ARTIFICIAL INTELLIGENCE & CYBERSECURITY

INTERNATIONAL MASTER DEGREE COURSE

UNIVERSITÀ DEGLI STUDI DI UDINE

HIC SUNT FUTURA

INTERNATIONAL
MASTER DEGREE COURSE IN
ARTIFICIAL INTELLIGENCE
& CYBERSECURITY

SEDE
UDINE

CREDITI
120

CLASSE
LM-18
INFORMATICA

DURATA
2 ANNI

ACCESSO
LIBERO

REQUIREMENTS FOR ADMISSION

In order to be considered for a place on an MSc course,
applicants must have a three-year undergraduate degree
or diploma in computer science, information and
communications technologies, or similar disciplines,
or another recognized international qualification.
Course quota: 30 places per year. Applications for places on
the course will be accepted in chronological order. Places on
the course will be allocated on a rolling basis until the course
quota has been reached.

The International Master Degree program in Artificial Intelligence & Cybersecurity aims to develop a system of education and academic exchange, in a spirit of cooperation at European level. The Course is offered in an inter-university international collaboration with the Alpen-Adria University of Klagenfurt (Austria), where some courses will be held. It allows students to obtain a double degree: "Diplom-Ingenieur" from the Alpen-Adria University of Klagenfurt and "Laurea Magistrale" from the University of Udine.

Students will experiment different approaches to teaching: from traditional foundational courses to practical ones based on projects and reports. The program allows the students to take advantage of the best skills of the two universities in the area of computer science, with particular emphasis on the theoretical and practical applications of Artificial Intelligence and Cybersecurity. Some courses can be attended remotely.

The course prepares graduates to access jobs of both technical and managerial responsibility. Graduates can also continue their studies at a PhD level or II Level Master, in Italy or abroad. In particular graduates can be enrolled as AI specialists, Cybersecurity specialists, and of course, Software Engineers, Analysts, and Developpers.

Graduates can be admitted to the Italian Register of Engineers, Section A, Information Sector, after passing the State Qualification Exam. They can also seek a teaching career in schools after having completed the teaching qualification procedure.

The Master program is certified by the Italian national associations GRIN and AICA and by the European Union Agency for Cybersecurity. https://www.enisa.europa.eu/

STUDY PLAN

1° ANNO

MANDATORY COURSES/ACTIVITIES	CFU
Automated Reasoning (INF/01)	6
Complexity and information theory (INF/01)	6
Deep learning (ING-INF/05)	6
Foundations of cybersecurity and ethics (INF/01)	12
Verification and validation techniques in AI and cybersecurity (INF/01)	12

EACH STUDENT HAS TO COMPLETE HIS PLAN AS FOLLOWS:

18 CFU among the following:
- Advanced algorithms (INF/01) 6
- Advanced data science (INF/01) 9
- Advanced database systems (INF/01) 6
- Auditory and tactile interactions (INF/01) 6
- Network security (INF/01) 6
- Computer vision (INF/01) 9
- Distributed systems (INF/01) 9
- Formal methods for security (INF/01) 6
- Foundations of neural networks (INF/01) 6
- Generative AI (ING-INF/05) 6
- Information retrieval (ING-INF/05) 6
- Interactive 3D graphics (ING-INF/05) 6
- Quantum computing and communication (INF/01) 6
- Recommender systems (ING-INF/05) 6
- Video game programming (INF/01) 6
- Virtual reality and persuasive user experience (INF/01) 9

2° ANNO

MANDATORY COURSES/ACTIVITIES	CFU
18 CFU among the following:	
- Advanced topics in AI I (INF/01)	12
- Advanced topics in AI II (INF/01)	6
- Advanced topics in cybersecurity I (INF/01)	12
- Advanced topics in cybersecurity II (INF/01)	6
- Responsible Engineering of AI and Cybersecurity Systems (INF/01)	12
CFUs at your choice ***	12
Advanced lab project ****	10
Final Exam	20

Please note:
Each student has to choose two thesis supervisors, one from Udine and the other from Klagenfurt.

***   CFUs at your choice must be additional credits and not duplications, even if partial, of teachings and contents already present in the study plan.

**** The "Advanced Laboratory" has the goal of experimenting the notions learned. The student will choose the topics of the advanced laboratory identifying, normally, two teachers/courses in the computer science area.

UNIVERSITÀ DEGLI STUDI DI UDINE

HIC SUNT FUTURA

FONDAZIONE FRIULI

UFFICIO ORIENTAMENTO E TUTORATO

via Gemona 92, Udine
T. 0432 556215
cort@uniud.it

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DIPARTIMENTO DI SCIENZE MATEMATICHE, INFORMATICHE E FISICHE

via delle Scienze 206
Udine
T. 0432 558400

SEGRETERIA STUDENTI

via delle Scienze 206
Udine
T. 0432 558380
segreteria.scienze@uniud.it

www.uniud.it

DIPARTIMENTO DI SCIENZE MATEMATICHE, INFORMATICHE E FISICHE
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