



**UNIVERSITÀ
DI TRENTO**

**Dipartimento di
Ingegneria e Scienza dell'Informazione**

Manifesto Laurea Magistrale in Informatica - anno accademico 2025-26

AD <i>Code ESSE3</i>	CORSO	COURSES	SSD <i>ACADEMIC DISCIPLINE</i>	NEW SSD <i>NEW ACADEMIC DISCIPLINE</i>	CFU <i>CREDITS</i>	TAF <i>TRAINING ACTIVITY</i>	ANNO <i>YEAR</i>	SEMESTRE <i>SEMESTER</i>	CREDITI DA SCEGLIERE <i>CREDITS TO CHOOSE</i>	NOTE	Docente TITOLARE COGNOME <i>PROFESSOR</i>	Docente TITOLARE NOME
Percorso Scienze e Tecnologie Informatiche - Computer Science and Technologies												
Mandatory course												
145451	Computability and computational complexity		INF/01	INFO-01/A	6	Car.	1	I	6		Brunato	Mauro
Foudation of Economy, Management and Innovation												
145761	Innovation and Business in ICT		SECS-P/10	ECON-08/A	6	Affine	1	I	6		TBD	
146122	Ethics for computer science and engineering		SECS-P/07	ECON-06/A	6	Affine	1	II			D'Andrea	Vincenzo
Foundation of Computer Science												
145062	Machine learning		INF/01	INFO-01/A	6	Car.	1	I	12		Passerini	Andrea
145322	Security Testing		INF/01	INFO-01/A	6	Car.	1	I			Marchetto	Alessandro
146223	Distributed systems		ING-INF/05	IINF-05/A	6	Car.	1	II			Picco	Gian Pietro
Complements of Communication and Electronic Engineering												
145851	Advanced computing architectures		ING-INF/01	IINF-01/A	6	Affine	1-(2)	I	6		Passerone	Roberto
145462	Simulation and Performance Evaluation		ING-INF/03	IINF-03/A	6	Affine	1	II			Casari	Paolo
140266	Computer Vision		ING-INF/03	IINF-03/A	6	Affine	1	II		*	Conci	Nicola
146311	Remote Sensing Systems and Image Analysis (ex 145612 - Advanced remote sensing systems)		ING-INF/03	IINF-03/A	6	Affine	(1)-2	I		**	Bruzzone	Lorenzo
145807	Softwarized and virtualized mobile networks		ING-INF/03	IINF-03/A	6	Affine	(1)-2	I			Granelli	Fabrizio
145614	Multimedia Data Security		ING-INF/03	IINF-03/A	6	Affine	(1)-2	I			Boato	Giulia
(*) 140266 Si consiglia la scelta di 145858 - Signal, Image and Video come prerequisito. It is recommended as a prerequisite to attend 145858 - Signal, Image and Video.												
(**) Non è consentita la ripetizione di un esame già superato in una carriera precedente.												
Depth requirement												
Scegliere un'area / Choose one area												
Area Computational Foundations												
146126	Programming Language Semantics		INF/01	INFO-01/A	6	Car.	1	II			Patrignani	Marco
145300	Concurrency		INF/01	INFO-01/A	6	Car.	1-(2)	I			Quaglia	Paola
146318	Automated Reasoning and Formal Verification (ex 145056 - Formal methods)		ING-INF/05	IINF-05/A	12	Car.	1	II			Sebastiani	Roberto
145586	Game Theory		ING-INF/05	IINF-05/A	6	Car.	1	II			Kuper	Gabriel
146391	Knowledge Graphs (ex 146114 Knowledge Graph Engineering)		ING-INF/05	IINF-05/A	6	Car.	2	I			Giunchiglia	Fausto



