TBU TIRANA BUSINESS UNIVERSITY COLLEGE | BALFIN

MASTER

OF SCIENCE IN *120 ECTS*

DATA SCIENCE & CYBERSECURITY

NEW

INVEST IN YOUR FUTURE

TRANSFORM YOUR TECHNOLOGICAL SKILLS INTO COMPETITIVE ADVANTAGES FOR THE GLOBAL MARKET!

Duration: **4 semesters**
Language: **English**
Faculty of: **Information Technology**
Department of: **Software Engineering**

Skano për më shumë info

Dear Students,
I am pleased to welcome you to the Master of Science program in "Data Science and Cybersecurity" at Tirana Business University. As the Head of the Software Engineering Department, I am honored to introduce you to a program designed to equip you with the most advanced knowledge and practical skills essential for success in two of the most critical fields of the digital era. We are living at a time when data drives decision- making and cybersecurity ensures the integrity of our systems. This program provides a strong foundation in advanced data analysis, artificial intelligence, cybersecurity strategies, and risk management. Our curriculum has been carefully designed to blend theoretical concepts with hands-on experience, preparing you for real-world challenges.
Throughout your journey at Tirana Business University, you will have the opportunity to learn from experienced professors, engage in research-based projects, and collaborate with industry professionals. I encourage you to embrace innovation, think critically, and develop solutions that will shape the future of technology and security. Take full advantage of this experience, ask questions, challenge yourself, and contribute to our academic community. We are here to support you in achieving excellence and making a meaningful impact in this field.

I wish you a successful academic journey in Data Science and Cybersecurity!

Esmeralda Kadëna Ph.D.

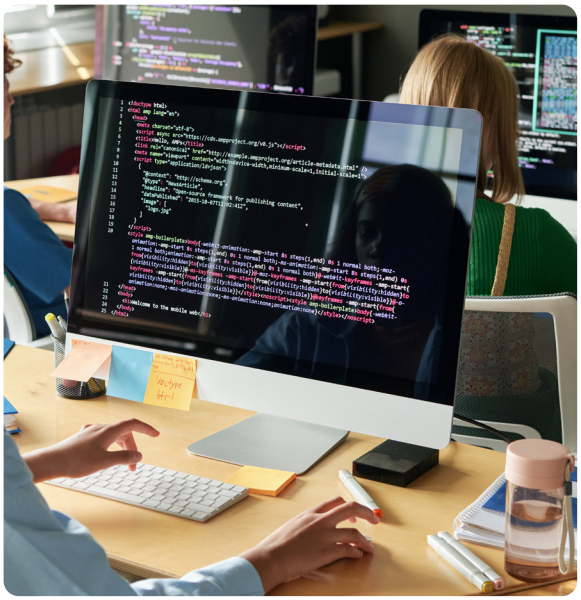
Head of the Software Engineering Department

PROGRAM OVERVIEW

The Master of Science in “Data Science and Cybersecurity” is an interdisciplinary program designed to prepare professionals capable of addressing major cybersecurity and data analysis challenges in the digital age.

This program integrates two main fields of technology:

- Data Science focuses on utilizing advanced techniques for analyzing, modeling, and interpreting large-scale data to extract valuable insights for decision-making.
- Cybersecurity focuses on developing skills to protect IT systems, networks, and data from sophisticated security threats.



FEATURES OF THE MASTER OF SCIENCE IN "DATA SCIENCE & CYBERSECURITY" *(120 ECTS)*

WHAT IT OFFERS:

- **INTERNATIONALIZATION:**
  The program is conducted in English, providing students with a global perspective.

- **120 ECTS:**
  A comprehensive academic structure that includes both theoretical and practical learning.

- **INTERDISCIPLINARY APPROACH:**
  Integrating advanced technologies from Data Science with the latest Cybersecurity practices.

- **PRACTICAL METHODOLOGY:**
  Projects, seminars, and lab sessions offering students real-world experience.

- **CERTIFICATIONS AND NETWORKING:**
  Opportunities to earn international certifications and build professional networks with industry CEOs and experts.

BENEFITS:

- **ADVANCED TECHNICAL SKILLS:**
  Develop expertise in modern algorithms, machine learning, statistical analysis, and sophisticated security techniques.

- **UNIQUE COMBINATION:**
  Merging the fields of Data Science and Cybersecurity makes you an ideal candidate for the challenges of the digital era.

