ITEM CARD

Attachment No. 1 into Regulation No 3/07/2020
of 13 July 2020 *on the model card*
subject at the Higher School of Management
in Warsaw

I. GENERAL BASIC INFORMATION ABOUT THE SUBJECT (MODULE)	
ITEM NAME Descriptive Statistics	
Name of the organizational unit leading the course:	Faculty of Management and Technical Sciences
Name of the field of study, level of education:	Management, first cycle
Learning profile:	GENERAL ACADEMIC
Name of the specialty:	-
Type of learning module:	primary
Year/Semester:	Year I, Semester 2
Person coordinating the subject:	Artur Czech, PhD
Prerequisites (resulting from the succession of items):	Knowledge, skills and competences acquired as a result of teaching existing subjects (mathematics) at first-cycle studies

II. FORMS OF CLASSES AND NUMBER OF HOURS

	Lecture	Exercise	Seminar	Laboratory	Workshop	Project	Seminar	Consultation	Exam/Passing	Total hours
Full-time studies	45	30								**75**
Part-time studies	24	12								**36**

III. METHODS OF TEACHING ACTIVITIES

Forms of classes	Didactic methods
Lecture	Inthe courses enriched with multimedia resonances, discussions, work with literature, hypothetical-deductive thinking of listeners
Practiceda	Solving tasks, group discussions

IV. OBJECTIVE LEARNING OUTCOMES IN RELATION TO LEARNING OUTCOMES FOR THE FIELD OF STUDY AND AREAS

Lp.	Description of the learning outcomes in question	Directional effect reference
	Knowledge:	
1.	Zn and has an in-depth understanding of the general research methodology in the social sciences, including management and quality sciences	P6S_WG ZO1_W01
2.	Knows in depth the methods of statistical analysis and IT tools for obtaining, analyzing and presenting economic and social data	P6S_WG ZO1_W11
	Abilities:	
1.	Is able to use existing knowledge – formulate and solve complex and unusual problems in the field of statistics and perform tasks in conditions of uncertainty by: • selection and application of appropriate methods and tools, including in particular statistical methods and tools	P6S_UW ZO1_U01
2.	Can use statistical methods in management, analyze and synthesize data. Can estimate the resources of the organization based on statistical analyzes. Knows how to choose	P6S_UW ZO1_U09

	appropriate analytical methods and tools as well as IT systems supporting decision-making processes in the organization	
Social competences:		
1.	Understands the importance of statistical knowledge in solving cognitive and practical problems	P6S_KK ZO1_K01
V. CURRICULAR CONTENT (LEARNING)		
Lp.	**Lecture:**	**Reference to the learning outcomes in question**
1.	Rola statistics, introductory concepts	ZO1_W01 ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
2.	Pconcept of statistical research and its types	ZO1_W01 ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
3.	Sfeces of measurement	ZO1_W01 ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
4.	Empirical distribution of a feature and its description, ordering data in the form of distribution series	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
5.	Analiza data structure	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
6.	Graphic data presentation	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
7.	Measures of central tendency, dispersion, asymmetry and concentration /	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
8.	In the selection of theappropriate measure depending on the shape of the empirical distribution	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
9.	Construction of time series / selection of GUS or Eurostat data, graphic presentations	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
10.	Measures of dynamics (increments and indices), determination of levels of single-basic and chain dynamics, average rate of change of the phenomenon over time (implementation of geometric mean)	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
11.	Analysis of the interdependence of two features: the concept and properties of the correlation distribution, correlation table, empirical boundary and conditional	ZO1_W11 ZO1_U01

	distributions, covariance, basic correlation measures: measure of the strength of a correlational relationship, linear correlation coefficient	ZO1_U09 ZO1_K01
12.	Forecasting phenomena based on an algorithm	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
Lp.	**Exercises/workshops:**	**Reference to the learning outcomes in question**
1	Empirical distribution of a feature and its description, ordering data in the form of distribution series	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
2	Andthe analysis of data structure	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
3	Graphical presentation of data	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
4	Measures of central tendency, dispersion, asymmetry and concentration	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
5	In the selection of theappropriate measure depending on the shape of the empirical distribution	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
6	Construction of time series / selection of GUS or Eurostat data, graphic presentations	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
7	Measures of dynamics (increments and indices), determination of levels of single-basic and chain dynamics, average rate of change of the phenomenon over time (implementation of geometric mean)	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
8	Analysis of the interdependence of two features: the concept and properties of the correlation distribution, correlation table, empirical boundary and conditional distributions, covariance, basic correlation measures: measure of the strength of a correlational relationship, linear correlation coefficient	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01
9	Forecasting phenomena based on an algorithm	ZO1_W11 ZO1_U01 ZO1_U09 ZO1_K01

VI. METHODS OF ASSESSMENT OF LEARNING OUTCOMES

Learning outcomes	**Verification method**	**Form of classes in which EUS is verified (Learning outcome)**
Knowledge:		

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ZO1_W01 ZO1_W11	Written exam, activity during the lecture Written colloquium, activity during exercises, group discussion	Lecture Exercise
Abilities:		
ZO1_U01 ZO1_U09 ZO1_U09	Written exam, activity during the lecture Written colloquium, activity during exercises, group discussion	Lecture Exercise
Social competences:		
ZO1_K01	Written colloquium, activity during exercises, group discussion	Lecture Exercise

VII. CRITERIA FOR ASSESSING ACHIEVED LEARNING OUTCOMES

Learning outcomes	**Unsatisfactory assessment** The student does not know and does not understand/cannot/is not ready:	**Grade range 3.0-3.5** The student knows and understands / can / is ready:	**Grade range 4.0-4.5** The student knows and understands / can / is ready:	**Very good rating** The student knows and understands / can / is ready:
For each of the learning outcomes identified for the Knowledge, Skills and Competences module	The student obtains less than 50% max. the number of points for a given effect	The student gets from 50 to 59% max. the number of points for a given effect on a grade of 3 and The student gets from 60 to 69% max. the number of points for a given effect per grade 3.5	The student gets from 70 to 79% max. the number of points for a given effect per grade 4, and The student obtains from 80 to 89% max. the number of points for a given effect per rating 4.5	The student obtains more than 89% max. the number of points for a given effect

VIII. STUDENT'S WORKLOAD – NUMBER OF HOURS AND BALANCE OF ECTS CREDITS

Type of activity **ECTS**	**Student load**	
	Studies Stationary	**Part-time studies**
Participation in didactic activities (lectures, exercises, tutorials, project, laboratories, workshops, seminars) – SUM of hours – from point II	75	36
Exam/Passing		
Participation in the consultation	5	4
Project / Essay	20	20
Independent preparation for didactic classes	25	45
Preparing to pass a teaching class	25	45
Total student workload (25h = 1 ECTS) TOTAL hours/ECTS	**6 ECTS/150h point**	**6 ECTS/150h point**
Student load in classes in direct contact with the teacher	75	36
Student load in practical classes	35	34
Student load in practical vocational preparation classes		
Student load in research preparation classes	40	80

IX. LITERATURE AND OTHER DIDACTIC MATERIALS

Basic literature:

1. Luszniewicz, T.Słaby. Statistica computer-aided statistics. Theory and applications. Ed.C.H.Beck, 2016.
2. A. Młodak, Statistics in research works. Prudence. Tools. Ethics, Kalisz Society of Friends of Sciences, Kalisz 2020.

Supplementary literature:

1. A. Luszniewicz, T. Słaby, Statistics with the STATISTICA PL computer package. Theory and Applications, C. H. Beck., Warsaw 2008.

2. Amir D. Aczel, Statistics in management, PWN, Warsaw 2010.
3. S. Ostasiewicz, Z. Rusnak, U. Siedlecka, Statistics. Elemanty teorii i task, Wyd. Oskar Lange University of Economics in Wrocław, Wrocław 2001.
4. Iwona Bąk, Iwona Markowicz, Magdalena Mojsiewicz, Katarzyna Wawrzyniak, Descriptive statistics. Examples and tasks, CeDeWu 2020
5. Handbook of statistics on-line . StatSoft Krakow, https://www.statsoft.pl/textbook/stathome.html
6. M. Sobczyk, Descriptive statistics, C.H. Beck Publishing House, Warsaw 2010.
7. J. Jóźwiak, J. Podgórski, Statistics from scratch, PWE, Warsaw 2012.
8. J. E. Hanke, A. G. Reitch, Understanding Business Statistics, IRWIN.
9. W. W. Daniel, J. C. Terrell, Business Statistics, Besic Concepts and Methods, Houghton Mifflin Company

Other teaching materials: Teams, Moodle