

Piani di Completamento Consigliati per il CdL in Computer Science – A.A. 2023/24

I piani di completamento mirano a fornire alle studentesse e agli studenti una più chiara visione delle aree dell'informatica in cui potersi specializzare, ed indirizzandoli verso la compilazione di un percorso formativo culturalmente valido (e quindi automaticamente accettato), ferma restando la possibilità da parte loro di comporre un percorso formativo individuale che verrà valutato dalla Commissione Percorsi Formativi.

Come deliberato nel CAD del 21 dicembre 2022, a partire dall'A.A. 2023/24, sono stati rimossi i Curricula e vengono proposti dei Piani di Completamento Consigliati (nel seguito denominati brevemente PCC), che sono (in ordine alfabetico):

- Algorithms
- Artificial Intelligence
- Computational Models for Systems Design
- Data Science
- Multimedia Computing and Interaction
- Networks
- Security
- Software Engineering
- Systems

Nell'**ALLEGATO 1** sono riportati gli insegnamenti *caratterizzanti* per ogni PCC. Nell'**ALLEGATO 2** sono riportati gli insegnamenti *affini*, che sono comuni a tutti i PCC.

Si ricorda che, in base all'attuale ordinamento, bisogna presentare un percorso formativo così composto:

- 9 Insegnamenti *caratterizzanti*, pari a 54 CFU
- 2 insegnamenti *affini*, pari a 12 CFU
- 2 insegnamenti *a scelta*, pari a 12 CFU
- 1 AFC, pari a 6 CFU
- Tesi di laurea, pari a 36 CFU

Le studentesse e gli studenti sono **incoraggiati** a comporre un **PERCORSO FORMATIVO CONSIGLIATO** come segue:

- scegliendo **due PCC** secondo i loro interessi, accorpandone gli insegnamenti caratterizzanti, come specificato nell'**ALLEGATO 3**,
- inserendo insegnamenti affini presi **esclusivamente** dall'**ALLEGATO 2** fino al completamento di tutti i CFU (inclusi quelli a scelta libera) ed una AFC,

- **aggiungendo nelle note del modulo di compilazione la dicitura “PERCORSO CONSIGLIATO” e specificando quali siano i PCC selezionati.**

Un piano di studio così costruito sarà **approvato automaticamente**.

Qualora le studentesse e gli studenti non siano soddisfatti di un percorso formativo così costruito, potranno operare secondo una delle due seguenti opzioni:

1. PERCORSO FORMATIVO PARZIALMENTE CONSIGLIATO:

- scegliendo un singolo PCC (i cui caratterizzanti non arrivano a 54 CFU),
- completando i 54 CFU caratterizzanti attingendo dagli insegnamenti caratterizzanti di altri PCC (**ALLEGATO 1**),
- inserendo insegnamenti affini presi **esclusivamente** dall'**ALLEGATO 2** fino al completamento di tutti i CFU (inclusi quelli a scelta libera) ed una AFC,
- **aggiungendo nelle note del modulo di compilazione la dicitura “PERCORSO PARZIALMENTE CONSIGLIATO” e specificando quale sia il PCC selezionato.**

Un piano così costruito dovrà essere esaminato dalla Commissione Percorsi Formativi e **non sarà necessariamente approvato**.

2. PERCORSO INDIVIDUALE:

- scegliendo 54 CFU caratterizzanti attingendo dagli insegnamenti caratterizzanti dei PCC (**ALLEGATO 1**),
- scegliendo 12 CFU *affini* dall'**ALLEGATO 2**, 12 CFU a scelta libera ed una AFC
- **aggiungendo nelle note del modulo di compilazione la dicitura “PERCORSO INDIVIDUALE” e specificando le ragioni per cui non sia stato scelto un percorso basato sui PCC.**

Un piano così costruito dovrà essere esaminato dalla Commissione Percorsi Formativi e **non sarà necessariamente approvato**.

ALLEGATO 1 - PCC

Nel seguito si riportano gli insegnamenti caratterizzanti di ciascun PCC proposto.

Algorithms (30 CFU)

ADVANCED ALGORITHMS
COMPUTATIONAL COMPLEXITY
CRYPTOGRAPHY
GRAPH THEORY
NETWORK ALGORITHMS

Artificial Intelligence (36 CFU)

ADVANCED MACHINE LEARNING
BIG DATA COMPUTING
COMPUTER VISION
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
NATURAL LANGUAGE PROCESSING

Computational Models for Systems Design (30 CFU)

AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
CONCURRENT SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
MATHEMATICAL LOGIC FOR COMPUTER SCIENCE
MODELS OF COMPUTATION

Data Science (30 CFU)

ADVANCED MACHINE LEARNING
BIG DATA COMPUTING
CLOUD COMPUTING
DATA AND NETWORK SECURITY
FOUNDATIONS OF DATA SCIENCE

Multimedia Computing and Interaction (48 CFU)

ADVANCED MACHINE LEARNING
ADVANCED SOFTWARE ENGINEERING
BIOMETRIC SYSTEMS
COMPUTER VISION
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
HUMAN-COMPUTER INTERACTION ON THE WEB
MULTIMODAL INTERACTION
NATURAL LANGUAGE PROCESSING

Networks (24 CFU)

AUTONOMOUS NETWORKING
COMPUTER NETWORK PERFORMANCE
INTERNET OF THINGS
NETWORK ALGORITHMS

Security (36 CFU)

BIOMETRIC SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
CRYPTOGRAPHY
DATA AND NETWORK SECURITY
PRACTICAL NETWORK DEFENSE
SECURITY IN SOFTWARE APPLICATIONS

Software Engineering (48 CFU)

ADVANCED ALGORITHMS
ADVANCED SOFTWARE ENGINEERING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
CONCURRENT SYSTEMS
DISTRIBUTED SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
SECURITY IN SOFTWARE APPLICATIONS

Systems (24 CFU)

ADVANCED ARCHITECTURES
CLOUD COMPUTING
CONCURRENT SYSTEMS
DISTRIBUTED SYSTEMS

ALLEGATO 2 - Insegnamenti Affini

ADVANCED ALGORITHMS
ADVANCED ARCHITECTURES
ADVANCED MACHINE LEARNING
ADVANCED SOFTWARE ENGINEERING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
AUTONOMOUS NETWORKING
BIG DATA COMPUTING
BIOMETRIC SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
CLOUD COMPUTING
COMPUTATIONAL COMPLEXITY
COMPUTER NETWORK PERFORMANCE
COMPUTER VISION
CONCURRENT SYSTEMS
CRYPTOGRAPHY
DATA AND NETWORK SECURITY
DATA-DRIVEN MODELING OF COMPLEX SYSTEMS
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
DISTRIBUTED SYSTEMS
ETHICAL HACKING
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
FOUNDATIONS OF DATA SCIENCE *
GRAPH THEORY
HUMAN-COMPUTER INTERACTION ON THE WEB
INTERNET OF THINGS
MACHINE LEARNING *
MATHEMATICAL LOGIC FOR COMPUTER SCIENCE
METHODS IN COMPUTER SCIENCE EDUCATION: ANALYSIS
METHODS IN COMPUTER SCIENCE EDUCATION: DESIGN
MODELS OF COMPUTATION
MULTIMODAL INTERACTION
NATURAL LANGUAGE PROCESSING
NETWORK ALGORITHMS
PRACTICAL NETWORK DEFENSE
SECURITY IN SOFTWARE APPLICATIONS
TOPICS IN PHYSICS

* Machine Learning e Foundations of Data Science non possono apparire nello stesso piano di completamento.

ALLEGATO 3 – Elenco degli insegnamenti caratterizzanti associati alle coppie di PCC

Algorithms + Artificial Intelligence (66 CFU)

ADVANCED ALGORITHMS
ADVANCED MACHINE LEARNING
BIG DATA COMPUTING
COMPUTER VISION
COMPUTATIONAL COMPLEXITY
CRYPTOGRAPHY
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
GRAPH THEORY
NATURAL LANGUAGE PROCESSING
NETWORK ALGORITHMS

Rimangono da scegliere 12 CFU nella tabella degli insegnamenti affini ed una AFC.

Algorithms + Computational Models for Systems Design (60 CFU)

ADVANCED ALGORITHMS
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
COMPUTATIONAL COMPLEXITY
CONCURRENT SYSTEMS
CRYPTOGRAPHY
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
GRAPH THEORY
MATHEMATICAL LOGIC FOR COMPUTER SCIENCE
MODELS OF COMPUTATION
NETWORK ALGORITHMS

Rimangono da scegliere 18 CFU nella tabella degli insegnamenti affini ed una AFC.

