DESCRIPTION OF THE COURSE OF STUDY

Course code		**0719-2FIZT-C23-OU**
Name of the course in	Polish	**Oprogramowanie użytkowe**
	English	**Application Software**

1. LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES

1.1. Field of study	Technical physics
1.2. Mode of study	Full-time
1.3. Level of study	1st degree
1.4. Profile of study	General academic
1.5. Person/s preparing the course description	dr hab. Dariusz Banaś, prof. UJK
1.6. Contact	d.banas@ujk.edu.pl

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	English
2.2. Prerequisites	-

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes		Laboratory
3.2. Place of classes		Courses in the UJK teaching rooms of the Faculty of Exact and Natural Science
3.3. Form of assessment		homework
3.4. Teaching methods		
3.5. Bibliography	**Required reading**	1. Tobias Oetiker, The Not So Short Introduction to LATEX2ε, http://tug.ctan.org/info/lshort/english/lshort.pdf, 2. OriginLab Manual, https://www.originlab.com/pdfs/Origin2017_Documentation/English/Origin_User_Guide_2017_E.pdf 3. Mathematica Tutorial, https://library.wolfram.com/infocenter/Books/8511/NotebooksAndDocumentsPart1.pdf
	Further reading	

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES

4.1. Course objectives (including form of classes)

Knowledge (lectures and laboratories)
C1. To give students a knowledge of the advanced capabilities of the most popular programs for document preparation, data analysis and presentation of results
Abilities (laboratories and project)
C2. Developing skills to prepare a professional document with the use of automatic typesetting software
C3. Developing skills to analyze and visualize scientific data, prepare graphs and professional, interactive reports

4.2. Detailed syllabus (including form of classes)

Lectures:

1. LATEX software: installation and configuration of components necessary to work with the package, the basics of the LATEX language, formatting text documents containing graphic elements using the TeXstudio environment, a scientific article template based on the RevTEX class, a thesis template.
2. Analysis and presentation of measurement data using the OriginLab program: data import and management, prepara-tion of charts, best fit curves, preparation and printing of reports.
3. Numerical calculations using Mathcad or Mathematica: data import, analysis and visualization, numerical simulations and modeling, preparation of professional, interactive reports.

4.3. Education outcomes in the discipline

Code	A student, who passed the course	Relation to learning outcomes
within the scope of **KNOWLEDGE:**		
W01	has knowledge of the advanced capabilities of the most popular programs for document prepara-tion, data analysis and presentation of results	FIZT1A_W08
within the scope of **ABILITIES:**		
U01	has skills to prepare a professional document with the use of automatic typesetting	FIZT1A_U07 FIZT1A_U11 FIZT1A_U13 FIZT1A_U14
U02	has skills to analyze and visualize scientific data, prepare graphs and professional, interactive reports	FIZT1A_U07 FIZT1A_U11 FIZT1A_U13 FIZT1A_U14

4.4. Methods of assessment of the intended learning outcomes

Teaching outcomes *(code)*	Method of assessment (+/-)																				
	Oral answer			Project			Self-study			Group work			Test								
	Form of classes			*Form of classes*			*Form of classes*			*Form of classes*			*Form of classes*			*Form of classes*			*Form of classes*		
	L	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*
W01				***X***			***X***						***X***								
U01				***X***			***X***						***X***								
U02				***X***			***X***						***X***								

4.5. Criteria of assessment of the intended learning outcomes

Form of classes	Grade	Criterion of assessment
lecture (L)	**3**	at least 50% and not more than 60% of the total number of available points
	3,5	more than 60% and not more than 70% of the total number of available points
	4	more than 70% and not more than 80% of the total number of available points
	4,5	more than 80% and not more than 90% of the total number of available points
	5	more than 90% of the total number of available points

5. BALANCE OF ECTS CREDITS – STUDENT'S WORK INPUT

Category	Student's workload	
	Full-time studies	**Extramural studies**
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/		
Participation in lectures	30	
Participation in laboratories/project		
Preparation for the exam		
Others		
INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/		
Preparation for the lecture		
Preparation for the laboratories		
Preparation for the exam		
Gathering materials for the project		
Preparation of multimedia presentation		
*Others**		
TOTAL NUMBER OF HOURS	**30**	
ECTS credits for the course of study	**2**	

Accepted for execution *(date and signatures of the teachers running the course in the given academic year)*

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