Cunice
EUROPEAN UNIVERSITY

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EUROPEAN UNIVERSITY FOR CUSTOMISED EDUCATION

STUDY GUIDE

Forensics and Compliance Auditing Cybersecurity

Organised by

Polytechnic University of Viseu

Co-funded by the
Erasmus+ Programme
of the European Union

1. IDENTIFYING DATA.	
· Course Name.	Forensics and Compliance Auditing Cybersecurity
· Coordinating University.	Polytechnic University of Viseu
· Partner Universities Involved.	
· Course Field(s).	Cybersecurity
· Related Study Programme.	Master in Informatics Engineering - Information Systems
· ISCED Code.	0612
· SDG.	Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
· Study Level.	M (Masters)

· Number of ECTS credits allocated.	3
· Mode of Delivery.	Online live
· Language of Instruction.	English
· Course Dates.	Spring Semester
· Precise Schedule of the Lectures.	Duration: Lectures: 20 hours (synchronous) + autonomous work (asynchronous) Periodicity: Week, Friday 15:00 CET (2,5 hours/session) — Start 8 March
· Key Words.	Forensics. Compliance, Auditing. Cybersecurity
· Catchy Phrase.	The course provides the foundations on forensics and compliance auditing to identify and extract evidence and non-compliant events to be reported.

· Prerequisites and co-requisites.	B2 English level
· Number of EUNICE students that can attend the Course.	20
· Course inscription procedure(s).	Eunice Application Portal

2. CONTACT DETAILS.	
· Department.	School of Technology and Management of Viseu, Department of Informatics
· Name of Lecturer.	João Pedro Menoita Henriques

· E-mail.	joaohenriques@estgv.ipv.pt
· Other Lecturers.	Filipe Manuel Simões Caldeira caldeira@estgv.ipv.pt

3. COURSE CONTENT.

This course provides blended knowledge and hands-on learning to conduct effective forensic and compliance audits to improve the cybersecurity approach in organizations, including the ones managing critical infrastructures. This course also provides training and techniques to reduce risks and impact of threats by identifying, extracting, and analysing evidence and non-compliant events to report findings technically and scientifically.

4. LEARNING OUTCOMES.

This course provides forensics and compliance academic background and guidance with hands-on practical activities to develop skills to conduct forensic investigations and successful audits. The course covers the regulatory, standards, and policy practices to develop and implement effective auditing compliance programs while keeping confidentiality, reliability and integrity of the processed data. The experimental work offers the opportunity to develop the skills and apply in practice the acquired knowledge and skills and scientifically communicate the results. Students will understand forensics and compliance auditing frameworks for cybersecurity and acquire the knowledge and skills to scientifically communicate the results of experimental work.

5. OBJECTIVES.

- Understand the foundations of forensic and compliance auditing cybersecurity.
- Develop and conduct effective forensics and compliance auditing actions.
- Apply appropriate forensic techniques for gathering and analyzing evidence.
- Identify and detect non-compliant events with cybersecurity frameworks, standards, regulations, and internal policies.
- Report findings from forensics and compliance auditing actions in a technical and scientific manner.

6. COURSE ORGANISATION.

UNITS

1.	Name of the unit: Introduction to Forensics and Compliance Auditing Topics: Background Forensics and Compliance Auditing Critical Infrastructures (CI)

	Main EU and US Directives Ethical considerations Laws and regulations Cybersecurity frameworks Data Privacy Industrial and Automation Control Systems
2.	Name of the unit: Threats detection Topics: Threats Anomaly-based detection Signature-based detection Learning-based detection Security Information Event Management (SIEM) Tools
3.	Name of the unit: Forensic Investigation Topics: Forensic investigation process Forensics constraints for Critical Infrastructures Protection (CIP) Digital and Network forensics Digital forensic readiness Forensic schemas Confidentiality, reliability, and integrity Chain of custody
4.	Name of the unit: Compliance Auditing Topics: Compliance auditing process Standards, regulations, and business policies Auditing Frameworks Risk assessment and mitigation Programs development and implementation Reporting
LEARNING RESOURCES AND TOOLS.	
Slides, Papers, Books, Regulations, Standards, Security Frameworks, Python, LateX, Linux and Windows Oss	
PLANNED LEARNING ACTIVITIES AND TEACHING METHODS.	
Lectures, group work and tutorials	

7. ASSESSMENT METHODS, CRITERIA AND PERIOD.
The evaluation will combine a written exam (50%) and practical work (50%). The practical work consists of carrying out research and hands on work on one of the topics of forensic auditing or compliance. The achieved results will be submitted with partial deliveries and reported as a scientific article.
OBSERVATIONS.

8. BIBLIOGRAPHY AND TEACHING MATERIALS.

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