



## MASTER'S DEGREE

# Intelligence and ICT

IN  
PRESENCE  
AND  
ON-LINE

I and II level

22-23

Companies, Public Bodies, Law Enforcement, Army, Air Force, Navy and State Bodies increasingly need professional profiles capable of organizing and managing security all round by integrating specific professional training with intelligence and communication skills, geopolitics, law, economic intelligence and above all advanced skills on new digital technologies.

### OBJECTIVES

The I and II level Master's degrees are aimed at providing the knowledge and operational skills to plan, organize and implement activities in the context of intelligence and security, increasingly linked to the new challenges that today public bodies and companies must overcome.

The Master's degree provides both a solid knowledge of the general principles of law, geopolitics, economic intelligence and communication, as well as specific knowledge and operational skills related to advanced IT tools and new digital technologies that can be used for intelligence processes and activities, with theoretical learning and laboratory activities related to the following areas: *Artificial Intelligence, Machine and Deep Learning, Cyber Security, Biometrics and Gait Recognition, Web Intelligence, Text Mining, Open Source Intelligence, Crowdsourcing Intelligence, Computer Vision, Unmanned Autonomous Vehicles, Augmented and Virtual Reality.*

Particular attention is paid to the integration of specialist knowledge with those transversal skills necessary to increase the capacity for both insertion and growth within the different work contexts.

### QUALIFICATION ISSUED

I level University Master's degree in "Intelligence and ICT"

II level University Master's degree in "Intelligence and ICT"

### MODULES AND CONTENTS

#### Module 1 – Intelligence and National Security

Intelligence and the various possible perspectives of analysis. Historical evolution of intelligence. Technological Evolution. New scenarios introduced by emerging digital technologies

15

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#### Module 2 - Law for Intelligence

States and (digital) sovereignty. Intelligence and legal systems at national, European and global levels: values and approaches. National interest. Law in the areas of Security and Intelligence for Companies. Intelligence relations with other public institutions (Defence, Judiciary, ...).

20

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#### Module 3 - Geopolitics

New scenarios of international politics in which Intelligence is inserted. Alliances in the multipolar world. The competition between different economic models and technological systems. The role of intelligence against terrorism, national and transnational organized crime, conflicts. Geopolitics and intelligence for the business world.

20

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#### Module 4 – Intelligence Cycle and Negotiation of Complex Situations

Structuring of the Intelligence process. Role and methodologies of the analysis. Methods of data collection and integration. Definition of the intelligence process and descriptions of the basic steps for building an intelligence activity. Laboratory activities.

25

25

#### Module 5 - Information Technologies for intelligence

Theoretical elements and Laboratories of Artificial Intelligence, Biometrics, Gait Recognition, Machine Learning, Deep Learning, Text Mining, Web Intelligence, Open source Intelligence, Crowdsourcing for Intelligence, Autonomous security systems based on intelligent IoT sensors and drones, Augmented, Mixed and Virtual Reality.

45

60

#### Module 6 - Media, Communication and Intelligence

Communication and Intelligence. New media and intelligence. New communication scenarios: persuasion, fake news, social media intelligence. Workshop on media and communication for the intelligence process.

20

20

#### Module 7 - Cyber Intelligence

Theoretical elements and Cyber Security Laboratories. Fundamental elements of a Cyber Security system. Public key and private key encryption algorithms. Steganography (injective and generative). Screening routers, firewalls and IDS systems. Password security. Main techniques of attacking a network: weaknesses and strengths.

35

45

#### Module 8 - Economic intelligence

Economic intelligence and national security. Intelligence for the protection of company know-how and competitiveness. The new challenges of energy supplies. Intelligence and Complexity.

20

20

#### Seminars

100

100

#### Total Teaching Hours

300

300

#### Stage

150

150

#### Final Exam

100

100

I LEVEL (HOURS) II LEVEL (HOURS)

## PROFESSIONAL PROFILE

The Master's degree trains specialists able to operate in the context of intelligence and security, with a profile particularly careful in managing new information technologies (Cybersecurity, Data Analysis, Machine / Deep Learning, Biometrics, Web Intelligence, Business Intelligence, Open Source Intelligence, Artificial Vision, Virtual and Augmented Reality, Fake News Discovery etc.). The professional figure trained by the Master's degree will be able to combine the awareness of the geopolitical context in different national and international contexts with the ability to protect, analyse and process large amounts of data (Big Data) using the most modern information technologies. The 1st level Master's degree provides the knowledge and operational skills to plan, organize and implement activities in the context of intelligence and security. Specifically, the course, anchoring itself to a solid knowledge of the main Intelligence techniques and methodologies, allows you to develop operational skills thanks to the laboratory dimension of the planned educational activities. It also allows you to integrate specific knowledge with transversal skills useful for increasing the ability to integrate into different work contexts with particular attention to the issues of data and personal security. The II level Master's degree completes and integrates the activities foreseen for the I level Master's degree, also developing specific operational skills thanks to the more extensive laboratory dimension of the foreseen didactic activities. Both the I and II level Master's degrees are accompanied by in-depth studies on topics related to Leadership, game theory, negotiation of complex situations, management of stressful situations and elements of mathematics for cryptography.

