

## ITEM CARD (SYLLABUS)

### Description of the course

Code course		Course name	COMPUTER SCIENCE IN ECONOMICS		
IBF/O/I/NS/B1.13			INFORMATYKA W EKONOMII		
Language		English			
Academic Year		2023/2024			
Direction of study		International Business and Finance			
Level of education (study)		Level 1			
Profile of education (study)		General academic			
Form of study		Extramural			
Semester / semesters		2			
Belonging to a course groups		Compulsory courses specific to the field of study			
Course status		Compulsory			
Form of classes, hours, ECTS points		Form of classes	Number of hours	Number of ECTS points	
		Lecture	10 [h]	3,5 ECTS	
		Exercises	15 [h]		
		Seminar	[h]		
Relationship of subject	with profile of education (study)	Related to conducted scientific activity in the field of economics and finance			ECTS
	with qualifications	-----			ECTS
	with discipline	Economics and Finance			3,5 ECTS
Form of teaching		traditional - classes organized at the University			
The criterion for the selection of students		All students of International Business and Finance			
Unit running course		Department of Computer Science and Teleinformatics			
Coordinator		Jacek Wołoszyn			
Faculty www address		http://weif.uniwersytetradom.pl			
E-mail, phone number of coordinator		<a href="mailto:jacek.woloszyn@uthrad.pl">jacek.woloszyn@uthrad.pl</a> (48) 361-7850			

### COURSE OUTCOMES, METHODS OF TEACHING AND VERIFICATION OF THE EFFECTS OF EDUCATION

Purpose of the course:	The course aims to explain to students the importance of computer techniques in economics. The course will include a brief introduction to the operating system, an introduction to Python programming, and familiarization with basic data analysis
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	libraries such as Pandas, Numpy, statsmodels, matplotlib and.
Course teaching content:	<p>The course content is related to conducted scientific research.</p> <p><b>Lecture content:</b> The course aims to explain to students the importance of computer techniques in economics. The course will include a brief introduction to the operating system, an introduction to Python programming, and familiarisation with basic data analysis libraries such as Pandas, Numpy, statsmodels, matplotlib and. Familiarity with computer technology. A brief introduction to operating systems Windows/Linux. It is learning the Python language, its environment, and its data structure. Study and explain data analysis libraries such as Pandas, Numpy, Matplotlib, statsmodels (W1, U1, K1)</p> <p><b>Exercises content:</b> During the classes, practical tasks related to proficiently using a computer and the operating system and writing simple programs in Python. During the following courses, issues related to data analysis and the necessary libraries will be successively introduced. (W1, U1, K1)</p>
Method of teaching:	<i>Lecture, exercises</i>
Grading criteria, criteria for assessing learning outcomes, method of calculating the final grade:	<p><i>The condition for passing the course is achieving all the required learning outcomes specified for the course.</i></p> <p>Obtaining a positive grade from exercises and lectures. Writing a program of activities and passing a test from studies.</p>

Education effects for the course in relation to the direction effects and form of classes				Verification methods of learning outcomes (form check)	
Number of education effect	Description effects of education for the subject (PEU) Student who has completed the course (W) knows and understands/(U) is able to /(K) is ready to:	Directional learning effect (KEU)	Form of realization of teaching	Examination form	Form check
W1	Knows and understands to an advanced degree the techniques and tools for obtaining, processing and analyzing data relevant to describing phenomena in the area of business and international finance	K_W05	Lecture, exercises	Pass with a grade	Written program/written test
U1	He can analyze and forecast processes and phenomena in business and international finance using standard methods and tools in the social sciences field, including advanced information and communication techniques.	K_U02	Lecture, exercises	Pass with a grade	Written program/written test
K1	He is ready to critically evaluate his knowledge and recognize the importance of expertise in solving cognitive and practical problems.	K_K01	Lecture, exercises	Pass with a grade	Written program/written test

Recommended reading, literature supplement, teaching aids
<ol style="list-style-type: none"> <li>1. Fenner M, Machine Learning with Python for Everyone, Pearson Education, Inc, publishing as Addison-Wesley Professional, Copyright © 2020</li> <li>2. Goodrich M, Tamassia R, Goldwasser M, Data Structures and Algorithms in Python, Wiley 2013</li> </ol>

3. Goyvaerts Jan, Levithan Steven, *Regular Expressions Cookbook*, O'Really 2012
4. Idris I, *Python Data Analysis*, Packt Publishing 2014
5. Summerfield M, *Python in practice*, Addison Wesley 2014

*A detailed list of additional literature, web sources and teaching aids will be provided by a teacher during the first class*

Student workload needed to achieve the assumed learning outcomes - balance of ECTS points			
Participation in classes, activities	Student's working hours [h]		
	Other hours. Contact (IGK)	Classes without a teacher – student's own work (ZBN)	Classes
Participation in Lectures/ Seminars	X	X	10[h]
Participation in Exercises/Laboratories	X	X	15[h]
Participation in the Consultation	5[h]	X	X
Preparing to lectures/ exercises/seminars Preparation for an examination	X	55[h]	X
Summary of student's workload	5[h]/ 0,2 ECTS	55 [h]/ 2,3 ECTS	25[h]/ 1 ECTS
Points of ECTS for subject	85 [h] / 3,5 ECTS		

Additional information and remarks
<p>For students with special needs, including those with disabilities and chronic illnesses, the methods and forms of verifying learning outcomes specified above (in the course syllabus) are appropriately adjusted to meet the individual needs of these students.</p> <p>"The detailed rules and rights of students with special needs, including those with disabilities and chronic illnesses, regarding participation, assessment, and examinations, are specified in the Study Regulations, Study Rules, and Procedures for Ensuring Accessibility of the Educational Process for Students with Special Needs, including those with disabilities and chronic illnesses."</p>