

COURSE DESCRIPTION

Fundamentals of Forensic Science

Academic year **2026-2027**

1. Programme-related data

1.1. Higher Education Institution	"Babeş-Bolyai" University Cluj-Napoca
1.2. Faculty	Faculty of History and Philosophy
1.3. Department	Security Studies
1.4. Field	Security Studies
1.5. Level of study	
1.6. Degree programme / Qualification	BA
1.7. Form of education	F

2. Course-related data

2.1. Course title	Elements of Forensic Science			Course code	HLX3011
2.2. Course coordinator	Ph.D. Codruța-Ștefania Jucan-Popovici				
2.3. Seminar coordinator	Ph.D. Codruța-Ștefania Jucan-Popovici				
2.4. Year of study	1	2.5. Semester	2	2.6. Type of assessment	Exam
2.7. Course status	Optional			2.8. Course type	Specialisation subject

3. Total estimated time (hours per semester of teaching activities)

3.1. Number of hours per week	4	of which: 3.2. course	2	3.3. seminar/ laboratory/ project	2
3.4. Total of hours in the curriculum	56	of which: 3.5. course	28	3.6. seminar/ laboratory	28
Time allocation for individual study (IS) and self-taught activities (ST)					hours
Learning from textbooks, course materials, bibliography, and notes (IS)					25
Additional research in the library, on subject-specific electronic platforms, and on-site					20
Preparing seminars/ laboratories/ projects, assignments, reports, portfolios, and essays					20
Tutoring (professional guidance)					0
Examinations					2
Other activities					2
3.7. Total hours of individual study (IS) and self-taught activities (ST)				69	
3.8. Total hours per semester				125	
3.9. Number of credits				5	

4. Prerequisites (where applicable)

4.1. curriculum-related	-
4.2. skills-related	-

5. Specific conditions (where applicable)

5.1. course-related	Internet access, projection device
5.2. seminar/laboratory-related	Internet access, projection device

6.1. Competencies resulting from the completion of the degree programme (as referred to in the curriculum)¹

¹ The professional and/or transversal skills targeted by the subject for which the course description is prepared will be copied from the curriculum of the degree programme. For each competency, the complete entry, including the competency code, will be copied with the exact wording that appears in the curriculum, without any changes.

Professional competencies	
Competency code	Competency
PC5	Ability to analyse the formulation, implementation and evaluation of public and national/international security policies in relation to institutional and legal frameworks.
PC6	Ability to apply principles and procedures related to information security, data protection and sensitive information handling in compliance with legal norms and professional standards.
PC9	Ability to use qualitative and quantitative research methods to investigate security phenomena and substantiate academic and professional analyses.
Transversal competencies	
Competency code	Competency
TC1	Ability to critically evaluate information, arguments and multiple sources, demonstrating analytical judgement and intellectual rigour.
TC4	Ability to act in accordance with ethical principles, legal norms and professional standards specific to the security field.

6.2. Learning outcomes relevant to the degree programme (as referred to in the curriculum)²

Learning outcomes targeted by the subject		
Competency code	Knowledge and comprehension	Specific academic skills
PC5	The student/graduate recognises, analyses and explains procedures related to the implementation of government policies at all levels of public administration.	The student/graduate applies scientific methods and techniques to investigate phenomena, acquiring new knowledge or correcting and integrating prior knowledge.
PC6	The student/graduate recognises, selects and uses statistical methods and practices, such as collecting, organising, analysing, interpreting and presenting data.	The student/graduate applies procedures for handling and protecting sensitive information (access control, classification, archiving) in simulated professional activities.
PC9	The student/graduate uses the theoretical methodology of scientific research, including conducting background research, building a hypothesis, testing it, analysing data and substantiating results.	The student/graduate engages in designing or creating new knowledge by formulating research questions; researching, improving or developing concepts, theories, models, techniques, tools, software or operational methods; and using scientific methods and techniques.
TC1	The student/graduate uses the theoretical methodology of scientific research, including conducting background research, building a hypothesis, testing it, analysing data and substantiating results.	The student/graduate applies scientific methods and techniques to investigate phenomena, acquiring new knowledge or correcting and integrating prior knowledge.
TC4		The student/graduate develops and demonstrates in depth knowledge and complex understanding of a specific research field, including responsible research, ethical and scientific integrity principles, respect for privacy and GDPR requirements related to research activities in a given discipline.

7. Subject-specific learning outcomes

Knowledge and comprehension

If no competency is copied from either of the two categories, the row corresponding to that category is deleted from the table.

² The learning outcomes relevant for the degree programme and targeted by the subject for which the course description is prepared will be listed. The entries, copied without any changes from the Curriculum by subject type (Core Subject/Specialisation Subject/Complementary Subject), are listed under the corresponding competency.

1. The student/graduate recognises, analyses and explains systems of governance; methodologies for analysing political activity and behaviour; and the theory and practice of influencing people and acquiring governance.
2. The student/graduate recognises, selects and uses statistical methods and practices, such as collecting, organising, analysing, interpreting and presenting data.
3. The student/graduate explains information security principles (confidentiality, integrity, availability) and data protection requirements in institutional contexts.
Specific academic skills
1. The student/graduate applies vulnerability assessment tools and proposes context-specific risk mitigation measures.
2. The student/graduate engages in designing or creating new knowledge by formulating research questions; researching, improving or developing concepts, theories, models, techniques, tools, software or operational methods; and using scientific methods and techniques.
3. The student applies professional ethical standards in operational security contexts.