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145585	Quantum Machine Learning		ING-INF/05	IINF-05/A	6	Car.	(1)-2	I			Blanzieri	Enrico
<i>Area Data Science</i>												
146308	Process Mining and Management		ING-INF/05	IINF-05/A	6	Car.	1-(2)	I			Di Francescomarino	Chiara
145972	High-Performance Computing for Data Science		ING-INF/05	IINF-05/A	6	Car.	1-(2)	I			Fiore	Sandro
145764	Deep learning		ING-INF/05	IINF-05/A	6	Car.	1	II		*	Ricci	Elisa
145683	Data Visualization Lab		INF/01	INFO-01/A	6	Car.	1	II			TBD	
146391	Knowledge Graphs (ex 146114 Knowledge Graph Engineering)		ING-INF/05	IINF-05/A	6	Car.	(1)-2	I			Giunchiglia	Fausto
145084	Spatial Databases		INF/01	INFO-01/A	6	Car.	1-2	I			Kuper	Gabriel
146321	Knowledge Discovery and Pattern Extraction		INF/01	INFO-01/A	6	Car.	1	II			Casati	Fabio
145453	Data Mining		ING-INF/05	IINF-05/A	6	Car.	1-2	I			Scettri	Giacomo
146381	Laboratory of Data Mining (per gli studenti della coorte 2025-26)		ING-INF/05	IINF-05/A	6	Car.	(1)-2	I			Blanzieri	Enrico
(*) 145764 E' richiesto come prerequisito 145062 - Machine learning. It is required as a prerequisite 145062 - Machine learning.												
<i>Area Bioinformatics</i>												
145635	High-Throughput Sequencing Data Analysis		INF/01	INFO-01/A	6	Car.	1	II			Segata	Nicola
145767	Bioinformatics Resources		INF/01	INFO-01/A	6	Car.	1	II			Romanel	Alessandro
146391	Knowledge Graphs (ex 146114 Knowledge Graph Engineering)		ING-INF/05	IINF-05/A	6	Car.	1	I			Giunchiglia	Fausto
146200	Digital Epidemiology		ING-INF/05	IINF-05/A	6	Car.	1	II			Tizzoni	Michele
145053	Laboratory of Biological Data Mining (per gli studenti della coorte 2024-25)		ING-INF/05	IINF-05/A	6	Car.	(1)-2	I			Blanzieri	Enrico
<i>Area Software and Service Architectures</i>												
145810	Service Design and Engineering		ING-INF/05	IINF-05/A	6	Car.	1	I			Marchese	Maurizio
146318	Automated Reasoning and Formal Verification (ex 145056 - Formal methods)		ING-INF/05	IINF-05/A	12	Car.	1	II			Sebastiani	Roberto
145867	Autonomous Software Agents		ING-INF/05	IINF-05/A	6	Car.	1	II			Giorgini	Paolo
146217	Software Development for Collaborative Robotics		ING-INF/05	IINF-05/A	6	Car.	2	I			Lamon	Edoardo
<i>Area Systems and Networks</i>												
146217	Software Development for Collaborative Robotics		ING-INF/05	IINF-05/A	6	Car.	1	I			Lamon	Edoardo
145874	Robot Planning and its application		ING-INF/05	IINF-05/A	6	Car.	1-(2)	I			Palopoli	Luigi
145065	Network Security		INF/01	INFO-01/A	6	Car.	1	II		*	Crispo	Bruno
145771	Fog and Cloud Computing		ING-INF/05	IINF-05/A	6	Car.	1	II			Siracusa	Domenico



