FACULTY PURE AND APPLIED MATHEMATICS
SUBJECT CARD
Name in Polish: Wstęp do statystyki praktycznej
Name in English: Introduction to the Practice of Statistics
Main field of study: …….
Specialization (if applicable): ……..
Level and form of studies: 3rd level
Kind of subject: general
Subject code: MAT1308
Group of courses: ~~TAK~~ / NIE*

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU)	30				
Number of hours of total student workload (CNPS)	90				
Form of crediting	~~Examination~~ / crediting with grade*	Examination / crediting with grade*	Examination / crediting with grade*	Examination / crediting with grade*	Examination / crediting with grade*
For group of courses mark (X) final course					
Number of ECTS points	**3**				
including number of ECTS points for practical (P) classes	2				
including number of ECTS points for direct teacher-student contact (BK) classes	1				

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES
1. Has basic knowledge and skills in Calculus.
2. Knows Probability at the high school level.
3. Good English communication skills.

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SUBJECT OBJECTIVES
C1 Basic skills of descriptive and graphical statistics for empirical data.
C2 Knowledge of basic notions of probability used in mathematical modelling.
C3 Forming statistical models with specific assumptions.
C4 Ability to choose and perform statistical procedures to specific statistical problems.

SUBJECT EDUCATIONAL EFFECTS

relating to knowledge:
PEK_W01 knows basic methods of graphical and descriptive presentation of data
PEK_W02 knows basic probabilistic models
PEK_W03 knows methods of estimation in basic parametric models
PEK_W04 knows tests of significance for a selection of parametric models

relating to skills:
PEK_U01 can apply graphical and descriptive methods to present data
PEK_U02 can perform calculations related to basic parametric probability models
PEK_U03 can choose perform estimation in basic parametric models
PEK_U04 can choose and perform tests of significance in basic parametric models

relating to social competences:
PEK_K01 can search for knowledge in literature
PEK_K02 has awareness of the role of science in the society

PROGRAMME CONTENT		
Form of classes - lecture		Number of hours
Lec1	Data and distribution. Describing distribution with graphs and numbers.	2
Lec2	Normal distribution.	2
Lec3	Relationships in data. Scatterplot and correlation. Least-squares regression.	2
Lec4	The question of causation. Design of experiment and sampling design.	2
Lec5	Rules of probability. Independence.	2
Lec6	Sampling distributions of counts and means.	2
Lec7	Introduction to confidence intervals.	2
Lec8	Midterm 1.	2
Lec9	Introduction to tests of significance.	2
Lec10	T-tests and T-confidence intervals for means.	2
Lec11	Inference for proportions.	2
Lec12	Two-way tables. Conditional distributions.Testing for independence in two-way tables.	2
Lec13	Inference for simple linear regression.	2
Lec14	One-way analysis of variance.	2
Lec15	Midterm 2.	2
	Total hours	**30**

TEACHING TOOLS USED

N1 lecture
N2 consultations
N3 homework

EVALUATION OF SUBJECT EDUCATIONAL EFFECTS ACHIEVEMENT

Evaluation (F – forming (during semester), P – concluding (at the semester end)	Educational effect number	Way of evaluating educational effect achievement
F1	PEK_W01, PEK_W02, PEK_W03, PEK_W04 PEK_U01, PEK_U02, PEK_U03, PEK_U04	Midterm 1
F2	PEK_W01, PEK_W02, PEK_W03, PEK_W04 PEK_U01, PEK_U02, PEK_U03, PEK_U04	Midterm 2
F3	PEK_W01, PEK_W02, PEK_W03, PEK_W04 PEK_U01, PEK_U02, PEK_U03, PEK_U04, PEK_K01, PEK_K02	homework
F4	PEK_W01, PEK_W02, PEK_W03, PEK_W04 PEK_U01, PEK_U02, PEK_U03, PEK_U04	quizzes
P=0.25*F1+0.25*F2+0.25*F3+0.25*F4		

PRIMARY AND SECONDARY LITERATURE

PRIMARY LITERATURE:

[1] D. Moore, G. McCabe, Introduction to the Practice of Statistics, ed. IV, Freeman, 2003

SECONDARY LITERATURE:

[1] L. Gajek, M. Kałuszka, Wnioskowanie statystyczne. Modele i metody. WNT, Warszawa 2004.

[2] J. Greń, Statystyka matematyczna. Modele i zadania, PWN, Warszawa 1976.

[3] T. Inglot, T. Ledwina, Z. Ławniczak, Materiały do ćwiczeń z rachunku prawdopodobieństwa i statystyki matematycznej, Wydawnictwo Politechniki Wrocławskiej, Wrocław 1984.

[4] H. Jasiulewicz, W. Kordecki, Rachunek prawdopodobieństwa i statystyka matematyczna. Przykłady i zadania. GiS, Wrocław 2001.

[5] W. Klonecki, Statystyka matematyczna, PWN, Warszawa 1999.

[6] J. Koronacki, J. Mielniczuk, Statystyka dla studentów kierunków technicznych i przyrodniczych, WNT, Warszawa 2004.

[7] W. Krysicki, J. Bartos, W. Dyczka, K. Królikowska, M. Wasilewski, Rachunek prawdopodobieństwa i statystyka matematyczna w zadaniach, Cz. I-II, PWN, Warszawa 2007.

[8] W. Kordecki, Rachunek prawdopodobieństwa i statystyka matematyczna. Definicje, twierdzenia, wzory, Oficyna Wydawnicza GiS, Wrocław 2002.

SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)

PROF. DR HAB. INŻ. KRZYSZTOF BOGDAN, krzysztof.bogdan@pwr.edu.pl

MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR SUBJECT INTRODUCTION TO THE PRACTICE OF STATISTICS MAT1308 AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY

Subject educational effect	Correlation between subject educational effect and educational effects defined for main field of study and specialization (if applicable)**	Subject objectives***	Programme content***	Teaching tool number***
PEK_W01, PEK_U01, PEK_K01, PEK_K02	I3_W06	C1	Lec1-4	N1, N2, N3
PEK_W02, PEK_U02	I3_W06, I3_W04	C2	Lec5-6	N1,N2, N3
PEK_W03, PEK_U03, PEK_W04, PEK_U04	I3_U02	C3, C4	Lec7-15	N1, N2, N3

** - enter symbols for main-field-of-study/specialization educational effects
*** - from table above