students will be provided with advanced skills related to data analysis. Students will learn insights on data mining methodologies andspecific applications of these methodologies to particular data organizations.	48	102
SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	1	86800	VIRTUALIZATION AND CLOUD COMPUTING	6	ING-INF/05	CARATTERIZZANTI	Discipline Informatiche	The course provides the foundations of the main virtualization technologies at the state of the art. In detail, the course focuses on several types of virtualization, like Storage-level, OS-level, Application-level, and Enterprise-level virtualization. The course is mostly practical, with the aim to teach the student how to deal with current virtualization technologies to build actual virtualized architectures.	48	102
SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	1	90524	INTERNET OF THINGS	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning methods, protocols, architectures, and platforms for the development of distributed and mobile applications for the Internet of Things, including machine to machine protocols, distributed algorithms for fault tolerance and replication, service oriented architectures platforms, embedded operating systems, real time and streaming data, geolocation, and collaborative framework.	56	169
SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	1	90538	DATA PROTECTION & PRIVACY	9	ING-INF/05	CARATTERIZZANTI	Discipline Informatiche	Students will learn the theoretical and practical bases of the anonymization of personal data. In particular, students will study state-of-the-art techniques for the anonymization of multidimensional data, graphs, time series, longitudinal and transactional data, as well as some legal bases on the protection of personal data.	56	169

SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	1	101805	MOBILE DEVELOPMENT	6	INF/01	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Learning the design and development of mobile applications by using state of the practice IDEs, frameworks, languages, and technologies.	40	110
SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	1	101808	FUNCTIONAL AND SECURITY TESTING TECHNIQUES	6	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning the fundamentals in functional and security testing of software systems, with special emphasis on challenges posed by Web and Mobile applications, and getting acquainted with automated tools used to practice testing techniques.	40	110
SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	1	101809	DISTRIBUTED COMPUTING	6	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning how to design high quality distributed systems, ranging from classical client-server to peer-to-peer and blockchain-based systems, and applying classical mathematical tools to measure reliability, availability, and fault tolerance.	48	102
SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	1	101812	DIGITAL FORENSICS	6	INF/01	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Learning how to conduct digital investigations, following the standard process involving identification, acquisition, storage, and analysis of digital evidence.	48	102
DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE	2	90529	DATA VISUALIZATION	6	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning principles, methods, and techniques for effective visual analysis of data, including techniques for visualizing both spatial and non-spatial data, principles from computer graphics and human perception.	40	110
DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE	2	90535	HIGH PERFORMANCE COMPUTING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning the main aspects of modern high-performance computing systems (pipeline/superscalar processors,shared-memory/message-passing multiprocessors, vector processors, GPUs) and basic programming skills for high-performance computing (cache optimization, OpenMP, MPI, OpenCL).	56	169
DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE	2	90537	FINAL DISSERTATION	30		PROVA FINALE	Per la Prova Finale		0	750
DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE	2	90541	NATURAL LANGUAGE PROCESSING	6	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning how to process and represent natural language, and the main software components of a system able to understand natural language.	32	118
DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE	2	90545	MULTIAGENTS SYSTEMS	6	INF/01	CARATTERIZZANTI	Discipline Informatiche	Getting acquainted with the concept of an agent and multiagent system, and learning how to design intelligent autonomous agents and how to deal with the main implementation issues.	32	118
DATA SCIENCE & ENGINEERING - VISUAL COMPUTING	2	80412	GEOMETRIC MODELING	6	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning theoretical foundations, techniques and methodologies for the representation and manipulation of solid objects, 2D and 3D scalar surfaces and fields, and related computational techniques. Learning computational techniques for resolving geometric problems (computational geometry and geometry processing). Reference applications: computer graphics, scientific visualization, CAD systems, geographic information systems, virtual reality.	40	110