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146157	Blockchain	INF/01	INFO-01/A	6	Car.	1	II			TBD	
145811	Low-power wireless networking for the Internet of Things	ING-INF/05	IINF-05/A	6	Car.	(1)-2	I			Picco	Gian Pietro
(*) 145065 Si consiglia come prerequisito 145937 - Introduction to Computer and Network Security e 145322 - Security Testing per gli studenti che non hanno fatto altri corsi di Security. It is recommended as a prerequisite to attend 145937- Introduction to Computer and Network Security and 145322 - Security Testing for students that have not taken other courses in Security.											
<i>Area Cybersecurity</i>											
145508	Advanced programming of cryptographic methods	INF/01	INFO-01/A	6	Car.	1-(2)	I			Ranise	Silvio
145937	Introduction to Computer and Network Security	INF/01	INFO-01/A	6	Car.	1-(2)	I		*	Ranise	Silvio
145323	Privacy and Intellectual Property Rights	ING-INF/05	IINF-05/A	6	Car.	1-(2)	I			Rossato	Andrea
145065	Network Security	INF/01	INFO-01/A	6	Car.	1	II		**	Crispo	Bruno
145622	Cyber Security Risk Assessment	ING-INF/05	IINF-05/A	6	Car.	1	II		**	Massacci	Fabio
146219	Ethical Hacking	INF/01	INFO-01/A	6	Car.	1	II		**	Crispo	Bruno
146220	Security experiments: attacks and defenses	ING-INF/05	IINF-05/A	12	Car.	2	I		**	Massacci	Fabio
(*) Non è consentito la ripetizione di un esame già superato in una carriera precedente.											
(**) 145065 - 145622 - 146219 - 146220 Si consiglia come prerequisito 145937 - Introduction to Computer and Network Security e 145322 - Security Testing per gli studenti che non hanno fatto altri corsi di Security. It is recommended as a prerequisite to attend 145937- Introduction to Computer and Network Security and 145322 - Security Testing for students that have not taken other courses in Security.											
<i>Area HCI</i>											
145459	Participatory Design	ING-INF/05	IINF-05/A	6	Car.	1	I			D'Andrea	Vincenzo
146155	Advanced HCI	ING-INF/05	IINF-05/A	6	Car.	1	I			Varni	Giovanna
146382	Foundation Models	ING-INF/05	IINF-05/A	6	Car.	2	I			Rota	Paolo
145859	Natural Language Understanding	ING-INF/05	IINF-05/A	6	Car.	1	II			Riccardi	Giuseppe
155020	Multisensory Interactive Systems	ING-INF/05	IINF-05/A	6	Car.	(1)-2	I			Turchet	Luca
145864	Human-Machine Dialogue	ING-INF/05	IINF-05/A	6	Car.	(1)-2	I			Riccardi	Giuseppe
145520	Affective computing	ING-INF/05	IINF-05/A	6	Car.	2	I			Sebe	Niculae
146383	Immersive Technologies	ING-INF/05	IINF-05/A	6	Car.	1	II			Turchet	Luca
Breadth requirement								18			
Selezionare altri 18 crediti (diversa dall'area scelta come depth). Ogni singolo corso può essere utilizzato per soddisfare solo il requisito depth o solo il requisito breadth. Lo stesso corso non può essere utilizzato per soddisfare entrambi i requisiti. Select other 18 CFU from the areas above (different from the area chosen as depth). Each single course can count only once against either the depth or the breadth requirement. The same course cannot be counted towards both requirements.											
Free-choice courses (see list below)								24	*		
<i>Technical Elective Courses</i>											
<i>Innovation and Entrepreneurship Elective Courses</i>											
<i>Foreign Language Elective Courses (6 credits max)</i>											



