SYLLABUS

1. Information regarding the programme

1.1 Higher education institution	**Babeş Bolyai University**
1.2 Faculty	**Faculty of Mathematics and Computer Science**
1.3 Department	**Department of Computer Science**
1.4 Field of study	**Computer Science**
1.5 Study cycle	**Master**
1.6 Study programme / Qualification	**Cyber Security**

2. Information regarding the discipline

2.1 Name of the discipline (en) (ro)	**Computer Ethics and Academic Integrity (Principii etice în informatică şi integritate academică)**					
2.2 Course coordinator	**Prof. PhD. Simona Motogna**					
2.3 Seminar coordinator	**Prof. PhD. Simona Motogna**					
2.4. Year of study	**1**	2.5 Semester	**1**	2.6. Type of evaluation	**C**	2.7 Type of discipline	**Mandatory**
2.8 Code of the discipline	**MME4002**					

3. Total estimated time (hours/semester of didactic activities)

3.1 Hours per week	4	Of which: 3.2 course	2	3.3 seminar/laboratory	1sem+1 project
3.4 Total hours in the curriculum	56	Of which: 3.5 course	28	3.6 seminar/laboratory	28

Time allotment:	hours
Learning using manual, course support, bibliography, course notes	10
Additional documentation (in libraries, on electronic platforms, field documentation)	15
Preparation for seminars/labs, homework, papers, portfolios and essays	15
Tutorship	2
Evaluations	2
Other activities:	

3.7 Total individual study hours	44
3.8 Total hours per semester	100
3.9 Number of ECTS credits	4

4. Prerequisites (if necessary)

4.1. curriculum	•
4.2. competencies	•

5. Conditions (if necessary)

5.1. for the course	• Room with projector

5.2. for the seminar /lab activities	• Students should use laptops/computers for their presentations

6. Specific competencies acquired

Professional competencies	C3.4 Data and model analysis C3.5 Produce computational components for interdisciplinary projects
Transversal competencies	CT1 Apply rules to: organized and efficient work, responsibilities of didactical and scientific activities and creative capitalization of own potential, while respecting principles and rules for professional ethics CT2 Efficient organization of activities in an inter-disciplinary group and development of emphatic communication, relational and collaboration abilities CT3 Use efficient methods and techniques for learning, knowledge gaining, and research and develop capabilities for capitalization of knowledge, accommodation to society requirements and communication in English

7. Objectives of the discipline (outcome of the acquired competencies)

7.1 General objective of the discipline	• Be able to understand and apply the regulations, law and ethical practices in Data Science • Detect intellectual property violations • Analyze risks and alternative decisions regarding ethical aspects of Data Science
7.2 Specific objective of the discipline	• Be able to use ethical analysis methodologies • Critical abilities in identifying violation of domain's law

8. Content

8.1 Course	Teaching methods	Remarks
1. Introduction to legal and ethical issues in Data Science	Exposure: description, debate	
2. Professional ethics	Exposure: description, debate, case studies, examples, dialogue	
3. Intellectual Property	Exposure: description, debate, case studies, examples, dialogue	
4. Ethical issues for data access, use, and collection	Exposure: description, debate, case studies, examples, dialogue	

5. Bias and Fairness	Exposure: description, debate, case studies, examples, dialogue	
6. Privacy, confidentiality and anonymization of data	Exposure: description, debate, case studies,	

	examples, dialogue	
7. Practical Tools	Exposure: description, debate, case studies, examples, dialogue	
8. Specificity of data from financial sector (invited topic)	Exposure: description, debate, case studies, examples, dialogue	
9. Specificity of data from economic sector (invited topic)	Exposure: description, debate, case studies, examples, dialogue	
10. Specificity of data in health (invited topic)	Exposure: description, debate, case studies, examples, dialogue	
11. Specificity of data in public sector (invited topic)	Exposure: description, debate, case studies, examples, dialogue	
12. Specificity of data in life science (invited topic)	Exposure: description, debate, case studies, examples, dialogue	
13. Presentations of students reports	Exposure: description, debate, case studies, examples, dialogue	
14. Presentations of students reports	Exposure: description, debate, case studies, examples, dialogue	

Bibliography

ACM/IEEE-Computer Society. Software Engineering Code of Ethics and Professional Practice.

