



UNIVERSITY  
OF TRENTO

Department of Information Engineering and Computer Science

Master's Degree in

# Computer Science

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## Information Science and Technologies

If you want to know the contents of the courses, you can have a look at the [Syllabus of the current academic year](#).

### Mandatory courses

Course name	Credits
Computability and computational complexity	6
Innovation and Business in ICT	6

### Foundation of Computer Science - 2 courses chosen from the following table

Course name	Credits
Distributed systems 1	6
Machine learning	6
Service Design and Engineering	6

### Complements of Communication and Electronic Engineering - 1 course chosen from the following table

Course name	Credits
Simulation and performance evaluation	6

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Course name	Credits
Multimedia Data Security	6
Softwarized and virtualized mobile network	6
Advanced computing architectures	6

## A specialization area chosen from the following list

- [Computational Foundations](#)
- [Cybersecurity](#)
- [Data Science](#)
- [Bioinformatics](#)
- [Software and Service Architectures](#)
- [Systems and Networks](#)

### Area Computational Foundations - 18 Credits chosen from the following table

Course name	Credits
Formal methods: module 1 and module 2	12
Knowledge and Data Integration	6
Distributed systems 2	6
Concurrency	6
Optimization techniques	6
Quantum Machine Learning	6
Game Theory	6
Knowledge Graph Engineering	6

### Area Cybersecurity - 18 Credits chosen from the following table

Course name	Credits
Privacy-Enhanced Technologies	6
Blockchain	6

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Course name	Credits
Cyber Security Risk Assessment	6
Introduction to Computer and Network Security	6
Privacy and Intellectual Property Rights	6

**Area Data Science - 18 credits chosen from the following table**

Course name	Credits
Data Mining	6
Knowledge and Data Integration	6
Deep learning	6
High-Performance Computing for Data Science	6
Knowledge Graph Engineering	
Human Machine Dialogue	
Spatial Databases	6
Affective computing	6
Data Visualization Lab	6

**Area Bioinformatics - 18 credits chosen from the following table**

Course name	Credits
Knowledge and Data Integration	6
Laboratory of Biological Data Mining	6
High-Throughput Sequencing Data Analysis	6
Algorithms for Bioinformatics	6
Bioinformatics Resources	6
Knowledge Graph Engineering	

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Course name	Credits
Web Architectures	6
Requirements Engineering	6
Security Testing	6
Autonomous Software Agents	6
Advanced Programming	6
Advanced HCI	6
Formal methods: module 1 and module 2	12

### Area Systems and Networks - 18 credits chosen from the following table

Course name	Credits
Robot Planning and its application	6
Low-power wireless networking for the Internet of Things	6
Real-Time Operating Systems and Middleware	6
Network Security	6
Distributed systems 2	6
Fog and Cloud Computing	6
Multisensory Interactive Systems	6

### Courses from different areas, free choice courses, internship and thesis

Educational activity	Credits
Courses can be picked from areas other than the one you chose	18
Free choice courses	24
Training and orientation internship	6
Thesis	24

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