

a.a. 2025/2026

CURRICULUM MACHINE LEARNING & BIG DATA**FIRST YEAR****I SEMESTER**

| | |
|--|-----------------|
| Scientific Computing | 9 CFU-ETCS (AI) |
| Physics and Quantum Computing-PART I* | 6 CFU-ETCS (AI) |
| Machine Learning (part I - Statistical machine learning and neural networks)** | 6 CFU-ETCS (C) |
| Internet of Things and IoT Lab (part I - Sensor networks) *** | 6 CFU-ETCS (C) |

II SEMESTER

| | |
|---|-----------------|
| Physics and Quantum Computing- Part II * | 3 CFU-ETCS (AI) |
| Internet of Things and IoT Lab (part II - Architecture and Systems) *** | 6 CFU-ETCS (C) |
| Machine Learning (part II - Deep learning)** | 6 CFU-ETCS (C) |
| Data Science Technology | 6 CFU-ETCS (C) |

*, **, *** joint exams

SECOND YEAR**I SEMESTER**

| | |
|-----------------------------|-----------------|
| High Performance Computing | 6 CFU-ETCS (AI) |
| Natural Language Processing | 6 CFU-ETCS (C) |
| Multimodal Machine Learning | 6 CFU-ETCS (C) |
| Elective | 6 CFU-ETCS (C) |

II SEMESTER

| | |
|--|----------------|
| Intelligent Signal Processing | 6 CFU-ETCS (C) |
| Cloud Computing | 6 CFU-ETCS (C) |
| Elective | 6 CFU-ETCS |
| Stage/Internship & Language Certifications | 9 CFU-ETCS |
| Final exam (MSc Thesis) | 21 CFU-ETCS |

*** joint exam

Electives

| | |
|---|----------------------------|
| Computer Graphics and Videogaming° | 6 CFU-ETCS - INF/01 |
| Artificial Intelligence °° | 6 CFU-ETCS - INF/01 |
| Computer Vision ° | 6 CFU-ETCS - INF/01 |
| Cognitive Robotics °° | 6 CFU-ETCS - INF/01 |
| Big Geo-Data Management ° | 6 CFU-ETCS – GEO/04 |
| IOS Essentials (only for students of the Apple IOS Foundation Program) | 6 CFU-ETCS - INF/01 |

°First Semester;

°° Second Semester

| | |
|--|--------------------|
| Stage/Internship/Individual Studies | 6 CFU-ETCS |
| Language Certifications | 3 CFU-ETCS |
| M. Sc. Thesis | 21 CFU-ETCS |

CURRICULUM INNOVATION

FIRST YEAR

I SEMESTER

| | |
|--|-----------------|
| Scientific Computing | 9 CFU-ETCS (AI) |
| Physics and Quantum Computing-PART I* | 6 CFU-ETCS (AI) |
| Machine Learning (part I - Statistical machine learning and neural networks)** | 6 CFU-ETCS (C) |
| Internet of Things and IoT Lab (part I - Sensor networks) *** | 6 CFU-ETCS (C) |

II SEMESTER

| | |
|---|-----------------|
| Physics and Quantum Computing-Part II * | 3 CFU-ETCS (AI) |
| Internet of Things and IoT Lab (part II - Architecture and Systems) *** | 6 CFU-ETCS (C) |
| Machine Learning (part II - Deep learning)** | 6 CFU-ETCS (C) |
| Data Science Technology | 6 CFU-ETCS (C) |

*, **,*** joint exams

SECOND YEAR

I SEMESTER

| | |
|--|-----------------|
| Tech Skill Lab Big Data | 6 CFU-ETCS (C) |
| Tech Skill Lab Cloud Computing | 6 CFU-ETCS (C) |
| Tech Skill Computing & Software Design | 6 CFU-ETCS (AI) |
| Elective | 6 CFU-ETCS (C) |

II SEMESTER

| | |
|---------------------------------|----------------|
| Tech Skill Lab IoT | 6 CFU-ETCS (C) |
| Tech Skill Lab Machine Learning | 6 CFU-ETCS (C) |
| Elective | 6 CFU-ETCS |

Stage/Internship & Language Certifications 9 CFU-ETCS

Final exam (MSc Thesis) 21 CFU-ETCS

Electives

| | |
|---|----------------------------|
| Computer Graphics and Videogaming° | 6 CFU-ETCS - INF/01 |
| Artificial Intelligence °° | 6 CFU-ETCS - INF/01 |
| Computer Vision ° | 6 CFU-ETCS - INF/01 |
| Cognitive Robotics °° | 6 CFU-ETCS - INF/01 |
| Big Geo-Data Management ° | 6 CFU-ETCS – GEO/04 |
| IOS Essentials (only for students of the Apple IOS Foundation Program) | 6 CFU-ETCS - INF/01 |

°First Semester;

°° Second Semester

| | |
|--|--------------------|
| Stage/Internship/Individual Studies | 6 CFU-ETCS |
| Language Certifications | 3 CFU-ETCS |
| M. Sc. Thesis | 21 CFU-ETCS |