## MASTER'S DEGREE ENROLMENT

The master's degree is aimed at first and second level graduates in political, social and scientific disciplines who intend to enrich their basic training with specialized skills to operate in the field of intelligence, both in the public and private sectors.

There is a maximum number of 50 students (total inclusive of both levels) and a minimum number of 7 students in the first level and 18 in the second level. The University reserves the right not to activate the course if the minimum number of students is not reached.

The application form must be submitted online by **12.00 on September 26<sup>th</sup>, 2022** by accessing to [www.uniud.it/masterintelligence](http://www.uniud.it/masterintelligence).

## TEACHING ORGANIZATION

The teaching activity will be carried out in a mixed mode. All teaching activities will always be available online and broadcast live (on an e-learning platform), including laboratory activities (programming and use of SW tools) and examinations. All theoretical and laboratory lessons will also be videotaped and made available to the students. Particular attention will be given to laboratory activities, with characteristics that will vary according to the specific discipline and specific contents. In addition, seminars are planned for in-depth analysis on specific topics, which will also be identified taking into account the interests and proposals of the participants. Finally, to relate what has been learned in the various modules with the various realities of the application contexts, an internship is envisaged, which can be carried out in affiliated companies, in university laboratories or in research centers. The activities carried out as part of the seminars and internships will be illustrated in a thesis that will be the subject of the final exam. The lessons will be held over 14 weekends from October 2022 to September 2023 (from Friday afternoon to Sunday afternoon).

## MASTER'S SEAT

University of Udine.

## COURSE COUNCIL

**Prof. Gian Luca Foresti** (Director, responsible for the Cybersecurity area)

**Prof. Carlo Tasso** (responsible for the Artificial Intelligence area)

**Prof. Francesco Zucconi** (responsible for the Intelligence area)

**Prof.ssa Manuela Farinosi** (responsible for the New media and Communication area)

**Prof. Mario Caligiuri**

**Dr. Gianluigi Sechi**

## SUBSCRIPTION FEE

Registration fee for the 1st level Master's degree: Euro 3.750,00.

Registration fee for the 2nd level Master's degree: Euro 4.250,00.

For members belonging to the police forces and for employees of affiliated companies, both for the 1st and 2nd level Master's degrees, there is a reduction of the registration fee of 20% (Euro 3,000.00 for enrolment in the 1st level Master's degree and Euro 3,400.00 for enrolment in the 2nd level Master's degree).

The fee can be divided into 2 installments.

## SCHOLARSHIPS

Further economic benefits are envisaged and aimed at partially reducing the enrolment fee for the 1st and 2nd level Masters.

For the 2022-23 edition, at least 2 scholarships are provided for 50% of the enrolment fee and 3 scholarships for 20% of the enrolment fee. Further benefits will be recognized in relation to the number of students and budget increases up to 4 scholarships at 50% of the enrolment fee and 6 scholarships at 20% of the enrolment fee in the case of a maximum number of students. subscribers.

To obtain this facility, students must submit the request for financial relief to the Master's degree Council by sending an email to the address [masterintelligence@uniud.it](mailto:masterintelligence@uniud.it), attaching the cover letter and CV.

Applications must be submitted without delay by **12.00 on August 31<sup>st</sup>, 2022**.

**Condition for access to the benefits is having already submitted an application for enrolment in the Master.**



**UNIVERSITÀ  
DEGLI STUDI  
DI UDINE**  
hic sunt futura

DIPARTIMENTO DI  
SCIENZE MATEMATICHE,  
INFORMATICHE E FISICHE

## COMPANIES / INSTITUTIONS MAIN PARTNER



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Autorità di Sistema Portuale  
del Mare Adriatico Orientale  
Porto di Trieste

## FOR INFORMATION

[www.uniud.it/masterintelligence](http://www.uniud.it/masterintelligence)

[www.facebook.com/masterintelligenceeICT/](https://www.facebook.com/masterintelligenceeICT/)

<https://masterintelligenceict.dmif.uniud.it/>

## TUTORS REPLY TO THE E-MAIL

[masterintelligence@uniud.it](mailto:masterintelligence@uniud.it)

Direzione Didattica e Servizi agli Studenti  
Ufficio Programmazione Didattica

Via Palladio 8, Udine

tel. 0432 556706/08

[master@uniud.it](mailto:master@uniud.it)

Office hours: from Monday to Thursday, 9.30 a.m. to 11.30 a.m.