



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Social Science Methodology [S1DSwB1>MNS]

Course

Field of study

Data Science in Business

Year/Semester

2/4

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

elective

Number of hours

Lecture

15

Laboratory classes

0

Other

0

Tutorials

0

Projects/seminars

0

Number of credit points

1,00

Coordinators

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Lecturers

Prerequisites

Knowledge of the basics of higher mathematics

Course objective

The aim of the course is for the student to acquire basic knowledge of conducting research in the social sciences, with particular emphasis on the use of statistical methods at the stage of research preparation, development of research results and their analysis and formulation of research conclusions and recommendations in the research report.

Course-related learning outcomes

Knowledge:

Characterizes the main research paradigms in social sciences and explains their impact on research strategies [DSB1_W01].

Describes the differences between qualitative and quantitative research and explains their application in

different theoretical approaches [DSB1_W03].

Identifies the key elements of the research process, including the research problem, research questions, hypotheses, and operationalization of variables [DSB1_W07].

Skills:

Formulates correct research questions and hypotheses, adjusting them to the chosen paradigm and research strategy [DSB1_U05].

Selects and applies appropriate data analysis methods, including difference tests, association tests, and factor analysis, to process the results of social research [DSB1_U03].

Social competences:

Is ready to critically evaluate the reliability and credibility of information sources and research findings in social sciences [DSB1_K01].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Moodle credit test - 80 points

Assignments on Moodle - 20 pts

Rating scale:

0 - 50 inadequate

51 - 59 sufficient

60 - 69 sufficient plus

70 - 79 good

80 - 89 good plus

90 - 100 very good

Programme content

Paradigms, research agendas and researcher strategies in the social sciences.

Qualitative and quantitative research in the social sciences - essence and importance in different research paradigms.

Conceptualising the research process - research objectives, research field, research object, research problem, research question, research questions, hypotheses and research statements.

Description and presentation of the empirical material collected - elements of descriptive statistics.

Indicators of variables in the context of the problem of operationalisation in research.

Statistical inference - tests of difference and tests of association.

Exploratory factor analysis and scale reliability testing.

Course topics

- Paradigms in the social sciences - a discussion of the main theoretical approaches in social research.
- Research agendas and research strategies - the differences between them and their role in the social sciences.
- Qualitative and quantitative research - characteristics and relevance - discussing the essence of both approaches and their application in different paradigms.
- Research objectives - different types of research objectives and their impact on the research process.
- Research field and object of study - how to define the scope and area of research?
- Research problem and research questions - the importance of precise formulation of the research problem.
- Hypotheses and research statements - differences, functions and ways of formulating them.
- Collection and analysis of empirical material - key steps in developing research data.
- Descriptive statistics in the social sciences - basic methods for presenting research results.
- Operationalisation of variables and indicators - how to effectively measure social phenomena?
- Statistical inference in social research - basic principles and applications.
- Tests of differences in social research - using statistical tests to compare groups.
- Tests of relationships between variables - correlation and regression analysis in research.
- Exploratory factor analysis and reliability testing - methods for analysing data structure and assessing reliability.
- Repetition of the material and credit - summary of key issues and preparation for credit.

Teaching methods

Conversational lecture supported by a multimedia presentation.

Bibliography

Basic:

Babbie, E. (2008). Fundamentals of social research (W. Betkiewicz, Transl.). Wydawnictwo Naukowe PWN. Bednarska, S., & Brzezicka, A. (2013).

Statystyczny drogowskaz 1. Praktyczne wprowadzenie do wnioskowania statystycznego, Wyd. Akademickie Sedno, Warsaw.

Aczel, A. D., & Sounderpandian, J. (2018). Statistics in management. PWN Scientific Publishers.

Additional:

Mierzwiak, R. (2024). Methodological aspects of grey systems theory in management research. Springer Nature.

Rabiej, M. (2018). Statistical analysis with Statistica and Excel. Helion Publishing.

King, B. M., & Minium, E. W. (2020). Statistics for psychologists and educators. PWN Scientific Publishers.

Brzezinski, J. (2021). Methodology of psychological research. PWN Scientific Publishers.

Nowak, S. (2007). Methodology of social research. Państwowe Wydawn. Naukowe.

Brzezinski, J. M. (2012). Methodology of social research. A selection of texts.

Mierzwiak, R. (2019). Characteristics of selected approaches of uncertainty modelling in the context of management sciences. Humanities and Social Sciences, 26(1), 67-77.

Kujawińska, A., & Więcek-Janka, E. (2010). Mathematical statistics. Wydawnictwo Politechniki Poznańskiej.

Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,00
Classes requiring direct contact with the teacher	15	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	10	0,50