8. Contents

8.1. Course	Teaching and learning methods	Remarks ³
1. Introductory lecture	Lecture, dialogue, online research	
2. Short history. Institutions involved	Lecture, debate, comparison	
3. Forensic tactics. Elements of criminal law	Lecture, dialogue, analysis	
4. Forensic tactics. The crime scene management	Lecture, dialogue, practical activities	
5. Biological Evidence and DNA Profiling	Lecture, dialogue	
6. Fingerprints and other traces	Lecture, dialogue, analysis	
7. Forensic Pathology, Forensic Anthropology and Odontology	Lecture, dialogue, practical activities	
8. Forensic Toxicology	Lecture, dialogue, online research	
9. Digital Forensic	Lecture, dialogue	
Conclusions	Dialogue	
Bibliography		
1. Jay Siegel, <i>Forensic Science: a Beginner's Guide</i> , Oxford, 2009 2. US Dept. of Justice, National Institute of Justice, <i>The Fingerprint Sourcebook</i> , online - https://www.ojp.gov/pdffiles1/nij/225320.pdf 3. US Dept. of Justice, National Institute of Justice, <i>Forensic Examination of Digital Evidence: A Guide for Law Enforcement</i> , online - https://www.ojp.gov/pdffiles1/nij/199408.pdf 4. Federal Bureau of Investigation. Laboratory Division – Handbook of Forensic Services, 2019 https://www.fbi.gov/file-repository/handbook-of-forensic-services-pdf.pdf/view		
8.2. Seminar/ laboratory	Teaching and learning methods	Remarks
1. Forensic in News and the CSI Effect	Dialogue. Online research	
2. The Practice of Forensic Science	Debate. Practical exercises	
3-4. Crime Scene Management	Practical discussions and cases	
5. Biological Evidence	Practical exercises to identify specific traces. Debate. Case files	
6. Fingerprints	Dialogue. Practical exercises. Identifying fingerprints.	

³ For example, organisational aspects, recommendations for students, specific aspects relating to the course/seminar, such as inviting experts in the field, etc.

7. Traces	Debate. Case files and practical exercises. Documentary	
8. Forensic Pathology	Practical exercises	
9. Digital forensic	Dialogue. Online research	
10. Toxicology	Analysis, research. Case study – alcohol, drugs and plant	
11. Conclusions	Debate. Dialogue.	
Bibliography 1. Jay Siegel, <i>Forensic Science: a Beginner's Guide</i> , Oxford, 2009 2. US Dept. of Justice, National Institute of Justice, <i>The Fingerprint Sourcebook</i> , online - https://www.ojp.gov/pdffiles1/nij/225320.pdf 3. US Dept. of Justice, National Institute of Justice, <i>Forensic Examination of Digital Evidence: A Guide for Law Enforcement</i> , online - https://www.ojp.gov/pdffiles1/nij/199408.pdf 4. Federal Bureau of Investigation. Laboratory Division – Handbook of Forensic Services, 2019 https://www.fbi.gov/file-repository/handbook-of-forensic-services-pdf.pdf/view		

9. Evaluation

Type of activity	9.1 Evaluation criteria ⁴	9.2 Evaluation methods ⁵	9.3 Percentage in the final grade
9.4. Course	Logical, correct, and coherent application of acquired notions.	Written exam	70%
9.5. Seminar/ laboratory	The ability to perform analyzes and interpret the obtained results, special activity at the seminar. An extra maximum of 1 point can complete the grade, for the activity at the seminar.	Evaluation tests during the semester, seminar activity, assignments, projects, etc.	30%
9.6 Minimum standard for passing			
The correct use of forensic concepts, theories, and specific technical aspects. Critical evaluation of situations, case-laws and criminal law issues.			

10. SDG labels (Sustainable Development Goals)⁶

		Sustainable Development Generic Label
---	---	---------------------------------------

⁴ The evaluation criteria must directly reflect the learning outcomes targeted at the level of the degree programme respectively at the level of the subject. More specifically, the learning outcomes set out in the expected learning outcomes are assessed.

⁵ Both final evaluation methods and ongoing evaluation strategies should be established.

⁶ Select a single label which, according to the [Implementation of SDG labels in the academic process](#), best matches the subject. If the subject addresses sustainable development in a generic manner (i.e. by presenting/introducing the general framework of sustainable development, etc.), then the Sustainable Development generic label may be applied. If none of the labels describe the subject, select the last option: "No label applies."

1 FĂRĂ SĂRĂCIE 	2 FOAMETE „ZERO” 	3 SĂNĂTATE ȘI DĂINĂSTARE 	4 EDUCATIE DE CALITATE 	5 EGALITATE DE GEN 	6 APĂ CURATĂ ȘI SĂNĂTATE 	7 ENERGIE CURATĂ ȘI LA PREȚURI ACCESIBILE 	8 MUNCĂ DECENTĂ ȘI CREȘTERE ECONOMICĂ 	9 INDUSTRIE, INOVAȚIE ȘI INFRASTRUCTURĂ 
								
10 INEGALITĂȚI REDUSE 	11 ORASE ȘI COMUNITĂȚI DURABILE 	12 CONSUM ȘI PRODUCȚIE RESPONSABILE 	13 ACȚIUNE CLIMATICĂ 	14 VIAȚĂ ACVATICĂ 	15 VIAȚĂ TERESTRĂ 	16 PACE, JUSTIȚIE ȘI INSTITUȚII EFICIENTE 	17 PARTENERIATE PENTRU REALIZAREA OBIECTIVELOR 	No label applies
								

Date of entry:

Signature of course coordinator

Signature of seminar coordinator




Date of approval in the department:

Signature of the head of department

...

.....