Version 5.2. http://www.acm.org/about/se-code

Council for Big Data, Ethics & Society. http://bdes.datasociety.net/

Data & Society. https://datasociety.net/

Collmann, Jeff and Matai, Sorin Adam, Eds., (2016) Ethical Reasoning in Big Data: A Exploratory Analysis, Springer, 192 pages.

Mittelstadt, Brent and Floridi, Luciano, Eds. (2016) The Ethics ofBiomedical Big Data, Springer, 480 pages.

Lane, Julia, et al., Eds., (2014) Privacy, Big Data, and the Public Good: Frameworks for Engagement, Cambridge University Press, 339 pages.

8.2 Seminar / laboratory	Teaching methods	Remarks
1. Debate between teams of students on topics from course: ethics of profession, intellectual property	Debate, case studies, dialogue	
2. Debate between teams of students on topics from course: bias and fairness, confidentiality and privacy	Debate, case studies, dialogue	
3. Workshop on: anonymization	Debate, case studies, dialogue	
4. "Bonnie and Clyde": famous cases in data breach / infringements	Debate, case studies, dialogue	
5. Debate between teams of students on topics from course: data in finance and economy, health and life sciences	Debate, case studies, dialogue	
6. Reading and discussion on selected papers from bibliography	Debate, case studies, dialogue	
7. Reading and discussion on selected papers from bibliography	Debate, case studies, dialogue	

Bibliography

Herschel, Richard and Miori, Virginia (2017) ÒEthics & Big Data,Ó Technology in Society 49, 31- 36.
Buchanan, Elizabeth and Zimmer, Michael (2016) ÒInternet Research Ethics,Ó The Stanford
Encyclopedia of Philosophy, Edward N. Zalta (ed.), https://plato.stanford.edu/entries/ethics-
internetresearch/

Floridi, Luciano, and Taddeo, Mariarosaria (2016) ÒWhat is Data Ethics?Ó Philosophical Transactions
ofthe Royal Society A, 374:2083, DOI: 10.1098/rsta.2016.0360. In special issue with the theme The Ethical
Impact of Data Science, Taddeo and Floridi eds.

Metcalf, Jason and Crawford, Kate (2016) ÒWhere are Human Subjects in Big Data Research? The Emerging
Ethics Divide,Ó Big Data & Society 3:1, DOI: 10.1177/2053951716650211

O'Leary, Daniel E. (2016) ÒEthics for Big Data and Analytics,Ó IEEE Intelligent Systems, 31:4, 81- 84.

Crawford, Kate, et al. (2014) ÒCritiquing Big Data: Politics, Ethics, Epistemology.Ó International Journal of
Communication, 8:1663-1672.

Richards, Neil M. and King, Jonathan H. (2014) ÒBig Data Ethics,Ó Wake Forest Law Review. Available at
SSRN: https://ssrn.com/abstract=2384174

Zwitter, Andrej (2014) ÒBig Data Ethics,Ó Big Data & Society, Jul-Dec, 1-6.
Moreno, M.A., et al. (2013) ÒEthics of Social Media Research: Common Concerns and Practical

Considerations.Ó Cyberpsychol Behav Soc Netw. 16(9):708-13. doi: 10.1089/cyber.2012.0334.

9.   Corroborating the content of the discipline with the expectations of the epistemic community, professional associations and representative employers within the field of the program

- The course exists in the studying program of all major universities abroad;
- The content of the course is providing basic ethical conduct stated by ACM and IEEE, and legal regulations of EU and Romania

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the grade (%)
10.4 Course	Course activity during semester		
	At the end of semester	Report presentation	30%
10.5 Seminar/lab activities	Seminar activity	Debates, case studies (10% for each assignment)	70%

10.6 Minimum performance standards
☐ At least an average grade of 5
☐ To be able to identify data infringements cases and to propose counter-measures
☐ To be able to formulate arguments regarding ethical issues related to data

Date   Signature of course coordinator   Signature of seminar coordinator

Prof. PhD Simona Motogna   **Prof. PhD Simona Motogna**

27.04.2024 Date of approval   Signature of the head of department

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Assoc.Prof.dr. Adrian Sterca