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	**Data Science for Industry and Society**

2. Information regarding the discipline

2.1 Name of the discipline (en) (ro)	**Ethics and Academic Integrity in Data Science** **/ Etică și integritate academică în Știința datelor**					
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	**C**
2.8 Code of the discipline	MME8178					

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

3.1 Hours per week	3	Of which: 3.2 course	2	3.3 seminar/laboratory	1sem+1 project
3.4 Total hours in the curriculum	42	Of which: 3.5 course	28	3.6 seminar/laboratory	14
Time allotment:					hours
Learning using manual, course support, bibliography, course notes					16
Additional documentation (in libraries, on electronic platforms, field documentation)					12
Preparation for seminars/labs, homework, papers, portfolios and essays					12
Tutorship					8
Evaluations					10
Other activities:					

3.7 Total individual study hours	58
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, responsabilities 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 empatic communication, relational and collaboration abilities CT3 Use efficient methods and techniques for learning, knowledge gaining, and research and develop capabilities for capitalization of knowledge, accomodation 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 intelectual 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 Computer Science. Professional ethics	Exposure: description, debate	
2. Intellectual Property	Exposure: description, debate, case studies, examples, dialogue	
3. Licences, open access, free source	Exposure: description,	

	debate, case studies, examples, dialogue	
4. Risks and liabilities in software products	Exposure: description, debate, case studies, examples, dialogue	
5. Ethical and legal issues related to privacy	Exposure: description, debate, case studies, examples, dialogue	
6. Internet Regulations	Exposure: description, debate, case studies, examples, dialogue	
7. Free speech and content control in cyberspace	Exposure: description, debate, case studies, examples, dialogue	
8. Ethical Issues Involving Computer Security: Hacking, Hacktivism, and Counterhacking	Exposure: description, debate, case studies, examples, dialogue	
9. Challenges in Ethics: Artificial Intelligence	Exposure: description, debate, case studies, examples, dialogue	
10. Ethical issues for data access, use, and collection	Exposure: description, debate, case studies, examples, dialogue	
11. Ethical aspects of research in Computer Science	Exposure: description, debate, case studies, examples, dialogue	
12. Invited lecture – TBD	Exposure: description, debate, case studies, examples, dialogue	
13. Students report presentations	Exposure: description, debate, case studies, examples, dialogue	
14. Students report presentations	Exposure: description, debate, case studies, examples, dialogue	

Bibliography
1. George Reynolds- Ethics in Information Technology, Cengage, 4th ed, 2011
2. William John Brinkman, Alton F. Sanders - ETHICS IN A COMPUTING CULTURE, 2012, available online at http://www.cengagebrain.co.nz/content/9781133990932.pdf
3. ACM/IEEE-Computer Society. Software Engineering Code ofEthics and Professional Practice. Version 5.2. http://www.acm.org/about/se-code
4. Council for Big Data, Ethics & Society. http://bdes.datasociety.net/
5. Data & Society. https://datasociety.net/
6. Collmann, Jeff and Matai, Sorin Adam, Eds., (2016) Ethical Reasoning in Big Data: A Exploratory Analysis, Springer, 192 pages.
7. Mittelstadt, Brent and Floridi, Luciano, Eds. (2016) The Ethics ofBiomedical Big Data, Springer, 480 pages.
8. 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. Ethical issues related to sustainability	Debate, case studies, dialogue, examples	
4. Debate „Technology is not neutral and responsability lies on the developers"	Debate, case studies, dialogue, examples	
5. Workshop on anonymization	Debate, case studies, dialogue, examples	
6. Ethical implications of ChatGPT	Debate, case studies, dialogue, examples	
7. Ethical issues related to DEI (Diversity, Equity, Inclusion)	Debate, case studies, dialogue, examples	

Bibliography
1. George Reynolds- Ethics in Information Technology, Cengage, 4th ed, 2011
2. William John Brinkman, Alton F. Sanders - ETHICS IN A COMPUTING CULTURE, 2012, available online at http://www.cengagebrain.co.nz/content/9781133990932.pdf
3. ACM/IEEE-Computer Society. Software Engineering Code ofEthics and Professional Practice. Version 5.2. http://www.acm.org/about/se-code
4. Council for Big Data, Ethics & Society. http://bdes.datasociety.net/
5. Data & Society. https://datasociety.net/
6. Collmann, Jeff and Matai, Sorin Adam, Eds., (2016) Ethical Reasoning in Big Data: A Exploratory Analysis, Springer, 192 pages.
7. Mittelstadt, Brent and Floridi, Luciano, Eds. (2016) The Ethics ofBiomedical Big Data, Springer, 480 pages.
8. Lane, Julia, et al., Eds., (2014) Privacy, Big Data, and the Public Good: Frameworks for Engagement, Cambridge University Press, 339 pages.

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
- The course is reccommended for EIT Digital Master Schools

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	Debates, case studies Report	20%
	At the end of semester	Report presentation	30%
10.5 Seminar/lab activities	Semina activity	Debates, case studies	50%
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

Date of approval   Signature of the head of department

....   Prof.PhD. Laura Diosan