Algorithms + Data Science (60 CFU)

ADVANCED ALGORITHMS
ADVANCED MACHINE LEARNING
BIG DATA COMPUTING
COMPUTATIONAL COMPLEXITY
CLOUD COMPUTING
CRYPTOGRAPHY
DATA AND NETWORK SECURITY
FOUNDATIONS OF DATA SCIENCE
GRAPH THEORY
NETWORK ALGORITHMS

Rimangono da scegliere solo 18 CFU nella tabella degli insegnamenti affini ed una AFC.

Algorithms + Multimedia Computing and Interaction (78 CFU)

ADVANCED ALGORITHMS
ADVANCED MACHINE LEARNING
ADVANCED SOFTWARE ENGINEERING
BIOMETRIC SYSTEMS
COMPUTATIONAL COMPLEXITY
COMPUTER VISION
CRYPTOGRAPHY
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
GRAPH THEORY
HUMAN-COMPUTER INTERACTION ON THE WEB
MULTIMODAL INTERACTION
NATURAL LANGUAGE PROCESSING
NETWORK ALGORITHMS
Rimane da scegliere una AFC.

Algorithms + Networks (48 CFU)

ADVANCED ALGORITHMS
AUTONOMOUS NETWORKING
COMPUTATIONAL COMPLEXITY
COMPUTER NETWORK PERFORMANCE
CRYPTOGRAPHY
GRAPH THEORY
INTERNET OF THINGS
NETWORK ALGORITHMS
Rimangono da scegliere 30 CFU nella tabella degli insegnamenti affini ed una AFC.

Algorithms + Security (60 CFU)

ADVANCED ALGORITHMS
BIOMETRIC SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
COMPUTATIONAL COMPLEXITY
CRYPTOGRAPHY
DATA AND NETWORK SECURITY
GRAPH THEORY
NETWORK ALGORITHMS
PRACTICAL NETWORK DEFENSE
SECURITY IN SOFTWARE APPLICATIONS
Rimangono da scegliere 18 CFU nella tabella degli insegnamenti affini ed una AFC.

Algorithms + Software Engineering (72 CFU)

ADVANCED ALGORITHMS
ADVANCED SOFTWARE ENGINEERING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
COMPUTATIONAL COMPLEXITY
CONCURRENT SYSTEMS
CRYPTOGRAPHY
DISTRIBUTED SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
GRAPH THEORY
NETWORK ALGORITHMS
SECURITY IN SOFTWARE APPLICATIONS

Rimangono da scegliere 6 CFU nella tabella degli insegnamenti affini ed una AFC.

Algorithms + Systems (54 CFU)

ADVANCED ALGORITHMS
ADVANCED ARCHITECTURES
CLOUD COMPUTING
COMPUTATIONAL COMPLEXITY
CONCURRENT SYSTEMS
CRYPTOGRAPHY
DISTRIBUTED SYSTEMS
GRAPH THEORY
NETWORK ALGORITHMS

Rimangono da scegliere 24 CFU nella tabella degli insegnamenti affini ed una AFC.

Artificial Intelligence + Computational Models for Systems Design (60 CFU)

ADVANCED MACHINE LEARNING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BIG DATA COMPUTING
COMPUTER VISION
CONCURRENT SYSTEMS
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
MATHEMATICAL LOGIC FOR COMPUTER SCIENCE
MODELS OF COMPUTATION
NATURAL LANGUAGE PROCESSING

Rimangono da scegliere 18 CFU nella tabella degli insegnamenti affini ed una AFC.

Artificial Intelligence + Data Science (54 CFU)

ADVANCED MACHINE LEARNING
BIG DATA COMPUTING
CLOUD COMPUTING
COMPUTER VISION
DATA AND NETWORK SECURITY
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
FOUNDATIONS OF DATA SCIENCE
NATURAL LANGUAGE PROCESSING

Rimangono da scegliere 24 CFU nella tabella degli insegnamenti affini ed una AFC.

Artificial Intelligence + Multimedia Computing and Interaction (60 CFU)

ADVANCED MACHINE LEARNING
ADVANCED SOFTWARE ENGINEERING
BIG DATA COMPUTING
BIOMETRIC SYSTEMS
COMPUTER VISION
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
HUMAN-COMPUTER INTERACTION ON THE WEB
MULTIMODAL INTERACTION
NATURAL LANGUAGE PROCESSING

Rimangono da scegliere 18 CFU nella tabella degli insegnamenti affini ed una AFC.