DATA SCIENCE & ENGINEERING - VISUAL COMPUTING	2	90529	DATA VISUALIZATION	6	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning principles, methods, and techniques for effective visual analysis of data, including techniques for visualizing both spatial and non-spatial data, principles from computer graphics and human perception.	40	110
DATA SCIENCE & ENGINEERING - VISUAL COMPUTING	2	90535	HIGH PERFORMANCE COMPUTING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning the main aspects of modern high-performance computing systems (pipeline/superscalar processors,shared-memory/message-passing multiprocessors, vector processors, GPUs) and basic programming skills for high-performance computing (cache optimization, OpenMP, MPI, OpenCL).	56	169
DATA SCIENCE & ENGINEERING - VISUAL COMPUTING	2	90537	FINAL DISSERTATION	30		PROVA FINALE	Per la Prova Finale		0	750
DATA SCIENCE & ENGINEERING - VISUAL COMPUTING	2	90545	MULTIAGENTS SYSTEMS	6	INF/01	CARATTERIZZANTI	Discipline Informatiche	Getting acquainted with the concept of an agent and multiagent system, and learning how to design intelligent autonomous agents and how to deal with the main implementation issues.	32	118

DATA SCIENCE & ENGINEERING: DATA-CENTRIC COMPUTING	2	61884	ADVANCED DATA MANAGEMENT	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning the theoretical, methodological, and technological fundamentals of data management for advanced data processing architectures, with a specific reference to large-scale distributed environments, like key elements of NoSQL and stream-based systems as well as basic issues in parallel and distributed query processing, multi-query processing, and high-throughput transactional systems.	56	169
DATA SCIENCE & ENGINEERING: DATA-CENTRIC COMPUTING	2	90529	DATA VISUALIZATION	6	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning principles, methods, and techniques for effective visual analysis of data, including techniques for visualizing both spatial and non-spatial data, principles from computer graphics and human perception.	40	110
DATA SCIENCE & ENGINEERING: DATA-CENTRIC COMPUTING	2	90537	FINAL DISSERTATION	30		PROVA FINALE	Per la Prova Finale		0	750
DATA SCIENCE & ENGINEERING: DATA-CENTRIC COMPUTING	2	90538	DATA PROTECTION & PRIVACY	6	ING-INF/05	CARATTERIZZANTI	Discipline Informatiche	Students will learn the theoretical and practical bases of the anonymization of personal data. In particular, students will study state-of-the-art techniques for the anonymization of multidimensional data, graphs, time series, longitudinal and transactional data, as well as some legal bases on the protection of personal data.	40	110
DATA SCIENCE & ENGINEERING: DATA-CENTRIC COMPUTING	2	90545	MULTIAGENTS SYSTEMS	6	INF/01	CARATTERIZZANTI	Discipline Informatiche	Getting acquainted with the concept of an agent and multiagent system, and learning how to design intelligent autonomous agents and how to deal with the main implementation issues.	40	110
SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	2	61884	ADVANCED DATA MANAGEMENT	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Learning the theoretical, methodological, and technological fundamentals of data management for advanced data processing architectures, with a specific reference to large-scale distributed environments, like key elements of NoSQL and stream-based systems as well as basic issues in parallel and distributed query processing, multi-query processing, and high-throughput transactional systems.	56	169
SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	2	90537	FINAL DISSERTATION	29		PROVA FINALE	Per la Prova Finale		0	725
SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	2	90549	ADDITIONAL USEFUL KNOWLEDGE	1		ULTERIORI ATTIVITA' FORMATIVE	Ulteriori attività formative		0	25
SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	2	101810	CAPSTONE PROJECT	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Acquiring experience of a realistic team development effort that follows a given methodology and harnesses different technologies for the implementation of a specific product.	25	200
SOFTWARE SECURITY & ENGINEERING - SOFTWARE ENGINEERING	2	108872	BLOCKCHAIN AND DISTRIBUTED LEDGER	6	INF/01	CARATTERIZZANTI	Discipline Informatiche		48	102
SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	2	90537	FINAL DISSERTATION	29		PROVA FINALE	Per la Prova Finale		0	725
SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	2	90549	ADDITIONAL USEFUL KNOWLEDGE	1		ULTERIORI ATTIVITA' FORMATIVE	Ulteriori attività formative		0	25
SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	2	101810	CAPSTONE PROJECT	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Acquiring experience of a realistic team development effort that follows a given methodology and harnesses different technologies for the implementation of a specific product.	25	200
SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	2	101811	BINARY ANALYSIS AND SECURE CODING	9	INF/01	CARATTERIZZANTI	Discipline Informatiche	Being able to write secure code, analyze the behavior and assess security properties of source and binary programs, pinpointing and fix their vulnerabilities or apply corrective counter-measures.	56	169
SOFTWARE SECURITY & ENGINEERING - SOFTWARE SECURITY	2	108872	BLOCKCHAIN AND DISTRIBUTED LEDGER	6	INF/01	CARATTERIZZANTI	Discipline Informatiche		48	102