



UCG
Univerzitet Crne Gore

University of Montenegro

**Center for Interdisciplinary
and Multidisciplinary
Studies**

MASTER PROGRAM “INFORMATION SECURITY”

Directors' message

Innovation drives progress, and multidisciplinary sparks creativity. Our center is dedicated to cultivation of the environment that fosters innovation across disciplines. The commitment to study programs lies at the core of our mission, which seamlessly aligns with the ever-changing market landscape and the digital transformation journey. The Center for Interdisciplinary and Multidisciplinary Studies envisions educational pathways that not only meet the demands of the market but also thrive in the era of digital evolution, encompassing structural curriculum with independent exploration and fostering critical and diverse, open-minded perspectives.

Prof. dr Nedeljko Latinović



Empowering Multidisciplinary Excellence

The development of the master's program "Information Security" was followed by the involvement of four faculties complementing the Center for Interdisciplinary and Multidisciplinary Studies's University of Montenegro mission by creating purposeful, motivational, and effective curricula. Operating in tandem with the Faculty of Electrical Engineering, the Faculty of Science and Mathematics, the Faculty of Economics, and the Faculty of Law, the program harnesses insights from various arenas, ensuring graduates are equipped to combat threats from all angles. This synergy ensures the optimal educational environment, where quality learning is our hallmark and higher education finds its true recognition.

By embracing a holistic approach and nurturing interdisciplinary skillsets, the "Information Security" master program prepares graduates to lead the charge in battling cyber threats. The complexities of the modern world require multifaceted solutions, and our program empowers students to drive innovation, devise strategies, and safeguard our digital future.

Our primary mission is to equip students with a comprehensive understanding of the multidimensional landscape of information security, underscored by a dynamic curriculum tailored to meet the evolving demands of the information and communication technology market. Considering the escalating demand for highly skilled information security professionals, our program is designed with inclusivity in mind. The program's objectives resonate not just within the academic realm but in real-world contexts. This distinctive profile responds to the ICT industry's pressing need for skilled professionals in this domain, offering a transformative educational journey that prepares graduates to excel in various sectors.



Responding to Market Needs:

The Demand for Cybersecurity Professionals

The global cybersecurity workforce has reached a record 4.7 million people, yet there is a critical need for more professionals, with a worldwide gap of 3.4 million cybersecurity workers. (ISC2). This shortage is significant as professionals are expected to adapt and safeguard organizations, complying with emerging technology and regulatory requirements while also evolving from cultural, emotional, and educational perspectives. Montenegro's place in the National Cyber Security Index (NCSI) underscores a critical reality: the demand for cyber experts far outstrips the current supply.

This program steps in as a formidable response to this demand, cultivating cybersecurity professionals in alignment with the key national strategies: the Cyber Security Strategy (2022-2026), the Digital Transformation Strategy (2022-2026), and the Strategy for Digitization of the Education System (2022-2027) which underscore the urgent need to fortify our cyber defenses, foster digital literacy, and shape a resilient digital ecosystem.



Embracing the Power of Technology: Empowering Learning Through ICT

In a world driven by technology, this Master program recognizes the potential of ICTs to enhance the learning experience, empowering students with skills that resonate in the digital age. All students of this program will have access to the CybSafe platform, a comprehensive suite of tools, resources, and interactive modules meticulously designed to enhance your understanding of information security.

The platform ensures that you are not merely a student but a participant in your own educational journey by providing personalized progress tracking and performance analytics while creating a dynamic and immersive learning environment.



Embracing the forefront of EdTech, this master program integrates traditional with novel teaching methods (hands-on experience, real-time simulations, interactive assignments and collaborative projects), enabling students to bridge the gap between theory and practice while fostering essential skills in the dynamic field of information security.

Program Structure

Master's program "Information Security" offers a modern multidisciplinary approach, integrating both technical and policy aspects of information security protection.

01

Intro to Information Security:

Lay the foundation with a thorough introduction to the fundamental concepts of information security, setting the stage for deeper exploration.

02

Communications Security and Protocols:

Understand the intricacies of securing communication channels and protocols, a vital skill in an interconnected world.

03

Digital Data Protection:

Learn the techniques to protect digital data from unauthorized access and breaches, ensuring the confidentiality and integrity of sensitive information.

04

Cryptography:

Delve into the art of encryption, decryption, and cryptographic protocols, forming the backbone of secure communication and data storage.

05

Cybercrime:

Explore the world of cybercrime, its various forms, and the strategies to detect, prevent, and mitigate its impact.

06

Security Aspects of Software Development:

Grasp the essential knowledge to infuse security into the software development lifecycle, minimizing vulnerabilities from the ground up.

07

Computer Forensics:

Acquire the skills to investigate digital incidents, trace evidence, and uncover the truth in a technologically driven world.

08

Penetration Testing:

Learn how to ethically exploit vulnerabilities in systems, networks, and applications to identify weak points and enhance overall security.

09

System Security:

Master the techniques to safeguard operating systems and critical infrastructure from unauthorized access and attacks.

10

Organizational Security, Human Security:

Understand the crucial roles that organizational practices and human behavior play in maintaining a secure environment.

11

Modern Computer System Protection Techniques:

Stay ahead of the curve with advanced techniques to protect complex computer systems from evolving threats.

12

Advanced Computer Forensics:

Dive deeper into the world of digital investigations, focusing on intricate scenarios and advanced forensic methodologies.

13


Security Incidents, Prevention, and Recovery:

Develop strategies to anticipate, prevent, and recover from security incidents, minimizing damage and downtime.

14

Security Risk Management:

Learn how to assess and manage security risks effectively, enabling you to make informed decisions to protect valuable assets.



“The most sophisticated algorithms are futile if they can't account for the unpredictability of human behavior. Passwords and protocols protect us, but it's people who put us at risk or keep us safe. I expect that the new master's program at the University of Montenegro will build a genuine human-centric cybersecurity fortress.”

Stefan Sütterlin, Professor of Cyberpsychology at Albstadt-Sigmaringen University and Östfold University College (Germany, Norway)

“The rightly qualified operationals, together with relevant governance of cybersecurities, can only produce sufficient resilience for states, institutions, and the private sector. It is an eco-system that implies global and comprehensive strategy and policies and an adequate educational and human resource approach. “The coming Master program in cybersecurity at UoM shall contribute to that ecosystem.”

Capitaine Cédric Grousset, Director of studies, Western Balkans Cyber Capacity Centre (France)

“Cybersecurity is more important than ever before. It is essential that it be understood better. A new University of Montenegro's "Information Security" master program, which, beside complex technical aspects, addresses the many legal issues arising from new technology, is very welcome and, I'm sure, exceeds expectations.”

Thomas Brooks (FRHistS, FAcSS, FRSA, FHEA), Professor of Law and Government at Durham University (United Kingdom)

“The widespread adoption of ICTs brings along a range of security threats alongside its advantages. To counteract these threats, it is imperative that future generations engage in studies pertaining to safeguarding our cyberspace, preventing and combating cybercrime, halting cyberattacks, encrypting valuable information, conducting forensic investigations, and ensuring security of our digital future. Despite the considerable challenges, these goals are attainable through a meticulously designed master's program at the University of Montenegro.”

Tadej Rupel, Ambassador for External Aspects of Digitalization, AI & Cyber Security (Slovenia)



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