

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject <b>Statistics</b>		Code <b>1011101321010341935</b>
Field of study <b>Engineering Management - Full-time studies -</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>1 / 2</b>
Elective path/specialty <b>-</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>First-cycle studies</b>	Form of study (full-time, part-time) <b>full-time</b>	
No. of hours Lecture: <b>30</b> Classes: <b>15</b> Laboratory: <b>-</b> Project/seminars: <b>-</b>		No. of credits <b>4</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art <b>social sciences</b> <b>Economics</b>		ECTS distribution (number and %) <b>4 100%</b> <b>4 100%</b>
<b>Responsible for subject / lecturer:</b> Elżbieta Wieczorek email: elzbieta.wieczorek@put.poznan.pl tel. +48(61)6652349 Wydział Elektryczny ul. Piotrowo 3a 60-965 Poznań		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Student knows basic notions in set theory, logic and calculus.
2	<b>Skills</b>	Student can operate a calculator, a computer and use proposed literature.
3	<b>Social competencies</b>	Student recognizes the necessity in deepening his knowledge.
<b>Assumptions and objectives of the course:</b> to acquire basic statistical methods and develop the ability to use these methods to solve practical engineering problems.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
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]]		
<b>Skills:</b>		
1. Student is able to interpret the information from a sample and to draw conclusions. - [[K1A_U05]]		
<b>Social competencies:</b>		
1. Student is able to argue the necessity of continuous learning. - [[K1A_K01]]		
<b>Assessment methods of study outcomes</b>		
Forming score: on the basis of written tests and oral answers. Summary score: the average points obtained by the written tests.		
<b>Course description</b>		

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. Kryszczyński 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. 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. Consultation	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