

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Statistics		Code 1011101221010342598
Field of study Logistics - Full-time studies - First-cycle studies	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 2
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 30 Classes: 15 Laboratory: - Project/seminars: -		No. of credits 4
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences		ECTS distribution (number and %) 4 100%
Responsible for subject / lecturer: dr Elżbieta Wieczorek email: elzbieta.wieczorek@put.poznan.pl tel. +48(61)6652349 Wydział Elektryczny Instytut Matematyki ul. Piotrowo 3a 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Student knows basic notions in set theory, logic and calculus.
2	Skills	Student can operate a calculator, a computer and use proposed literature.
3	Social competencies	Student recognizes the necessity in deepening his knowledge.
Assumptions and objectives of the course: to acquire basic statistical methods and develop the ability to use these methods to solve practical engineering problems		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Student has a basic knowledge of probability theory - [K1A_W04]		
2. Student has a basic knowledge of descriptive and mathematical statistics, useful to solve practical engineering problems. - [K1A_W04]		
Skills:		
1. Student is able to interpret the information from a sample and to draw conclusions - [K1A_U05]		
Social competencies:		
1. Student is able to argue the necessity of continuous learning - [K1A_K01]		
Assessment methods of study outcomes		
-Forming score: on the basis of written tests and oral answers. Summary score: the average points obtained by the written tests.		
Course description		
-The basic concepts of probability will be discussed i.e.: probability space, random variables, elements of descriptive statistics, methods of statistical inference - estimation, hypothesis verification and analysis of correlation and regression.		

Basic bibliography:		
1. 1. Bobrowski D., Łybacka K., Wybrane metody wnioskowania statystycznego. Wydawnictwo Politechniki Poznańskiej, Poznań, 2006.		
2. Krysicki W., Bartos J., Dyczka W., Królikowska K., Wasilewski M., Rachunek prawdopodobieństwa i statystyka matematyczna w zadaniach, cz. I. i II. Wydawnictwo PWN, Warszawa, 2010.		
Additional bibliography:		
1. Jasiulewicz H., Kordecki W., Rachunek prawdopodobieństwa i statystyka matematyczna. Przykłady i zadania. Oficyna Wydawnicza GiS, Wrocław, 2002.		
2. Kordecki W., Rachunek prawdopodobieństwa i statystyka matematyczna. Definicje, twierdzenia, wzory. Oficyna Wydawnicza GiS, Wrocław, 2002.		
Result of average student's workload		
Activity		Time (working hours)
1. 1.	Lectures participation	30
2. 2.	Classes participation	15
3. 3.	Cunsultaion	4
4. 4.	Classes preparation	30
5. 5.	Test preparation	15
6. 6.	Test	2
7. 7.	Results discussion	2
Student's workload		
Source of workload	hours	ECTS
Total workload	98	4
Contact hours	53	2
Practical activities	15	2