- **PRACTICAL ORIENTATION:**
  Opportunities for professional internships and collaborative projects with leading industry companies.

- **INTERNATIONAL CERTIFICATIONS:**
  Gain globally recognized certifications to enhance your value in the job market.

- **COMPREHENSIVE CAREER SUPPORT:**
  Career offices and mentorship programs to assist in transitioning from education to employment.

EMPLOYMENT OPPORTUNITIES

- **PRIVATE AND PUBLIC SECTORS:**
  Positions in major corporations, banks, government agencies, and international institutions.

- **TECH COMPANIES AND STARTUPS:**
  Employment opportunities in innovative startups and technology businesses.

- **CONSULTING AND MANAGEMENT ROLES:**
  Strategic positions in digital project management, IT security consulting, and risk management.

- **RESEARCH AND ACADEMIA:**
  Career opportunities in scientific research, universities, and research institutes.

CAREERS YOU CAN PURSUE

By completing this program, you will be prepared for careers such as:

- Data Analyst
- Cybersecurity Expert
- Security Systems Engineer
- Digital Forensics Specialist
- Cyber Risk Manager
- Researcher and Academic in relevant fields

PROGRAM CONTENT

The Master of Science in “Data Science and Cybersecurity” is an innovative and comprehensive academic program designed to prepare future leaders in the new age of data and cybersecurity. This 120 ECTS credit program is structured to provide a strong theoretical foundation and practical skills, equipping students for global technology market challenges and opportunities.

WHAT DOES THE PROGRAM OFFER?

- A comprehensive curriculum covering data analysis, artificial intelligence, blockchain, cryptography, and cybersecurity.
- 10 courses in the first year that establish a solid foundation in Data Science and Cybersecurity.
- 5 advanced courses in the second year focused on real-world applications and emerging technologies.
- Professional practice and innovative projects to bridge theory with the professional realm.
- Academic research to develop expertise and scientific analysis skills.

INNOVATION. PRACTICE. EXPERTISE.

1

Project-Based Learning: Students work on real-world projects in Big Data, Artificial Intelligence, and Cybersecurity, developing innovative solutions for industry challenges.

2

Simulations and Case Studies: Use of virtual labs and cyberattack simulations based on the latest industry cases for an advanced hands-on experience.

3

High-Tech Labs: Training with professional software such as Python, R, TensorFlow, Hadoop, Cisco Packet Tracer, and Kali Linux, experimenting with real data and advanced security techniques.

4

Industry Collaboration and Internships: Opportunities for hands-on work in leading technology and cybersecurity companies, benefiting from expert mentorship.

5

Learning-by-Doing & Hackathons: Participation in Hackathons, Cybersecurity Challenges, and AI Competitions, testing skills in dynamic and competitive environments.

6

Personalized Learning and Mentorship: Use of adaptive learning platforms to track individual progress and mentorship from professors and industry experts.

7

Exclusive Resources and International Certifications: Access to premium courses and global recognition.

PRACTICAL INFORMATION

PROGRAM DETAILS

1st YEAR	1st SEMESTER		2nd SEMESTER	
	COURSES	**ECTS**	**COURSES**	**ECTS**
	Foundations of Data Science	6	Machine Learning with Advanced Programming/Applied Data Science for Business	6
	Cybersecurity Principles and Incident Response	6	Network Security	6
	Programming for Data Science	6	Cybersecurity Management and Compliance	6
	Data Ethics and Privacy Law	6	Ethical Hacking	6
	Cloud Data Technologies/ Big Data Analytics	6	Research Methods and Innovation in IT	6
			TOTAL ECTS	60

2nd SEMESTER	1st SEMESTER		2nd SEMESTER	
	COURSES	**ECTS**		**ECTS**
	Advanced Cybersecurity Techniques	6	Professional Practice and Career Development	12
	Data-Driven Cybersecurity Applications	6		
	Secure Software Development	6	Diploma Thesis	18
	AI for Cybersecurity	6		
	Blockchain and Decentralized Security/ Cryptographic Systems and Applications	6		
			TOTAL ECTS	60

ADDITIONAL INFORMATION

- Duration:
  2 academic years (4 semesters)

- Study Mode:
  Full-time

- Language
  English

ADMISSION REQUIREMENTS

- Bachelor's Degree
- CV
- ID

For further information visit our website:
www.tbu.edu.al

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