Artificial Intelligence + Networks (60 CFU)

ADVANCED MACHINE LEARNING
AUTONOMOUS NETWORKING
BIG DATA COMPUTING
COMPUTER NETWORK PERFORMANCE
COMPUTER VISION
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
INTERNET OF THINGS
NATURAL LANGUAGE PROCESSING
NETWORK ALGORITHMS

Rimangono da scegliere 18 CFU nella tabella degli insegnamenti affini ed una AFC.

Artificial Intelligence + Security (72 CFU)

ADVANCED MACHINE LEARNING
BIG DATA COMPUTING
BIOMETRIC SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
COMPUTER VISION
CRYPTOGRAPHY
DATA AND NETWORK SECURITY
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
NATURAL LANGUAGE PROCESSING
PRACTICAL NETWORK DEFENSE
SECURITY IN SOFTWARE APPLICATIONS

Rimangono da scegliere 6 CFU nella tabella degli insegnamenti affini ed una AFC.

Artificial Intelligence + Software Engineering (78 CFU)

ADVANCED ALGORITHMS
ADVANCED MACHINE LEARNING
ADVANCED SOFTWARE ENGINEERING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BIG DATA COMPUTING
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
COMPUTER VISION
CONCURRENT SYSTEMS
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
DISTRIBUTED SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
NATURAL LANGUAGE PROCESSING
SECURITY IN SOFTWARE APPLICATIONS

Rimane da scegliere una AFC.

Artificial Intelligence + Systems (60 CFU)

ADVANCED ARCHITECTURES
ADVANCED MACHINE LEARNING
BIG DATA COMPUTING
COMPUTER VISION
CLOUD COMPUTING
CONCURRENT SYSTEMS
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
DISTRIBUTED SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
NATURAL LANGUAGE PROCESSING

Rimangono da scegliere 18 CFU nella tabella degli insegnamenti affini ed una AFC.

Computational Models for Systems Design + Data Science (60 CFU)

ADVANCED MACHINE LEARNING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BIG DATA COMPUTING
CLOUD COMPUTING
CONCURRENT SYSTEMS
DATA AND NETWORK SECURITY
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
FOUNDATIONS OF DATA SCIENCE
MATHEMATICAL LOGIC FOR COMPUTER SCIENCE
MODELS OF COMPUTATION

Rimangono da scegliere 18 CFU nella tabella degli insegnamenti affini ed una AFC.

Computational Models for Systems Design + Multimedia Computing and Interaction (78 CFU)

ADVANCED MACHINE LEARNING
ADVANCED SOFTWARE ENGINEERING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BIOMETRIC SYSTEMS
COMPUTER VISION
CONCURRENT SYSTEMS
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
HUMAN-COMPUTER INTERACTION ON THE WEB
MATHEMATICAL LOGIC FOR COMPUTER SCIENCE
MODELS OF COMPUTATION
MULTIMODAL INTERACTION
NATURAL LANGUAGE PROCESSING

Rimane da scegliere una AFC.

Computational Models for Systems Design + Networks (54 CFU)

AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
AUTONOMOUS NETWORKING
COMPUTER NETWORK PERFORMANCE
CONCURRENT SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
INTERNET OF THINGS
MATHEMATICAL LOGIC FOR COMPUTER SCIENCE
MODELS OF COMPUTATION
NETWORK ALGORITHMS

Rimangono da scegliere 24 CFU nella tabella degli insegnamenti affini ed una AFC.

Computational Models for Systems Design + Security (66 CFU)

AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BIOMETRIC SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
CONCURRENT SYSTEMS
CRYPTOGRAPHY
DATA AND NETWORK SECURITY
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
MATHEMATICAL LOGIC FOR COMPUTER SCIENCE
MODELS OF COMPUTATION
PRACTICAL NETWORK DEFENSE
SECURITY IN SOFTWARE APPLICATIONS

Rimangono da scegliere 12 CFU nella tabella degli insegnamenti affini ed una AFC.

Computational Models for Systems Design + Software Engineering (60 CFU)

ADVANCED ALGORITHMS
ADVANCED SOFTWARE ENGINEERING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
CONCURRENT SYSTEMS
DISTRIBUTED SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
MATHEMATICAL LOGIC FOR COMPUTER SCIENCE
MODELS OF COMPUTATION
SECURITY IN SOFTWARE APPLICATIONS

Rimangono da scegliere 18 CFU nella tabella degli insegnamenti affini ed una AFC.

Computational Models for Systems Design + Systems (48 CFU)

ADVANCED ARCHITECTURES
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
CLOUD COMPUTING
CONCURRENT SYSTEMS
DISTRIBUTED SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
MATHEMATICAL LOGIC FOR COMPUTER SCIENCE
MODELS OF COMPUTATION

Rimangono da scegliere 30 CFU nella tabella degli insegnamenti affini ed una AFC.

Data Science + Multimedia Computing and Interaction (72 CFU)

ADVANCED MACHINE LEARNING
ADVANCED SOFTWARE ENGINEERING
BIG DATA COMPUTING
BIOMETRIC SYSTEMS
CLOUD COMPUTING
COMPUTER VISION
DATA AND NETWORK SECURITY
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
FOUNDATIONS OF DATA SCIENCE
HUMAN-COMPUTER INTERACTION ON THE WEB
MULTIMODAL INTERACTION
NATURAL LANGUAGE PROCESSING

Rimangono da scegliere 6 CFU nella tabella degli insegnamenti affini ed una AFC.

Data Science + Networks (54 CFU)

ADVANCED MACHINE LEARNING
AUTONOMOUS NETWORKING
BIG DATA COMPUTING
CLOUD COMPUTING
COMPUTER NETWORK PERFORMANCE
DATA AND NETWORK SECURITY
FOUNDATIONS OF DATA SCIENCE
INTERNET OF THINGS
NETWORK ALGORITHMS

Rimangono da scegliere 24 CFU nella tabella degli insegnamenti affini ed una AFC.

Data Science + Security (60 CFU)

ADVANCED MACHINE LEARNING
BIG DATA COMPUTING
BIOMETRIC SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
CLOUD COMPUTING
CRYPTOGRAPHY
DATA AND NETWORK SECURITY
FOUNDATIONS OF DATA SCIENCE
PRACTICAL NETWORK DEFENSE
SECURITY IN SOFTWARE APPLICATIONS

Rimangono da scegliere 18 CFU nella tabella degli insegnamenti affini ed una AFC.

Data Science + Software Engineering (78 CFU)

ADVANCED ALGORITHMS
ADVANCED MACHINE LEARNING
ADVANCED SOFTWARE ENGINEERING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BIG DATA COMPUTING
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
CLOUD COMPUTING
CONCURRENT SYSTEMS
DATA AND NETWORK SECURITY
DISTRIBUTED SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
FOUNDATIONS OF DATA SCIENCE
SECURITY IN SOFTWARE APPLICATIONS
Rimane da scegliere una AFC.

Data Science + Systems (48 CFU)

ADVANCED ARCHITECTURES
ADVANCED MACHINE LEARNING
BIG DATA COMPUTING
CLOUD COMPUTING
CONCURRENT SYSTEMS
DATA AND NETWORK SECURITY
DISTRIBUTED SYSTEMS
FOUNDATIONS OF DATA SCIENCE
Rimangono da scegliere 30 CFU nella tabella degli insegnamenti affini ed una AFC.

Multimedia Computing and Interaction + Networks (72 CFU)

ADVANCED MACHINE LEARNING
ADVANCED SOFTWARE ENGINEERING
AUTONOMOUS NETWORKING
BIOMETRIC SYSTEMS
COMPUTER NETWORK PERFORMANCE
COMPUTER VISION
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
HUMAN-COMPUTER INTERACTION ON THE WEB
INTERNET OF THINGS
MULTIMODAL INTERACTION
NATURAL LANGUAGE PROCESSING
NETWORK ALGORITHMS
Rimangono da scegliere 6 CFU nella tabella degli insegnamenti affini ed una AFC.

Multimedia Computing and Interaction + Security (78 CFU)

ADVANCED MACHINE LEARNING
ADVANCED SOFTWARE ENGINEERING
BIOMETRIC SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
COMPUTER VISION
CRYPTOGRAPHY
DATA AND NETWORK SECURITY
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
HUMAN-COMPUTER INTERACTION ON THE WEB
MULTIMODAL INTERACTION
NATURAL LANGUAGE PROCESSING
PRACTICAL NETWORK DEFENSE
SECURITY IN SOFTWARE APPLICATIONS
Rimane da scegliere una AFC.

Multimedia Computing and Interaction + Software Engineering (90 CFU)

ADVANCED ALGORITHMS
ADVANCED MACHINE LEARNING
ADVANCED SOFTWARE ENGINEERING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BIOMETRIC SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
COMPUTER VISION
CONCURRENT SYSTEMS
DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE
DISTRIBUTED SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
HUMAN-COMPUTER INTERACTION ON THE WEB
MULTIMODAL INTERACTION
NATURAL LANGUAGE PROCESSING
SECURITY IN SOFTWARE APPLICATIONS
Vanno eliminati due insegnamenti tra i precedenti e scelta una AFC.

Multimedia Computing and Interaction + Systems (72 CFU)

ADVANCED ARCHITECTURES

ADVANCED MACHINE LEARNING

ADVANCED SOFTWARE ENGINEERING

BIOMETRIC SYSTEMS

COMPUTER VISION

CLOUD COMPUTING

CONCURRENT SYSTEMS

DEEP LEARNING AND APPLIED ARTIFICIAL INTELLIGENCE

DISTRIBUTED SYSTEMS

HUMAN-COMPUTER INTERACTION ON THE WEB

MULTIMODAL INTERACTION

NATURAL LANGUAGE PROCESSING

Rimangono da scegliere 6 CFU nella tabella degli insegnamenti affini ed una AFC.

Networks + Security (60 CFU)

AUTONOMOUS NETWORKING
BIOMETRIC SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
COMPUTER NETWORK PERFORMANCE
CRYPTOGRAPHY
DATA AND NETWORK SECURITY
INTERNET OF THINGS
NETWORK ALGORITHMS
PRACTICAL NETWORK DEFENSE
SECURITY IN SOFTWARE APPLICATIONS

Rimangono da scegliere 18 CFU nella tabella degli insegnamenti affini ed una AFC.

Networks + Software Engineering (72 CFU)

ADVANCED ALGORITHMS
ADVANCED SOFTWARE ENGINEERING
AUTONOMOUS NETWORKING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
COMPUTER NETWORK PERFORMANCE
CONCURRENT SYSTEMS
DISTRIBUTED SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
INTERNET OF THINGS
NETWORK ALGORITHMS
SECURITY IN SOFTWARE APPLICATIONS

Rimangono da scegliere 6 CFU nella tabella degli insegnamenti affini ed una AFC.

Networks + Systems (48 CFU)

AUTONOMOUS NETWORKING
ADVANCED ARCHITECTURES
CLOUD COMPUTING
COMPUTER NETWORK PERFORMANCE
CONCURRENT SYSTEMS
DISTRIBUTED SYSTEMS
INTERNET OF THINGS
NETWORK ALGORITHMS

Rimangono da scegliere 30 CFU nella tabella degli insegnamenti affini ed una AFC.

Security + Software Engineering (72 CFU)

ADVANCED ALGORITHMS
ADVANCED SOFTWARE ENGINEERING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BIOMETRIC SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
CONCURRENT SYSTEMS
CRYPTOGRAPHY
DATA AND NETWORK SECURITY
DISTRIBUTED SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
PRACTICAL NETWORK DEFENSE
SECURITY IN SOFTWARE APPLICATIONS

Rimangono da scegliere 6 CFU nella tabella degli insegnamenti affini ed una AFC.

Security + Systems (60 CFU)

ADVANCED ARCHITECTURES
BIOMETRIC SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
CLOUD COMPUTING
CONCURRENT SYSTEMS
CRYPTOGRAPHY
DATA AND NETWORK SECURITY
DISTRIBUTED SYSTEMS
PRACTICAL NETWORK DEFENSE
SECURITY IN SOFTWARE APPLICATIONS

Rimangono da scegliere 18 CFU nella tabella degli insegnamenti affini ed una AFC.

Software Engineering + Systems (60 CFU)

ADVANCED ALGORITHMS
ADVANCED ARCHITECTURES
ADVANCED SOFTWARE ENGINEERING
AUTOMATIC VERIFICATION OF INTELLIGENT SYSTEMS
BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES
CLOUD COMPUTING
CONCURRENT SYSTEMS
DISTRIBUTED SYSTEMS
FORMAL METHODS FOR AI-BASED SYSTEMS ENGINEERING
SECURITY IN SOFTWARE APPLICATIONS

Rimangono da scegliere 18 CFU nella tabella degli insegnamenti affini ed una AFC.