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145098	Internship								6			
145302	Thesis								24			
Totale:									120			
(*) Selezionare 24 crediti scelti liberamente fra gli insegnamenti offerti dall'Università di Trento. Gli insegnamenti elencati nelle liste precedenti, quelli elencati nella lista di corsi opzionali successiva e quelli suggeriti dallo strumento di compilazione dei piani di studio di ESSE3 sono approvati automaticamente. In tutti gli altri casi, è necessaria la compilazione di un piano di studio cartaceo che sarà valutato dall'apposita commissione. Select 24 free-choice credits among the courses offered by the University of Trento. The courses listed in the tables above, those listed in the free-choice courses table listed below, and those suggested in the online tool for study plan of ESSE3 are automatically approved. In all other cases, a personalized study plan must be completed and submitted to the commission for study plan examination.												
<i>Technical Elective Courses</i>												
146316	Laboratory of Computing for Social Impact	INF/01	INFO-01/A	6	Scelta	1	I				Angeli	Lorenzo
145777	Applied Cryptography	INF/01	INFO-01/A	6	Scelta	1-(2)	I				Calderini	Marco
146239	Network Intrusion and Anomaly Detection with Machine Learning	ING-INF/05	IINF-05/A	6	Scelta	1-(2)	I				TBD	
146323	Quantum mechanics	FIS/02	PHYS-02/A	6	Scelta	1	II				Dallfovo	Franco
145858	Signal, Image and Video	ING-INF/03	IINF-03/A	6	Scelta	1	I				Llorca	Jaime
145763	Bio-Inspired Artificial Intelligence	ING-INF/05	IINF-05/A	6	Scelta	1	I				Iacca	Giovanni
145896	Statistical Methods	INF/01	INFO-01/A	6	Scelta	1-(2)	I				Coghi	Michele
145966	Statistical Models	INF/01	INFO-01/A	6	Scelta	1	II				Vinciotti	Veronica
146090	SingleCell and Spatial Omics	BIO/11	BIOS-08/A	6	Scelta	1	II				Tebaldi	Toma
146120	GPU computing	INF/01	INFO-01/A	6	Scelta	1	II				Vella	Flavio
145866	Introduction to Robotics	ING-INF/04	IINF-04/A	6	Scelta	1	II				Saveriano	Matteo
146271	Quantum computing and quantum simulation (ex 145948 Quantum computing)	FIS/02	PHYS-02/A	6	Scelta	1	II			*	Hauke	Philipp H. J.
145561	Bayesian Statistics	MAT/06	MATH-03/B	6	Scelta	1	II				Novi Inverardi	Pier Luigi
145154	Experimental Mathematics Laboratory at School Level	MAT/04	MATH-01/B	6	Scelta	1	I				Delladio	Silvano
145153	Experimental Physics Laboratory at High School Level I	FIS/08	PHYS-06/B	6	Scelta	2	I				Onorato	Pasquale
146221	Challenge-Based Activity	ING-INF/05	IINF-05/A	6	Scelta	1-2	I-II				DISI Faculty	
145301	Project course	ING-INF/05	IINF-05/A	6	Scelta	1-2	I-II				DISI Faculty	
145289	Research Project	INF/01	INFO-01/A	12	Scelta	1-2	I-II				DISI Faculty	
146317	Soft Skills Development	ING-INF/05	IINF-05/A	6	Scelta	1-2	II				D'Andrea	Vincenzo
146322	Designing Large Scale AI Systems	INF/01	INFO-01/A	6	Scelta	1-2	II				Casati	Fabio
146231	Low-power embedded systems	ING-INF/05	IINF-05/A	6	Scelta	1	II				Yildirim	Kasim Sinan
146218	AI for Food Quality Control	ING-INF/03	IINF-03/A	6	Scelta	2	I				Melgani	Farid
146392	Causality	ING-INF/05	IINF-05/A	6	Car.	2	I				Teso	Stefano
146393	Foundations of Human-AI Collaboration	ING-INF 05	IINF-05/A	6	Scelta	2	I				Pugnana	Andrea
146373	Quantum information	MAT/06	MATH-03/B	6	Scelta	2	I				Mazzucchi	Sonia



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145910	Network Modelling and Simulation		INF/01	INFO-01/A	6	Scelta	1	I			Marchetti	Luca
(*) 146271 Si consiglia 146323 - Quantum mechanics come prerequisito. It is recommended attending 146323 - Quantum mechanics before.												
Innovation and Entrepreneurship Elective Courses												
145518	ICT Innovation – Product Design and Development		ING-INF/05	IINF-05/A	6	Scelta	1	II			Formentini	Marco
Foreign Language Elective Courses (max 6 CFU)												
146102	Italian Exam for International Students				6	Scelta	1	I-II		*	Centro Linguistico di Ateneo	
145091	Technical Writing		L- LIN /12	ANGL-01/C	6	Scelta	1	I-II			Centro Linguistico di Ateneo	
(*) 146102 Italian Exam for International Students - This course is reserved for foreign students only. Please note that foreign students lacking a sufficient level of knowledge of the Italian language (i.e., who cannot provide a CLA-recognized Italian Language certificate) must follow and pass 146102 Italian Exam for International Students. The course must be included in their study plan.												
Safety courses The on-line courses “Health and Safety in the workplace General Risk training” (4 hours) and “Health and Safety in the workplace Specific risk training (Low Risk)” (4 hours) are mandatory for all the students attending courses held in computer and/or teaching labs. The courses are available through Didattica online. Some of the courses may have additional requirements in terms of knowledge on the safety regulations. Such requirements are explicitly mentioned in the Syllabus of the courses and can be covered through specific safety courses (medium risk) offered by the University. https://infostudenti.unitn.it/it/formazione-sicurezza-studenti-studentesse												