

COURSE DESCRIPTION CARD

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

1. Course title:
Quantitative methods for e-commerce

2. Course code:
Number of ECTS credits: 4
Course completion mode: E
Course commenced / Year
2019/2020

3. Major: E-commerce

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

5. Name of course instructor: Jan Acedański

6. Department of course instructor: Department of Statistical and Mathematical Methods in Economics

7. Number of contact hours with students:

Type of instruction	Full-time study	Part-time study
lectures	15	-
classes	30	-
foreign language classes	-	-
lab classes	-	-
seminars	-	-
e-learning	-	-
other	-	-
Total hours	45	0
examination (hours)	1	-

8. Course timeframe - no. of semesters: 1

Course commencement / Year: 1

Course commencement / Semester: 1

9. Level of tertiary education: II

10. Course status
 Compulsory for the major...
 Compulsory for the specialization ...
 Elective ...

11. Course prerequisites
 Compulsory: Informatics, Statistics
 Recommended: Econometrics

12. Course objectives:

- Making the students familiar with the advanced statistical methods used for multivariate business data analysis and visualization

- Introducing software developed for advanced data analysis

13. Teaching and learning methods:

A. Direct student-instructor contact:

No.	Teaching methods	Description	Number of hours	
			Full-time study	Part-time study
1.	Computer classes	Solving exercises with computers	30	0
2.	Multimedia lecture	Verbal message using interactive communication with students and multimedia technique	15	0
Total			AS: 45	AN: 0

B. Self-study:

No.	Learning methods	Description	Number of hours	
			Full-time study	Part-time study
1.	Solving exercises	Solving exercises using computers	35	0
2.	Cause and effect study with using literature	Using notes from classes and lectures	20	0
Total			BS: 55	BN: 0

Total AS+BS = 100

Examination (E) = 1

Total AS+BS+E= 101

Total AN+BN = 0

Examination (E) = 0

Total AN+BN+E = 0

14. Key words: data analysis, multivariate statistical analysis, data visualization

15. Course content:

1. Business data visualization methods
2. Linear ordering methods
3. Data classification methods (factor analysis, classification trees)
4. Multidimensional scaling methods
5. Conjoint analysis
6. Analysis of correspondence

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_W02#	knows in-depth mathematics and statistics research methods for analysis and presentation of various data sets	Discussion in class, written exam	Instructor's notes, exam sheets
ECe2_W05#	knows and uses quantitative methods supporting decision making processes in a company	Discussion in class, written exam	Instructor's notes, exam sheets
<u>Skills</u>			
ECe2_U01#	has the ability to choose the appropriate methods and tools to analyze phenomena occurring within the framework of the economy electronic and to	Discussion in class, tests	Instructor's notes, test files

	formulate innovative recommendations		
ECe2_U04#	has the ability to choose the right methods and tools to analyze phenomena occurring within the framework of the e-commerce and to formulate innovative recommendations	Discussion in class, tests	Instructor's notes, test files
<u>Social competences</u>			
ECe2_K02#	participates in the preparation of economic projects, has the team work ability	Own work and in teams during classes	Instructor's notes
ECe2_K03#	understands the importance of knowledge in solving cognitive and practical problems	Own work and in teams during classes	Instructor's notes

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.	Written exam without textbooks		60%
2.	Other	Points gained during classes (from tests and activity)	40%

* 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. J. F. Hair: Multivariate data analysis. Wyd. Pearson, 2014.
2. Statsoft (red.): Electronic Textbook of Statistics. Wyd. Statsoft, Kraków, 2006.

Suggested readings:

1. W. Ostasiewicz (Red.), Statystyczne metody analizy danych, Wydawnictwo AE we Wrocławiu, Wrocław 1998.
2. Rencher A.: Methods of Multivariate Analysis. Second Edition. Wyd. John Wiley & Sons, New York, 2002.
3. Kerns G.J.: Introduction to Probability and Statistics Using R.
<https://cran.rproject.org/web/packages/IPSUR/vignettes/IPSUR.pdf>
4. Coghlan A: A Little Book of R For Multivariate Analysis.
<https://media.readthedocs.org/pdf/little-book-of-r-formultivariate-analysis/latest/little-book-of-r-for-multivariate-analysis.pdf>

19. Language of instruction: English

20. Course instructors' recommendations: