

COURSE DESCRIPTION CARD

NOTE: If the course includes lectures and classes, the Course Description Card applies to both types of instruction.

1. Course title: in Polish / in English Data science	2. Course code: Number of ECTS credits: 2 Course completion mode: Credit Course commenced / Year 2020/2021
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3. Major: E-Commerce

4. Department of major coordinator: Dept. of Market and Consumption

5. Name of course instructor: Lecture Prof. UE dr hab. Maria Mach-Król Classes...
 Lab classes ...
Examiner Prof. UE dr hab. Maria Mach-Król...

6. Department of course instructor:
 Dept. of Business Informatics

7. Number of contact hours with students:

Type of instruction	Full-time study	Part-time study
lectures	4	
classes		
foreign language classes		
lab classes		
seminars		
e-learning	11	
other		
Total hours	15	
examination (hours)		

8. Course timeframe - no. of semesters: 1

Course commencement / Year 2020/2021

Course commencement / Semester 3

9. Level of tertiary education Master	10. Course status <input checked="" type="checkbox"/> Compulsory for the major... <input type="checkbox"/> Compulsory for the specialization ... <input type="checkbox"/> Elective ...
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11. Course prerequisites
 Compulsory:
 Recommended: BUSINESS INFORMATION SYSTEMS; BUSINESS INTELLIGENCE

12. Course objectives:

- Providing students with knowledge on selected aspects of big data processing and analysis
- Familiarizing students with selected software used in data science processes (Hadoop, Spark)
- Indication of areas of use of data science in e-commerce

13. Teaching and learning methods:

A. Direct student-instructor contact:

No.	Teaching methods	Description	Number of hours	
			Full-time study	Part-time study
1.	E-learning	Presentation of the course content via the Moodle platform (lectures).	11	
2.	Lecture with the use of multimedia techniques	Presenting the basics of the course and presenting e-learning classes and forms of getting credit	4	
Total			AS:15	AN:

B. Self-study:

No.	Learning methods	Description	Number of hours	
			Full-time study	Part-time study
1.	Analysis of notes from the lectures	Analysis of lecture notes provided by the teacher	20	
2.	Independent work using a computer	Analysis of practical examples provided by the teacher	15	
Total			BS:35	BN:

Total AS+BS = 50

Examination (E) = 0

Total AS+BS+E= 50

Total AN+BN =

Examination (E) =

Total AN+BN+E =

14. Key words: data mining, data visualization

15. Course content:

1. Basics of big data and introduction to data science
2. Practical examples of using data science
3. Hadoop and data science
4. Data mining: process, methods, algorithms
5. Data visualization
6. Spark for big data analytics
7. Enterprise data science
8. Data science development trends.....

16. Course learning outcomes as related to the learning outcomes of the major and methods for assessing student attainment

Intended learning outcomes of the major / Symbols	Intended learning outcomes of the course	Methods for assessing student learning outcomes	Documentation
<u>Knowledge</u>			
ECe2_W04#	The student has in-depth knowledge of areas of electronic economy that can be supported by data science analytics.	Final test on the Moodle platform	Electronic test documentation on the Moodle platform
<u>Skills</u>			
ECe2_U09#	The student knows how to choose the appropriate analytical technique for a business problem in an e-	Final test on the Moodle platform	Electronic test documentation

	commerce enterprise and compare the results obtained from various analytical models		on the Moodle platform
<u>Social competences</u>			
ECe2_K03#	The student understands the importance of analyzing large data sets in solving business problems, and correctly plans tasks for the implementation of analyzes specified independently and / or by third parties	Final test on the Moodle platform	Electronic test documentation on the Moodle platform

17. Method for determining the final course grade:

No.	Methods for awarding credits and course completion requirements	Description	Percentage of the final course grade*
1.	Work at the computer with the possibility of using textbooks	Final test on the Moodle platform	100%

* If students are required to obtain both a class grade and an exam grade, the class grade constitutes at least 30% of the final course grade.

18. Reading list

Mandatory readings:

1. Cathy O’Neil, Rachel Schutt. Doing Data Science, Straight Talk From The Frontline. O’Reilly. 2014
2. <http://hadoop.apache.com>
3. <http://spark.apache.org>

Suggested readings:

1. Bill Schmarzo: Big Data: Understanding How Data Powers Big Business. Wiley, 2013.
2. Thomas Erl, Wajid Khattak, Paul Buhler: Big Data Fundamentals. Prentice Hall, 2015.
3. A. Holmes: Hadoop in practice. Manning Publications, 2013.
4. Soumendra Mohanty, Madhu Jagadeesh, Harsha Srivatsa: Big Data Imperatives, Enterprise "Big Data" Warehouse, 'BI' Implementations and Analytics, Apress, 2013.
5. Jared Dean: Big Data, Data Mining, and Machine Learning, Value Creation for Business Leaders and Practitioner, Wiley, 2014.
6. Jure Leskovek, Anand Rajaraman and Jeffrey Ullman. Mining of Massive Datasets. v2.1, Cambridge University Press. 2014. (free online)
7. Jay Liebovitz (Ed.): Big Data and Business Analytics. CRC Press, 2013.
8. Ofer Mendeleevitch, Casey Stella, Douglas Eadline: Practical Data Science with Hadoop and Spark. Addison-Wesley, Pearson Education, 2017.

19. Language of instruction: English

20. Course instructors’ recommendations: