INTERNATIONAL MASTER DEGREE COURSE
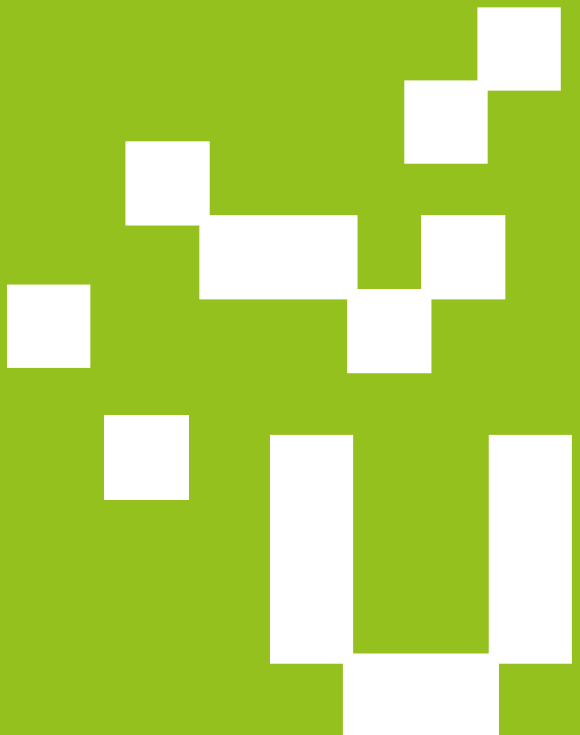# ARTIFICIAL INTELLIGENCE & CYBERSECURITY 24—25

UNI
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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. Students must also be aware that, according to the Statute of the University of Klagenfurt (Section 18, paragraph 5), the positively graded Master's or Diploma the-

sis shall be published in an open, electronically accessible repository.

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/

INTERNATIONAL
MASTER DEGREE COURSE
ARTIFICIAL INTELLIGENCE
& CYBERSECURITY

SEDE

UDINE

DURATA

2 ANNI

CREDITI

120

ACCESSO

PROGRAMMA-
ZIONE
LOCALE

CLASSE

LM-18
INFORMATICA

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: 40 places per year. Applications for places
on the course will be considered in chronological order.
Candidates will be evaluated by the advisory committee
of the program on transcripts of results, and if necessary,
by interview. Places on the course will be allocated on
a rolling basis until the course quota has been reached.

STUDY PLAN

1ST YEAR

MANDATORY COURSES/ACTIVITIES ECTS

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**

STUDENT MUST FILL THEIR STUDY PLAN CHOOSING 18 ECTS AMONG THE FOLLOWING LIST:

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 system (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**

2ND YEAR

COURSES/ACTIVITIES ECTS

AMONG THE FOLLOWING 18 ECTS

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**
ECTS at your choice *	**12**
Advanced lab project **	**10**
Final Exam	**20**

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

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

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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.

DMIF

**DIPARTIMENTO
DI SCIENZE MATEMATICHE,
INFORMATICHE E FISICHE**
UNIVERSITÀ DEGLI
STUDI DI UDINE

UNIVERSITÀ DEGLI STUDI DI UDINE
HIC SUNT FUTURA

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