

KARTA PRZEDMIOTU

Nazwa przedmiotu: **Statistics (ZIPAOZ>SI3S190)**

Nazwa w języku polskim:

Nazwa w jęz. angielskim: **Statistics**

Dane dotyczące przedmiotu:

Jednostka oferująca przedmiot: Wydział Organizacji i Zarządzania

Przedmiot dla jednostki: Politechnika Śląska

Domyślny typ protokołu dla przedmiotu:

EGZ

Język wykładowy:

angielski

Strona WWW:

<https://platforma2.polsl.pl/roz/course/view.php?id=508>

Skrócony opis:

The main course objective is acquiring the ability to use statistical methods in management and production engineering

Opis:

Lectures:

Data and methods of their presentation. Structure analysis.

Correlation and regression analysis.

The theory of probability

Statistical inference in structure analysis

Statistical inference in the analysis of interdependencies.

Laboratories:

Statistical data: preparation for analysis, types of variables, methods of presentation

Structure analysis. Comparing variable distributions. Data aggregation.

Relationship between qualitative variables: contingency tables, dependency measures, visualization

The relationship between quantitative variables. Correlation and regression analysis

Selected issues of the theory of statistical hypotheses

Teaching modes and hours

Lectures; 30h

Laboratories: 30h

Student's own work: 90h

Total number of hours: 150

Number of ECTS credits: 5

- Number of ECTS credits allocated for contact hours: 2

- Number of ECTS credits allocated for in-practice hours (laboratory classes, projects): 3

Literatura:

Introduction to Statistics, Genet Tsige, OmniScriptum GmbH & Co. KG 2011

Introduction to Statistics, David Lane, Rice University, Open Textbook Library

Online Statistics Education: An Interactive Multimedia Course of Study: <https://onlinestatbook.com/2/>

An Introduction to Statistical Learning with Applications in R, Gareth James Daniela Witten Trevor Hastie, Springer Nature 2013

Introduction to Statistics: An Intuitive Guide for Analyzing Data and Unlocking Discoveries, Jim Frost, James D. Frost 2020

Efekty uczenia się:

KNOWLEDGE: Student knows and understands:

issues in the field of:

- probability calculus,

- mathematical statistics (K1A_W03), (Lecture, Laboratory)

SKILLS: Student is able to:

apply the knowledge of probability theory and mathematical statistics to the analysis of experimental data, in particular:

- can calculate probabilities in event spaces, determine the distribution parameters of a random variable, use typical distributions of a random variable,

- can prepare statistical data and use the basic methods of statistical inference (K1A_U03), (Lecture, Laboratory)

identifying and formulating specifications of engineering tasks and solving them:

- use analytical, simulation and experimental methods,

- perceive their systemic and non-technical aspects, including ethical aspects,

- make a preliminary economic assessment of proposed solutions and undertaken engineering activities. (K1A_U13), (Lecture, Laboratory)

- take part in a debate - present, justify and evaluate different opinions and positions and discuss them (K1A_U16), (Lecture, Laboratory)

SOCIAL COMPETENCE: Student is ready for:

recognize the importance of knowledge in solving cognitive and practical problems and seek expert opinion in case of difficulties in solving a problem on their own. (K1A_K02), (Lecture, Laboratory)

Metody i kryteria oceniania:

The grade consists of:

20% points for quizzes and files to send

40% points for projects

40% points for exam

Przynależność do grup przedmiotów w cyklach:

Opis grupy przedmiotów	Cykl pocz.	Cykl kon.

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Przedmioty obowiązkowe ang. semestr 3 (ZIPAOZ>SI-3-19-O)	2020/2021-Z	

Punkty przedmiotu w cyklach:

Zarządzanie i Inżynieria Produkcji, stacjonarne I stopnia inżynierskie 7 sem. (ZIPAOZ-SI7)			
Typ punktów	Liczba	Cykl pocz.	Cykl kon.
Europejski System Transferu Punktów (ECTS)	5	2020/2021-Z	